

# **INTERLAKE TUNNEL AND SPILLWAY MODIFICATION PROJECT**

## ***DRAFT ENVIRONMENTAL IMPACT REPORT***

### ***VOLUME 2B APPENDICES***

Monterey County Water Resources Agency  
1441 Schilling Place, North Building  
Salinas, CA 93901

Tel: (831) 755-4860  
Fax: (831) 424-7935  
Email: [tunnelEIR@co.monterey.ca.us](mailto:tunnelEIR@co.monterey.ca.us)



#### **Document Information**

Project Name: Interlake Tunnel and Spillway Modification Project

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Appendix E

**Biological Resource Attachments**

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## Species Lists

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# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Ventura Fish And Wildlife Office  
2493 Portola Road, Suite B  
Ventura, CA 93003-7726  
Phone: (805) 644-1766 Fax: (805) 644-3958

In Reply Refer To:  
Consultation Code: 08EVEN00-2021-SLI-0107  
Event Code: 08EVEN00-2021-E-00259  
Project Name: MCWRA IT Project\_Smaller

December 28, 2020

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

## To Whom It May Concern:

The enclosed list identifies species listed as threatened and endangered, species proposed for listing as threatened or endangered, designated and proposed critical habitat, and species that are candidates for listing that may occur within the boundary of the area you have indicated using the U.S. Fish and Wildlife Service's (Service) Information Planning and Conservation System (IPaC). The species list fulfills the requirements under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the species list should be verified after 90 days. We recommend that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists following the same process you used to receive the enclosed list. Please include the Consultation Tracking Number in the header of this letter with any correspondence about the species list.

Due to staff shortages and excessive workload, we are unable to provide an official list more specific to your area. Numerous other sources of information are available for you to narrow the list to the habitats and conditions of the site in which you are interested. For example, we recommend conducting a biological site assessment or surveys for plants and animals that could help refine the list.

If a Federal agency is involved in the project, that agency has the responsibility to review its proposed activities and determine whether any listed species may be affected. If the project is a major construction project\*, the Federal agency has the responsibility to prepare a biological assessment to make a determination of the effects of the action on the listed species or critical habitat. If the Federal agency determines that a listed species or critical habitat is likely to be adversely affected, it should request, in writing through our office, formal consultation pursuant to section 7 of the Act. Informal consultation may be used to exchange information and resolve conflicts with respect to threatened or endangered species or their critical habitat prior to a

written request for formal consultation. During this review process, the Federal agency may engage in planning efforts but may not make any irreversible commitment of resources. Such a commitment could constitute a violation of section 7(d) of the Act.

Federal agencies are required to confer with the Service, pursuant to section 7(a)(4) of the Act, when an agency action is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat (50 CFR 402.10(a)). A request for formal conference must be in writing and should include the same information that would be provided for a request for formal consultation. Conferences can also include discussions between the Service and the Federal agency to identify and resolve potential conflicts between an action and proposed species or proposed critical habitat early in the decision-making process. The Service recommends ways to minimize or avoid adverse effects of the action. These recommendations are advisory because the jeopardy prohibition of section 7(a)(2) of the Act does not apply until the species is listed or the proposed critical habitat is designated. The conference process fulfills the need to inform Federal agencies of possible steps that an agency might take at an early stage to adjust its actions to avoid jeopardizing a proposed species.

When a proposed species or proposed critical habitat may be affected by an action, the lead Federal agency may elect to enter into formal conference with the Service even if the action is not likely to jeopardize or result in the destruction or adverse modification of proposed critical habitat. If the proposed species is listed or the proposed critical habitat is designated after completion of the conference, the Federal agency may ask the Service, in writing, to confirm the conference as a formal consultation. If the Service reviews the proposed action and finds that no significant changes in the action as planned or in the information used during the conference have occurred, the Service will confirm the conference as a formal consultation on the project and no further section 7 consultation will be necessary. Use of the formal conference process in this manner can prevent delays in the event the proposed species is listed or the proposed critical habitat is designated during project development or implementation.

Candidate species are those species presently under review by the Service for consideration for Federal listing. Candidate species should be considered in the planning process because they may become listed or proposed for listing prior to project completion. Preparation of a biological assessment, as described in section 7(c) of the Act, is not required for candidate species. If early evaluation of your project indicates that it is likely to affect a candidate species, you may wish to request technical assistance from this office.

Only listed species receive protection under the Act. However, sensitive species should be considered in the planning process in the event they become listed or proposed for listing prior to project completion. We recommend that you review information in the California Department of Fish and Wildlife's Natural Diversity Data Base. You can contact the California Department of Fish and Wildlife at (916) 324-3812 for information on other sensitive species that may occur in this area.

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[\*A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.]

Attachment(s):

- Official Species List
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## Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Ventura Fish And Wildlife Office**

2493 Portola Road, Suite B

Ventura, CA 93003-7726

(805) 644-1766

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## Project Summary

Consultation Code: 08EVEN00-2021-SLI-0107

Event Code: 08EVEN00-2021-E-00259

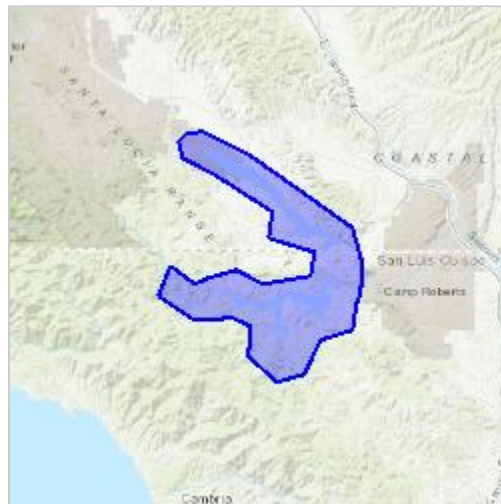
Project Name: MCWRA IT Project\_Smaller

Project Type: WATER SUPPLY / DELIVERY

Project Description: Tunnel construction between reservoirs

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/35.78528568379575N120.88919337702285W>



Counties: Monterey, CA | San Luis Obispo, CA

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## Endangered Species Act Species

There is a total of 17 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## Mammals

NAME	STATUS
Giant Kangaroo Rat <i>Dipodomys ingens</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/6051">https://ecos.fws.gov/ecp/species/6051</a>	Endangered
San Joaquin Kit Fox <i>Vulpes macrotis mutica</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/2873">https://ecos.fws.gov/ecp/species/2873</a>	Endangered

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## Birds

NAME	STATUS
California Clapper Rail <i>Rallus longirostris obsoletus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/4240">https://ecos.fws.gov/ecp/species/4240</a>	Endangered
California Condor <i>Gymnogyps californianus</i> Population: U.S.A. only, except where listed as an experimental population There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/8193">https://ecos.fws.gov/ecp/species/8193</a>	Endangered
Least Bell's Vireo <i>Vireo bellii pusillus</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/5945">https://ecos.fws.gov/ecp/species/5945</a>	Endangered
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/6749">https://ecos.fws.gov/ecp/species/6749</a>	Endangered

## Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard <i>Gambelia silus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/625">https://ecos.fws.gov/ecp/species/625</a>	Endangered

## Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/2891">https://ecos.fws.gov/ecp/species/2891</a>	Threatened
California Tiger Salamander <i>Ambystoma californiense</i> Population: U.S.A. (Central CA DPS) There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/2076">https://ecos.fws.gov/ecp/species/2076</a>	Threatened

## Insects

NAME	STATUS
Kern Primrose Sphinx Moth <i>Euproserpinus euterpe</i> There is <b>proposed</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/7881">https://ecos.fws.gov/ecp/species/7881</a>	Threatened

## Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/498">https://ecos.fws.gov/ecp/species/498</a>	Threatened

## Flowering Plants

NAME	STATUS
California Jewelflower <i>Caulanthus californicus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/4599">https://ecos.fws.gov/ecp/species/4599</a>	Endangered
Chorro Creek Bog Thistle <i>Cirsium fontinale</i> var. <i>obispoense</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/5991">https://ecos.fws.gov/ecp/species/5991</a>	Endangered
Marsh Sandwort <i>Arenaria paludicola</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/2229">https://ecos.fws.gov/ecp/species/2229</a>	Endangered
Purple Amole <i>Chlorogalum purpureum</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/5531">https://ecos.fws.gov/ecp/species/5531</a>	Threatened
Salt Marsh Bird's-beak <i>Cordylanthus maritimus</i> ssp. <i>maritimus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/6447">https://ecos.fws.gov/ecp/species/6447</a>	Endangered
Spreading Navarretia <i>Navarretia fossalis</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/1334">https://ecos.fws.gov/ecp/species/1334</a>	Threatened

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

\*The database used to provide updates to the Online Inventory is under construction. [View updates and changes made since May 2019 here.](#)



## Plant List

47 matches found. [Click on scientific name for details](#)

### Search Criteria

California Rare Plant Rank is one of [1A, 1B, 2A, 2B], Found in Quads 3512078, 3512171, 3512161, 3512068, 3512067, 3512077, 3512076, 3512087 3512088 and 3512181;

[Modify Search Criteria](#) [Export to Excel](#) [Modify Columns](#) [Modify Sort](#) [Remove Photos](#)

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank	Photo
<a href="#">Abies bracteata</a>	bristlecone fir	Pinaceae	perennial evergreen tree		1B.3	S2S3	G2G3	 2003 Joseph Dougherty/ecology.org
<a href="#">Agrostis hooveri</a>	Hoover's bent grass	Poaceae	perennial herb	Apr-Jul	1B.2	S2	G2	no photo available
<a href="#">Arctostaphylos luciana</a>	Santa Lucia manzanita	Ericaceae	perennial evergreen shrub	Dec-Mar	1B.2	S2	G2	 2011 David Graber
<a href="#">Aristocapsa insignis</a>	Indian Valley spineflower	Polygonaceae	annual herb	May-Sep	1B.2	S1	G1	



2011 Chris Winchell

Baccharis plummerae ssp. glabrata San Simeon baccharis Asteraceae perennial deciduous shrub Jun 1B.2 S1 G3T1



2004 Laura Ann Eliassen

Calochortus fimbriatus late-flowered mariposa lily Liliaceae perennial bulbiferous herb Jun-Aug 1B.3 S3 G3



2010 Aaron Schusteff

Calochortus obispoensis San Luis mariposa lily Liliaceae perennial bulbiferous herb May-Jul 1B.2 S2 G2



2003 Christopher L. Christie

Calochortus simulans La Panza mariposa lily Liliaceae perennial bulbiferous herb Apr-Jun 1B.3 S2 G2



2011 Aaron E. Sims

Calycadenia villosa dwarf calycadenia Asteraceae annual herb May-Oct 1B.1 S3 G3





[Camissoniopsis hardhamiae](#) Hardham's evening-primrose Onagraceae annual herb Mar-May 1B.2 S2 G2



2004 Laura Ann Eliassen

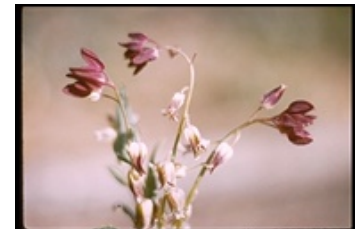
[Carex obispoensis](#) San Luis Obispo sedge Cyperaceae perennial herb Apr-Jun 1B.2 S3? G3?



2005 Dean Wm. Taylor

[Castilleja densiflora var. obispoensis](#) San Luis Obispo owl's-clover Orobanchaceae annual herb (hemiparasitic) Mar-May 1B.2 S2 G5T2 no photo available

[Caulanthus lemmonii](#) Lemmon's jewelflower Brassicaceae annual herb Feb-May 1B.2 S3 G3



2005 Dieter Wilken

[Chlorogalum purpureum var. purpureum](#) Santa Lucia purple amole Agavaceae perennial bulbiferous herb Apr-Jun 1B.1 S2 G2T2



Beatrice F. Howitt 1999 California Academy of Sciences

[Chorizanthe rectispina](#) straight-awned spineflower Polygonaceae annual herb Apr-Jul 1B.3 S2 G2



2006 Aaron Schusteff

Cirsium fontinale var. obispoense San Luis Obispo fountain thistle Asteraceae perennial herb Feb-Jul (Aug-Sep) 1B.2 S2 G2T2



2005 Dieter Wilken

Clarkia jolonensis Jolon clarkia Onagraceae annual herb Apr-Jun 1B.2 S2 G2 no photo available



2005 Chris Wagner, SBNF

Collinsia antonina San Antonio collinsia Plantaginaceae annual herb Mar-May 1B.2 S2 G2



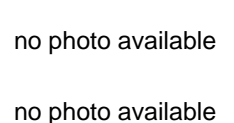
2008 Aaron Schusteff

Collinsia multicolor San Francisco collinsia Plantaginaceae annual herb (Feb) Mar-May 1B.2 S2 G2



Rick York and CNPS

Delphinium parryi ssp. blochmaniae dune larkspur Ranunculaceae perennial herb Apr-Jun 1B.2 S2 G4T2



no photo available

Delphinium umbraculorum umbrella larkspur Ranunculaceae perennial herb Apr-Jun 1B.3 S3 G3

Entosthodon kochii Koch's cord moss Funariaceae moss 1B.3 S1 G1 no photo available

Eriastrum luteum yellow-flowered eriastrum Polemoniaceae annual herb May-Jun 1B.2 S2 G2

Erythranthe hardhamiae

Santa Lucia monkeyflower

Phrymaceae

annual herb

Mar-May

1B.1 S1

G1



2011 Chris Winchell



2014 Dylan Neubauer

Fritillaria ojaiensis

Ojai fritillary

Liliaceae

perennial bulbiferous herb

Feb-May

1B.2 S3

G3



2009 John W. Wall

Galium hardhamiae

Hardham's bedstraw

Rubiaceae

perennial herb

Apr-Oct

1B.3 S3

G3



1984 California Native Plant Society

Horkelia cuneata var. sericea

Kellogg's horkelia

Rosaceae

perennial herb

Apr-Sep

1B.1 S1?

G4T1?



1995 Saint Mary's College of California

Juncus luciensis

Santa Lucia dwarf rush

Juncaceae

annual herb

Apr-Jul

1B.2 S3

G3



2009 Keir Morse

Layia heterotricha pale-yellow layia Asteraceae annual herb Mar-Jun 1B.1 S2 G2



2003 Christopher L. Christie

Lupinus ludovicianus San Luis Obispo County lupine Fabaceae perennial herb Apr-Jul 1B.2 S1 G1



2012 CNPS, San Luis Obispo Chapter

Malacothamnus abbottii Abbott's bush-mallow Malvaceae perennial deciduous shrub May-Oct 1B.1 S1 G1



2011 Chris Winchell

Malacothamnus aboriginum Indian Valley bush-mallow Malvaceae perennial deciduous shrub Apr-Oct 1B.2 S3 G3



2011 Chris Winchell

Malacothamnus davidsonii Davidson's bush-mallow Malvaceae perennial deciduous shrub Jun-Jan 1B.2 S2 G2



2006 Gabi McLean

Malacothamnus palmeri var. involucreatus

Carmel Valley bush-mallow

Malvaceae

perennial deciduous shrub

Apr-Oct 1B.2 S2 G3T2Q



1992 Dean Wm. Taylor

Malacothamnus palmeri var. palmeri

Santa Lucia bush-mallow

Malvaceae

perennial deciduous shrub

May-Jul 1B.2 S2 G3T2Q



2012 Chris Winchell

Malacothrix saxatilis var. arachnoidea

Carmel Valley malacothrix

Asteraceae

perennial rhizomatous herb

(Mar) Jun-Dec 1B.2 S2 G5T2



Beatrice F. Howitt 1999  
California Academy of Sciences

Microseris paludosa

marsh microseris

Asteraceae

perennial herb

Apr-Jun (Jul) 1B.2 S2 G2



2013 Vernon Smith

Monardella palmeri

Palmer's monardella

Lamiaceae

perennial rhizomatous herb

Jun-Aug 1B.2 S2 G2



2001 CDFA

Monolopia gracilens

woodland woolythreads Asteraceae annual herb (Feb) Mar-Jul 1B.2 S3 G3



2009 Vernon Smith

Navarretia nigelliformis ssp. radians

shining navarretia Polemoniaceae annual herb (Mar) Apr-Jul 1B.2 S2 G4T2



2008 Steve Matson

Navarretia prostrata

prostrate vernal pool navarretia Polemoniaceae annual herb Apr-Jul 1B.1 S2 G2



2007 Janell Hillman

Nemacladus secundiflorus var. robbinsii

Robbins' nemacladus Campanulaceae annual herb Apr-Jun 1B.2 S2 G3T2



2010 Keir Morse

Plagiobothrys uncinatus

hooked popcornflower Boraginaceae annual herb Apr-May 1B.2 S2 G2



2000 Dean Wm. Taylor

Stebbinsoseris decipiens

Santa Cruz microseris Asteraceae annual herb Apr-May 1B.2 S2 G2



2011 Dylan Neubauer

[Streptanthus albidus ssp. peramoenus](#)

most beautiful jewelflower

Brassicaceae

annual herb

(Mar)  
Apr-Sep  
(Oct)

1B.2 S2 G2T2



1994 Robert E. Preston, Ph.D.

[Stylocline masonii](#)

Mason's neststraw

Asteraceae

annual herb

Mar-May

1B.1 S1 G1

no photo available

[Triteleia ixioides ssp. cookii](#)

Cook's triteleia

Themidaceae

perennial bulbiferous herb

May-Jun

1B.3 S2S3 G5T2T3

no photo available

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**Contributors**

- [The Calflora Database](#)
- [The California Lichen Society](#)
- [California Natural Diversity Database](#)
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- [CalPhotos](#)

**Questions and Comments**

[rareplants@cnps.org](mailto:rareplants@cnps.org)

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Count of FID Row Labels	Column Labels			Grand Total
	Extirpated	Possibly Extirpated	Presumed Extant	
Abbott's bush-mallow			10	10
bristlecone fir			1	1
Carmel Valley bush-mallow			1	1
Carmel Valley malacothrix			1	1
chaparral ragwort			1	1
Cook's triteleia			6	6
Davidson's bush-mallow		1	16	17
dwarf calycadenia	1		14	15
Eastwood's larkspur			1	1
Hardham's bedstraw			4	4
Hardham's evening-primrose			2	2
hooked popcornflower			2	2
Indian Valley spineflower		1		1
Jolon clarkia		1	2	3
Koch's cord moss			1	1
La Panza mariposa-lily			1	1
late-flowered mariposa-lily			3	3
Lemmon's jewelflower			8	8
Mason's neststraw	1			1
most beautiful jewelflower			5	5
Ojai fritillary			2	2
pale-yellow layia			5	5
Palmer's monardella			3	3
prostrate vernal pool navarretia	1		4	5
Robbins' nemacladus			1	1
San Antonio collinsia			4	4
San Francisco collinsia			1	1
San Luis Obispo owl's-clover			1	1
San Luis Obispo sedge			2	2
San Simeon baccharis			1	1
Santa Lucia bush-mallow			1	1
Santa Lucia dwarf rush			1	1
Santa Lucia manzanita			1	1
Santa Lucia monkeyflower			1	1
Santa Lucia purple amole			4	4
shining navarretia			2	2
straight-awned spineflower			4	4
umbrella larkspur			2	2
yellow-flowered eriastrum	1		5	6
<b>Grand Total</b>	<b>4</b>	<b>3</b>	<b>124</b>	<b>131</b>



Count of FID Row Labels	Column Labels		
	Extirpated	Presumed Extant	Grand Total
American badger		7	7
arroyo toad		1	1
bald eagle		4	4
burrowing owl		3	3
California red-legged frog		3	3
California tiger salamander		3	3
coast horned lizard		1	1
foothill yellow-legged frog	1		1
golden eagle		2	2
hoary bat		1	1
Monterey dusky-footed woodrat		2	2
Northern California legless lizard		4	4
northern harrier		1	1
prairie falcon		12	12
Salinas pocket mouse		1	1
San Joaquin coachwhip		2	2
San Joaquin kit fox		15	15
steelhead - south-central California coast DPS		1	1
Townsend's big-eared bat		2	2
tricolored blackbird		1	1
vernal pool fairy shrimp		9	9
western pond turtle		8	8
western spadefoot		10	10
<b>Grand Total</b>	<b>1</b>	<b>93</b>	<b>94</b>

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## Special-Status Species Tables

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**Table E-1. Special-Status Plant Species with Potential to Occur**

<b>Common Name</b> <b>Scientific Name</b>	<b>Status<sup>a</sup></b> <b>Federal/</b> <b>State/</b> <b>CNPS</b>	<b>State Geographic</b> <b>Distribution</b>	<b>General Habitat Description</b>	<b>Potential to Occur in</b> <b>Project Site</b>	<b>Potential to Occur in the</b> <b>Study Area Downstream</b> <b>of the Project Site</b>
Abbott's bush-mallow <i>Malacothamnus</i> <i>abbottii</i>	-/-/1B.1	Monterey and San Luis Obispo Counties	Riparian scrub; among willows near rivers and along roadsides; 135–490 meters; blooms: May–October.	<b>Present.</b> One occurrence within the study area (occ. 14, CDFW 2021a) and 9 occurrences reported within 3 miles of the Project site and suitable habitat is present (CDFW 2021a and CNPS 2021).	<b>Present.</b> Two occurrences within the study area, downstream of the Project site (occ. 3 and 11, CDFW 2021a) and 3 occurrences reported within 2 miles of the study area and suitable habitat is present (CDFW 2021a and CNPS 2021).
Alkali milk vetch <i>Astragalus tener</i> var. <i>tener</i>	-/-/1B.2	Southern Sacramento Valley, northern San Joaquin Valley, east San Francisco Bay Area	Playas, on adobe clay in valley and foothill grassland, vernal pools on alkaline soils; 1–60 meters; blooms March–June.	<b>Not Expected.</b> Suitable habitat in the form of adobe clay, vernal pools, or alkaline soils <u>do not</u> occur in the Project site (Dudek 2016). No CNDDB occurrences reported within 5 miles of the Project site (CDFW 2021a).	<b>Not Expected.</b> Suitable habitat in the form of adobe clay, vernal pools, or alkaline soils do not occur in the study area, downstream of the Project site, (Dudek 2016). The closest record is approximately 3.78 miles north near Salinas (occ. 1, CDFW 2021a and CNPS 2021).

<b>Common Name Scientific Name</b>	<b>Status<sup>a</sup> Federal/ State/ CNPS</b>	<b>State Geographic Distribution</b>	<b>General Habitat Description</b>	<b>Potential to Occur in Project Site</b>	<b>Potential to Occur in the Study Area Downstream of the Project Site</b>
Bristlecone fir <i>Abies bracteate</i>	-/-/1B.3	Monterey and San Luis Obispo Counties	Perennial evergreen tree. Rocky; broadleaved upland forest, chaparral; lower montane coniferous forest; 210–1600 meters.	<b>Possible.</b> One occurrence 3.22 miles west of the Project site (occ. 1, CDFW 2021a) and suitable habitat is present (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> Coastal species. Occurrences are not reported east of the Santa Lucia Range. The closest record is more than 5 miles from the study area, downstream of the Project site (CDFW 2021a and CNPS 2021).
California jewelflower <i>Caulanthus californicus</i>	FE/SE/1B.1	Fresno, San Luis Obispo, Kings, Tulare, Kern, Ventura, and Santa Barbara Counties	Chenopod scrub, pinyon and juniper woodland, valley and foothill grassland; 61–1000 meters; blooms February–May.	<b>Not Expected.</b> Although suitable habitat occurs, the Project site is outside of the known species range with the closest record more than 40 miles south (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> Although suitable habitat occurs, the study area is outside of the known species range with the closest record more than 40 miles south (CDFW 2021a and CNPS 2021).
Carmel Valley bush-mallow <i>Malacothamnus palmeri</i> var. <i>involutratus</i>	-/-/1B.2	Monterey and San Luis Obispo Counties	Chaparral, cismontane woodland, coastal scrub. Talus hilltops and slopes, sometimes on serpentine soil; burn dependent; 30–1100 meters; blooms May–October.	<b>Possible.</b> Recorded within 1.4 miles of the Project site and minimally suitable habitat is present (CDFW 2021a and CNPS 2021).	<b>Possible.</b> Minimally suitable habitat is present. The closest record is 3 miles from the study area, downstream of the Project site, (CDFW 2021a and CNPS 2021).
Carmel Valley malacothrix <i>Malacothrix saxatilis</i> var. <i>arachnoide</i>	-/-/1B.2	Central coastal California including Monterey, San Luis Obispo, San Benito, and Santa Barbara Counties	Chaparral, coastal scrub. Rock outcrops or steep rocky roadcuts; 30–1040 meters; blooms March–December.	<b>Possible.</b> Recorded within 2 miles of the Project site on the northern edge of Camp Roberts and suitable habitat is present (CDFW 2021a and CNPS 2021).	<b>Present.</b> One occurrence within the study area, downstream of the Project site, (occ. 18, CDFW 2021a) on the northern edge of Camp Roberts and suitable habitat is present (CDFW 2021a and CNPS 2021).

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Chaparral ragwort <i>Senecio aphanactis</i>	-/-/2B.2	Scattered locations in central western and southwestern California, from Alameda County to San Diego County	Oak woodland, coastal scrub, chaparral, open sandy or rocky areas, often on alkaline soils; 15–800 meters; blooms January–April.	<b>Possible.</b> Recorded within 5 miles of the Project site and suitable habitat is present (CDFW 2021a and CNPS 2021).	<b>Possible.</b> Recorded within 3.5 miles of the study area, downstream of the Project site, and suitable habitat is present (CDFW 2021a and CNPS 2021).
Choris' popcorn-flower <i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i>	-/-/1B.2	Southwest San Francisco Bay Area, northern Central Coast: Santa Cruz, San Francisco and San Mateo Counties	Mesic sites in chaparral, coastal prairie, coastal scrub; 15–160 meters; blooms March–June.	<b>Not Expected.</b> Project site is outside of species known elevation range (CDFW 2021a and CNPS 2021).	<b>Possible.</b> Two occurrences have been recorded within 1 mile of the study area, downstream of the Project site, near the Fort Ord National Monument and suitable habitat is present in coastal scrub along the Salinas River corridor (CDFW 2021a and CNPS 2021).
Chorro Creek bog thistle <i>Cirsium fontinale</i> var. <i>obispo</i>	FE/SE/1B.2	San Luis Obispo County	Serpentine seeps and drainages in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland; 35–385 meters; blooms: February–September.	<b>Not Expected.</b> Suitable habitat in the form of serpentinite seeps and drainages are not found in the Project site (Dudek 2016). The closest record is approximately 12 miles east near bands of serpentinite formations (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> Suitable habitat not found in the study area (Dudek 2016). (CDFW 2021a and CNPS 2021).

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Clover lupine <i>Lupinus tidestromii</i>	FE/SE/1B. 1	Monterey, Marin, and Sonoma Counties	Coastal dunes; 0–100 meters; blooms: April–June.	<b>Not Expected.</b> Project site is outside of species known elevation range (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> Suitable habitat does not occur in the study area but is present adjacent to Salians River Lagoon and the OSR. However, there are no known records for this species in the study area or its vicinity. The closest record is approximately 20 miles to the south (CDFW 2021a and CNPS 2021).
Congdon’s tarplant <i>Centromadia parryi</i> ssp. <i>congdonii</i>	-/-/1B.1	East San Francisco Bay Area, Salinas Valley, Los Osos Valley	Alkaline soils in annual grassland, on lower slopes, flats, and swales, sometimes on saline soils; below 230 meters; blooms May–October (November).	<b>Not Expected.</b> Not known from within 5 miles of the Project site vicinity (CDFW 2021a and CNPS 2021).	<b>Present.</b> One occurrence is found within the study area (occ. 30, CDFW 2021a) and 25 records within 5 miles of the north portion of the study area, downstream of the Project site. Suitable habitat is present (site 2021a and CNPS 2021).



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Contra Costa goldfields <i>Lasthenia conjugens</i>	FE/-/1B.1	Scattered occurrences in Coast Range valleys and southwest edge of Sacramento Valley, Alameda, Contra Costa, Mendocino, Monterey, Marin, Napa, Santa Barbara, Santa Clara, Solano and Sonoma Counties	Wet areas in cismontane woodland, valley and foothill grassland, vernal pools, alkaline playas or saline vernal pools and swales; below 470 meters; blooms March–June.	<b>Not Expected.</b> Suitable mesic or alkaline habitats required by this species do not occur in the Project site (Dudek 2016). Species not known from the Project site vicinity (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> Suitable habitat does not occur in the study area (Dudek 2016). The closest record is approximately 1.9 miles west of the study area on the Fort Ord National Monument (CDFW 2021a and CNPS 2021).
Cook's triteleia <i>Triteleia ixioides ssp. cookii</i>	-/-/1B.3	Monterey and San Luis Obispo Counties	Cismontane woodland, closed-cone coniferous forest along streamsides, wet ravines; on serpentine and in serpentine seeps. Sometimes near cypresses; 120–735 meters; blooms May–June.	<b>Not Expected.</b> Suitable habitat in the form of serpentine rock or seeps are not found in the Project site (Dudek 2016). The closest record is approximately 2 miles south of the study area near bands of serpentinite formations (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> Not known from the vicinity of the study area, downstream of the Project site (CDFW 2021a and CNPS 2021).

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Davidson's bush-mallow <i>Malacothamnus davidsonii</i>	-/-/1B.2	Coastal California ranging from the Bay Area to southern California	Chaparral, cismontane woodland, coastal scrub and riparian woodland, sandy washes; 185–855 meters; blooms June–January.	<b>Present.</b> There are 16 extant records within 4 miles of the Project site. Suitable habitat is present (site 2021a and CNPS 2021).	<b>Present.</b> One occurrence is found within the study area (occ. 24, CDFW 2021a) and 6 records within 5 miles of the study area, downstream of the Project site. Suitable habitat is present (site 2021a and CNPS 2021).
Dwarf calycadenia <i>Calycadenia villosa</i>	-/-/1B.1	Fresno, Santa Barbara, San Luis Obispo Counties	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland; often in rocky, fine soils, open dry meadows and gravelly outwashes; 215–1275 meters; blooms May–October.	<b>Present.</b> Three occurrences reported within the Project site (occ. 9, 61, and 62, CDFW 2021a) and 12 records within 5 miles of the Project site. Suitable habitat is present (site 2021a and CNPS 2021).	<b>Possible.</b> Multiple records within 5 miles of the study area, downstream of the Project site and suitable habitat is present (CDFW 2021a and CNPS 2021).
Eastwood's goldenbush <i>Ericameria fasciculata</i>	-/-/1B.1	Monterey County	Closed-cone coniferous forest, chaparral (maritime), coastal dunes and coastal scrub; in sandy openings; 30–275 meters; blooms July–October.	<b>Not Expected.</b> Not known from within 5 miles of the Project site vicinity (CDFW 2021a and CNPS 2021).	<b>Present.</b> One occurrence is found within the study area (occ. 24, CDFW 2021a) and 6 records within 5 miles of the study area, downstream of the Project site. Suitable habitat is present (site 2021a and CNPS 2021).

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Fort Ord spineflower <i>Chorizanthe minutiflora</i>	-/-/1B.2	Northern Monterey County	Coastal scrub and chaparral (maritime) in sandy openings; 60–145 meters.	<b>Not Expected.</b> Not known from within 5 miles of the Project site vicinity (CDFW 2021a and CNPS 2021).	<b>Possible.</b> Four occurrences within 3 miles west of the study area, downstream of the Project site in the Fort Ord National Monument and suitable habitat is present (CDFW 2021a and CNPS 2021).
Hardham's bedstraw <i>Galium hardhamiae</i>	-/-/1B.3	Monterey and San Luis Obispo Counties	Closed-cone coniferous forest, chaparral on serpentine with <i>Cupressus sargentii</i> ; 300–930 meters; blooms April–October.	<b>Not Expected.</b> Suitable habitat in the form of serpentinite soils is not found in the Project site (Dudek 2016). The closest record is approximately 2.2 miles south near bands of serpentinite formations (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> Not known from the vicinity of the study area, downstream of the Project site (CDFW 2021a and CNPS 2021).
Hardham's evening-primrose <i>Camissoniopsis hardhamiae</i>	-/-/1B.2	Monterey and San Luis Obispo Counties	Chaparral and cismontane woodland on sandy or decomposed carbonate; 140–945 meters; blooms March–May.	<b>Possible.</b> The closest occurrence was recorded 2.1 miles north of the Project site in 2005 and suitable habitat is present (CDFW 2021a and CNPS 2021).	<b>Present.</b> One occurrence is found within the study area downstream of the Project site, on the Salinas River in Camp Roberts (occ. 14, CDFW 2021a). Suitable habitat is present (site 2021a and CNPS 2021).

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Hickman's onion <i>Allium hickmanii</i>	-/-/1B.2	Monterey and San Luis Obispo Counties	Closed-cone coniferous forest, chaparral (maritime), coastal prairie and scrub, valley and foothill grassland. Sandy loam, damp ground and vernal swales; mostly in grassland though can be associated with chaparral or woodland; 20–200 meters; blooms March–May.	<b>Not Expected.</b> Not known from the Project site vicinity as the Project site is outside of the known elevation range for this species (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> Suitable microhabitats in the form of vernal swales do not occur the study area downstream of the Project site (Dudek 2016). The closest record is approximately 0.4 miles west on Fort Ord National Monument (CDFW 2021a and CNPS 2021).
Hooked popcornflower <i>Plagiobothrys uncinatus</i>	-/-/1B.2	California central coast	Chaparral (sandy), cismontane woodland, valley and foothill grassland, coastal bluff scrub; and stone outcrops and canyon sides; often in burned or disturbed areas; 300–820 meters; blooms April–May.	<b>Possible.</b> The closest occurrence was recorded within 0.7 miles south of the Project site and suitable habitat is present (CDFW 2021a and CNPS 2021).	<b>Present.</b> One occurrence was recorded study area downstream of the Project site in Camp Roberts (occ. 14, CDFW 2021a). Suitable habitat is present (site 2021a and CNPS 2021).
Hooker's manzanita <i>Arctostaphylos hookeri</i> <i>ssp. hookeri</i>	-/-/1B.2	Monterey and Santa Cruz Counties	Closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub; in sandy soils, sandy shales, sandstone outcrops; 85–536 meters; blooms January–June.	<b>Not Expected.</b> Not known from the Project site vicinity and suitable habitat in form of sandy shale and sandstone outcrops are not present (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> Suitable habitat in the form of sandy shales and sandstone outcrops do not occur in the study area downstream of the Project site (Dudek 2016). The closest record is approximately 0.5 miles west on Fort Ord (CDFW 2021a and CNPS 2021).

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Hospital canyon larkspur <i>Delphinium californicum</i> ssp. <i>interius</i>	-/-/1B.2	Inner South Coast Ranges, eastern San Francisco Bay: Alameda, Contra Costa, Merced, San Benito, Santa Clara, San Joaquin, San Luis Obispo, and Stanislaus Counties	Openings in chaparral, mesic cismontane woodland, on moist slopes and ravines; 195–1095 meters; blooms April–June.	<b>Not Expected.</b> Not known from within 5 miles of the Project site vicinity (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> The study area downstream of the Project site is outside of species known range. All occurrences are east of the study area in the Gabilan Range or west in the Carmel Valley. The closest occurrence is approximately 3.4 miles east of the study area on Big Mountain, in the Gabilan Range.
Hutchinson's larkspur <i>Delphinium hutchinsoniae</i>	-/-/1B.2	Monterey County	Broadleafed upland forest, chaparral, coastal prairie and scrub; on semi-shaded, slightly moist slopes, usually west- facing; 0–427 meters; blooms March–June.	<b>Not Expected.</b> Not known from within 5 miles of the Project site vicinity (CDFW 2021a and CNPS 2021).	<b>Present.</b> One occurrence was recorded along the Salinas River in the north of the study area, downstream of the Project site (occ. 11, CDFW 2021a). Suitable habitat is present (2021a and CNPS 2021).
Indian Valley bush- mallow <i>Malacothamnus aboriginum</i>	-/-/1B.2	Fresno, Kings, Monterey, San Benito, Santa Clara, San Mateo Counties	Cismontane woodland, chaparral; granitic outcrops and sandy bare soil, often in disturbed soils; 150–1700 meters; blooms April–October.	<b>Not Expected.</b> Not known from within 5 miles of the Project site vicinity (CDFW 2021a and CNPS 2021).	<b>Possible.</b> The closest occurrence was recorded 0.5 miles east of the study area, downstream of the Project site on Shirttail Gulch. Eight other occurrences are reported east of the study area on the Gabilan and Diablo Ranges. Suitable habitat is present (2021a and CNPS 2021).

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Indian Valley spineflower <i>Aristocapsa insignis</i>	-/-/1B.2	Monterey and San Luis Obispo Counties	Cismontane woodland on sandy substrates; 300–600 meters; blooms May–September.	<b>Present.</b> One occurrence was recorded in the northwest portion of the Nacimiento Reservoir (occ. 5, CDFW 2021a). Suitable habitat is present (2021a and CNPS 2021).	<b>Not Expected.</b> The closest occurrence was recorded 1.7 miles from the study area, downstream of the Project site near the eastern edge of Camp Roberts. The study area is outside of the species elevation range. (CDFW 2021a and CNPS 2021).
Jolon clarkia <i>Clarkia jolonensis</i>	-/-/1B.2	Endemic to Santa Lucia Mountains in Monterey County	Cismontane woodland; edges and recently burned stands of chaparral, coastal scrub, oak woodland, or riparian woodland; 20–660 meters; blooms April–June.	<b>Present.</b> One occurrence was recorded in the northwest portion of San Antonio Reservoir (occ. 22, CDFW 2021a). Suitable habitat is present (2021a and CNPS 2021).	<b>Possible.</b> The closest occurrence was recorded 2.3 miles east of the study area, downstream of the Project site along Stonewall Creek. Suitable habitat is present (2021a and CNPS 2021).
Kellogg's horkelia <i>Horkelis cuneata</i> var. <i>sericea</i>	-/-/1B.1	California central coast and Bay Area	Closed-cone coniferous forest, chaparral (maritime), coastal dunes and scrub; in sandy or gravelly openings; Elevation: 10–200 meters; blooms April– September.	<b>Not Expected.</b> Not known from the Project site vicinity as the Project site is outside of the known elevation range for this species (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> Thirteen occurrences within 4.5 miles of the study area, downstream of the Project site. The closest record is approximately 0.4 miles west at Fort Ord. Suitable habitat occurs along the beach adjacent to Salinas River Lagoon and the OSR (2021a and CNPS 2021).

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Koch's cord moss <i>Entosthodon kochii</i>	-/-/1B.3	Mendocino, Mariposa, Marin, San Luis Obispo Counties	Cismontane woodland in moss growing on soil on riverbanks; 185–365 meters.	<b>Possible.</b> The closest record is 2 miles from the Project site and suitable habitat is present (CDFW 2021a and CNPS 2021).	<b>Present.</b> One occurrence was recorded along the Nacimiento River northwest of Camp Roberts (occ. 2, CDFW 2021a). Suitable habitat is present (2021a and CNPS 2021).
La Panza mariposa lily <i>Calochortus simulans</i>	-/-/1B.3	Santa Barbara and San Luis Obispo Counties	Valley and foothill grassland, cismontane woodland, chaparral, lower montane coniferous forest on decomposed granite, or sometimes on serpentine; 325– 1,160 meters; blooms April– June.	<b>Present.</b> One occurrence was recorded in the northwest portion of the Nacimiento Reservoir (occ. 59, CDFW 2021a). Suitable habitat is present (2021a and CNPS 2021).	<b>Not Expected.</b> The study area, downstream of the Project site is also outside of the species elevation range (CDFW 2021a and CNPS 2021).
Late-flowered mariposa-lily <i>Calochortus fimbriatus</i>	-/-/1B.3	From Monterey south to Los Angeles County	Chaparral, cismontane woodland, riparian woodland on serpentine; 270–1,645 meters; blooms June–August.	<b>Not Expected.</b> Suitable habitat in the form of serpentine soils do not occur in the Project site (Dudek 2016). The closest record is approximately 3 miles southwest on Pine Mountain (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> Not known from the vicinity of the study area, downstream of the Project site (CDFW 2021a and CNPS 2021).

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Legenere <i>Legenere limosa</i>	-/-/1B.1	Primarily in the lower Sacramento Valley, also from north Coast Ranges, northern San Joaquin Valley and the Santa Cruz Mountains	Deep, seasonally wet habitats such as vernal pools, ditches, vernal marsh edges; below 880 meters; blooms April-June.	<b>Not Expected.</b> Not known from within 5 miles of the Project site vicinity (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> Suitable habitat does not occur in the study area, downstream of the Project site (Dudek 2016). Closest known location is approximately 3 miles west of the study area at Fort Ord National Monument (CDFW 2021a and CNPS 2021).
Lemmon's jewelflower <i>Caulanthus lemmonii</i>	-/-/1B.2	From Alameda to Ventura along the Diablo and Central Coast Ranges.	Pinyon and juniper woodland, valley and foothill grassland; 80-1580 meters; blooms Feb-May.	<b>Present.</b> Three occurrences were recorded on San Antonio Reservoir (occ. 25, 26, and 86, CDFW 2021a). Five other occurrences have been reported within 2.7 miles of the Project site. Suitable habitat is present (2021a and CNPS 2021).	<b>Present.</b> Two occurrences have been recorded south of the study area near the southern end of San Antonio Reservoir and northwest of Camp Roberts (occ. 25 and 44, CDFW 2021a). Six other occurrences have been reported within 5 miles of the study area, downstream of the Project site. Suitable habitat is present (2021a and CNPS 2021)



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Marsh microseris <i>Microseris paludosa</i>	-/-/1B.2	From Point Arena in Mendocino County south to San Luis Obispo County	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland; 3–610 meters; blooms April–July.	<b>Not Expected.</b> Not known from within 5 miles of the Project site vicinity (CDFW 2021a and CNPS 2021).	<b>Possible.</b> Suitable habitat occurs in the study area, downstream of the Project site, The closest known location is approximately 3 miles west of the study area at Fort Ord National Monument (CDFW 2021a and CNPS 2021).
Marsh sandwort <i>Arenaria paludicola</i>	FE/SE/1B.1	Central and south coasts	Sandy openings in brackish or freshwater marshes and swamps; 3–170 meters; blooms May–August.	<b>Not Expected.</b> Not known from the Project site vicinity as the Project site is outside of the known elevation range for this species (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> Not known from the study area, downstream of the Project site,. This species is known from only 2 occurrences more than 25 miles south of the study area (CDFW 2021a and CNPS 2021).
Mason's neststraw <i>Stylocline massonii</i>	-/-/1B.1	Monterey, San Luis Obispo, Kern, and Los Angeles Counties	Chenopod scrub, pinyon and juniper woodland. Sandy washes; 100–1200 meters; blooms March–May.	<b>Present.</b> One occurrence was recorded in the north portion of San Antonio Reservoir (occ. 7, CDFW 2021a). Suitable habitat is present (2021a and CNPS 2021)	<b>Not Expected.</b> Not known from the vicinity of the study area, downstream of the Project site (CDFW 2021a and CNPS 2021).

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Menzies' wallflower <i>Erysimum menziesii</i> <i>ssp. menziesii</i>	FE/SE/1B. 1	Humboldt, Mendocino, and Monterey Counties	Coastal dunes; localized on dunes and coastal strand, close to high tide line and protected from wave action, as well as in bluff scrub and on open, sparsely vegetated dunes. Substrate is loose sand lacking in organic matter and minerals. Blooms March.	<b>Not Expected.</b> Not known from the Project site vicinity as the Project site is outside of the known elevation range for this species (CDFW 2021a and CNPS 2021).	<b>Present.</b> One occurrence has been reported within the study area near Marina at the end of the Salinas River (occ. 16, CDFW 2021a). Three other occurrences have been reported within 2.5 miles of the study area, downstream of the Project site. (CDFW 2021a and CNPS 2021). There is suitable habitat in the study area along the Salinas River Lagoon and OSR, specifically within the coastal breach outlet zone of the Salinas River Lagoon.

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Monterey gilia <i>Gilia tenuiflora ssp. arenaria</i>	FE/ST/1B .2	Monterey and Santa Cruz Counties	Coastal dunes, coastal scrub, chaparral (maritime), cismontane woodland; bare, wind-sheltered areas often near dune summit or in the hind dunes; two records from Pleistocene inland dunes; 0- 245 meters. Blooms April-June.	<b>Not Expected.</b> Not known from within 5 miles of the Project site vicinity (CDFW 2021a and CNPS 2021).	<b>Present.</b> Three occurrences have been reported within the study area near Moss Landing at the end of the Salinas River (occ. 5, 29, and 30, CDFW 2021a). Sixteen other occurrences have been reported within 4 miles of the study area, downstream of the Project site. (CDFW 2021a and CNPS 2021). Suitable habitat occurs in the study area along the Salinas River Lagoon and OSR, specifically within the coastal breach outlet zone of the Salinas River Lagoon.

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Monterey spineflower <i>Chorizanthe pungens</i> <i>var. pungens</i>	FT/-/1B.2	Monterey, San Luis Obispo, and Santa Cruz Counties	Coastal dunes, chaparral, cismontane woodland, coastal scrub; sandy soils in coastal dunes or more inland within chaparral or other habitats; 3- 450 meters; blooms April- August.	<b>Not Expected.</b> Not known from within 5 miles of the Project site vicinity (CDFW 2021a and CNPS 2021).	<b>Present.</b> Seven occurrences have been reported within the study area on the Salinas River from San Lucas to the end of the Salinas River (occ. 2, 6, 28, 36, 42, 47, and 63, CDFW 2021a). Fifteen other occurrences have been reported within 5 miles of the study area, downstream of the Project site. (CDFW 2021a and CNPS 2021). Suitable habitat occurs in the study area along the Salinas River Lagoon and OSR, specifically within the coastal breach outlet zone of the Salinas River Lagoon.
Most-beautiful jewelflower <i>Streptanthus albidus</i> <i>ssp. peramoenus</i>	-/-/1B.2	Eastern San Francisco Bay area, central outer South Coast Ranges in Alameda, Contra Costa, Monterey, Santa Barbara, Santa Clara, San Luis Obispo, and Stanislaus Counties	On serpentinite outcrops in chaparral, cismontane woodland, valley and foothill grassland, on ridges and slopes; 95-1000 meters; blooms (March) April-September (October).	<b>Not Expected.</b> Suitable microhabitat in the form of serpentine soils do not occur in or downstream of the Project site (Dudek 2016). Closest known location is approximately 2.6 miles south of the study area on Pine Mountain (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> Not known from the vicinity of the study area, downstream of the Project site (CDFW 2021a and CNPS 2021).

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Northern curly-leaved monardella <i>Monardella sinuata ssp. nigrescens</i>	-/-/1B.2	Monterey, Marin, San Francisco, and Santa Cruz Counties	Coastal dunes, coastal scrub, chaparral, lower montane coniferous forest. Sandy soils; 10–245 meters; blooms April–September.	<b>Not Expected.</b> Not known from the Project site vicinity as the Project site is outside of the species known elevation range (CDFW 2021a and CNPS 2021).	<b>Possible</b> Suitable costal scrub habitat occurs in the study area, downstream of the Project site near the Salians River Lagoon and the OSR. The closest occurrence is approximately 0.6 miles near the Marina Municipal Airport (CDFW 2021a and CNPS 2021).
Nuttall’s scrub oak <i>Quercus dumosa</i>	-/-/1B.1	South Coast: Orange, Santa Barbara, San Diego, and Ventura Counties; Baja California.	Closed-cone coniferous forest, chaparral, coastal scrub, Torrey pine woodland, on sandy clay loam soils; 15-400 meters; blooms February-August.	<b>Present.</b> This species was observed on the north shore of San Antonio Reservoir during fall 2016 field surveys, just above the inundation line.	<b>Not Expected.</b> Suitable habitat does not occur in the study area downstream of the Project site. No known records within 5 miles of the study area (CDFW 2021a and CNPS 2021).
Ojai fritillary <i>Fritillaria ojaiensis</i>	-/-/1B.2	Monterey, Santa Barbara San Luis Obispo, and Ventura Counties	Broadleafed upland forest (mesic), chaparral, lower montane coniferous forest, cismontane woodland. Usually on loamy soil. Sometimes on serpentine; sometimes along roadsides; 100–1140 meters; blooms February–May.	<b>Possible.</b> The closest record was reported 3 miles south of the Project site and suitable habitat is present (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> Not known from the vicinity of the study area, downstream of the Project site (CDFW 2021a and CNPS 2021).

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Oregon meconella <i>Meconella oregana</i>	-/-/1B.1	Contra Costa, Monterey, San Luis Obispo, and Santa Clara Counties	Coastal prairie, coastal scrub in open, moist places; 60–640 meters; blooms March–April.	<b>Not Expected.</b> Not known from within 5 miles of the Project site vicinity (CDFW 2021a and CNPS 2021).	<b>Possible.</b> Suitable habitat occurs in the study area, downstream of the Project site. The closest known location is approximately 1.8 miles west of the study area at Fort Ord National Monument (CDFW 2021a and CNPS 2021).
Pajaro manzanita <i>Arctostaphylos pajaroensis</i>	-/-/1B.1	Monterey, San Benito, Santa Cruz Counties	Chaparral in sandy soil; 30–760 meters; blooms December–March.	<b>Not Expected.</b> Not known from within 5 miles of the Project site vicinity (CDFW 2021a and CNPS 2021).	<b>Possible.</b> Suitable habitat occurs in the study area, downstream of the Project site. The closest known location is approximately 0.9 miles west of the study area at Fort Ord National Monument (CDFW 2021a and CNPS 2021).
Pale-yellow layia <i>Layia heterotricha</i>	-/-/1B.1	Central and south coast from Monterey to Los Angeles Counties	Pinyon-juniper woodland, valley and foothill grassland; coastal scrub, cismontane woodland; many historical, extirpated occurrences; alkaline or clay soils in open areas. Seriously endangered in California; 300–1705 meters; blooms March–June.	<b>Present.</b> Two occurrences have been reported within the Project site near the southern portion of San Antonio Reservoir (occ. 12 and 62, CDFW 2021a). Three other occurrences have been reported within 3.5 miles of the Project site. Suitable habitat is present (CDFW 2021a and CNPS 2021).	<b>Present.</b> Two occurrences have been reported within the study area along the Salinas River near Greenfield and near the southern portion of San Antonio Reservoir (occ. 62 and 69, CDFW 2021a). Two other occurrences have been reported within 3.3 miles of the study area, downstream of the Project site. Suitable habitat is present (CDFW 2021a and CNPS 2021).

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Palmer's monardella <i>Monardella palmeri</i>	-/-/1B.2	Monterey and San Luis Obispo Counties	Cismontane woodland, chaparral on serpentine, often found associated with Sargent cypress forests; 90-945 meters; blooms June-August.	<b>Not Expected.</b> Suitable habitat in the form of serpentine soils do not occur in the Project site (Dudek 2016). The closest record is approximately 1.3 miles southwest of the study area (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> Not known from the vicinity of the study area, downstream of the Project site (CDFW 2021a and CNPS 2021).
Pink johnny-nip <i>Castilleja ambigua ssp.</i> <i>insalutata</i>	-/-/1B.1	Monterey and San Luis Obispo Counties	Coastal prairie and coastal bluff scrub; 0-100 meters; blooms May-August.	<b>Not Expected.</b> Not known from within 5 miles of the Project site vicinity (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> No suitable habitat in the study area, downstream of the Project site. The closest extant record is approximately 1.3 miles west of the study area on Fort Ord (CDFW 2021a and CNPS 2021).
Pinnacles buckwheat <i>Eriogonum nortonii</i>	-/-/1B.3	Monterey and San Benito Counties	Chaparral and valley and foothill grassland; often on recent burns and sandy soil; 300-975 meters; blooms May- September.	<b>Not Expected.</b> Not known from within 5 miles of the Project site vicinity and is outside of the species elevation range (CDFW 2021a and CNPS 2021).	<b>Possible.</b> The study area is outside the species elevation range. The closest extant record is approximately 0.1 miles west of the study area at the base of Pine Canyon (CDFW 2021a and CNPS 2021).

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Point Reyes horkelia <i>Horkelia marinensis</i>	-/-/1B.2	North and Central Coast from Monterey to Mendocino County.	Coastal dunes, coastal prairie, coastal scrub; 5–755 meters; blooms May–September.	<b>Not Expected.</b> Not known from within 5 miles of the Project site vicinity (CDFW 2021a and CNPS 2021).	<b>Possible.</b> One occurrence has been reported 2.5 miles southwest of the study area near Marina. There is suitable habitat in the study area adjacent to the Salinas River Lagoon and OSR, specifically within the coastal breach outlet zone of the Salinas River Lagoon (CDFW 2021a and CNPS 2021).
Prostrate vernal pool navarretia <i>Navarretia prostrata</i>	-/-/1B.1	Western San Joaquin Valley, interior South Coast Ranges, central South Coast, Peninsular Ranges: Alameda, Los Angeles, Merced, Monterey, Orange, Riverside, San Bernardino, San Diego, and San Luis Obispo Counties	Vernal pools and mesic areas in coastal scrub and alkali grasslands; 15–1210 meters; blooms April–July.	<b>Present.</b> One occurrence has been reported within the Project site on the northern end of the San Antonio Reservoir in mesic coastal scrub (occ. 17, CDFW 2021a). Four other occurrences have been reported within 2.8 miles of the Project site (CDFW 2021a and CNPS 2021).	<b>Present.</b> One occurrence has been reported within the study area in the northwestern portion of Camp Roberts (occ.30, CDFW 2021a). Two other occurrences have been reported within 0.5 miles of the study area, downstream of the Project site (CDFW 2021a and CNPS 2021).



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Recurved larkspur <i>Delphinium recurvatum</i>	-/-/1B.2	Central Valley from Colusa to Kern Counties	Alkaline soils in valley and foothill grassland, saltbush scrub, cismontane woodland; 3-790 meters; blooms March-June.	<b>Not Expected.</b> Not known from within 5 miles of the Project site vicinity (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> Suitable habitat in the form of alkali grasslands do not occur in or downstream of the Project site (Dudek 2016). The closest record is approximately 2.8 miles east of the study area near King City (CDFW 2021a and CNPS 2021).
Robbins' nemacladus <i>Nemacladus secundiflorus</i> var. <i>robbinsii</i>	-/-/1B.2	Coastal central and southern California	Chaparral, valley and foothill grassland on dry, sandy or gravelly slopes; 350-1700 meters; blooms April-June.	<b>Possible.</b> Recorded within 0.7 mile of the Project site between San Antonio Reservoir and the Nacimiento Reservoir. Suitable habitat is present (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> The study area is outside the species elevation range. The closest extant record is approximately 3.6 miles west of the study area, downstream of the Project site (CDFW 2021a and CNPS 2021).
Robust spineflower <i>Chorizanthe robusta</i> var. <i>robusta</i>	FE/-/1B.1	Coastal central California, from Marin to Monterey County	Sandy or gravelly areas in coastal scrub, coastal dunes, and openings in cismontane woodland; 5-985 feet; blooms April-September.	<b>Not Expected.</b> Not known from within 5 miles of the Project site vicinity (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> General habitat is present but this species known range is north of the study area. The closest extant record is on the Watsonville Slough approximately 4.8 miles north of the study area, downstream of the Project site (CDFW 2021a and CNPS 2021).

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Saline clover <i>Trifolium hydrophilum</i>	-/-/1B.2	Sacramento Valley, central western California	Salt marsh, mesic alkaline areas in valley and foothill grasslands, vernal pools, marshes and swamps; below 300 meters; blooms April–June.	<b>Not Expected.</b> Not known from within 5 miles of the Project site vicinity (CDFW 2021a and CNPS 2021).	<b>Possible.</b> The closest extant record is approximately within 0.1 miles north of the study area near Moss Landing and the northern portion of the study area. Two additional occurrences are within 0.5 miles of the study area. Suitable habitat is present downstream of the Project site along the Salinas River Lagoon and OSR. (CDFW 2021a and CNPS 2021).
Salt marsh bird’s beak <i>Cordylanthus maritimus ssp. maritimus</i>	FE/SE/1B. 2	Central and south coasts	Coastal dunes and coastal salt marshes and swamps; 0–30 meters; blooms May–November.	<b>Not Expected.</b> Not known from within 5 miles of the Project site vicinity (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> Suitable habitat is present downstream of the Project site along the Salinas River Lagoon and OSR. However, not known from within 5 miles of the study area.
San Antonio collinsia <i>Collinsia antonina</i>	-/-/1B.2	Monterey County	Chaparral, cismontane woodland on shale substrates; 280–365 meters; blooms March–May.	<b>Possible.</b> The closest record is 0.8 mile from the Project site and suitable habitat is present (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> The study area is outside the species elevation range. The closest extant record is approximately 4.7 miles west of the study area, downstream of the Project site (CDFW 2021a and CNPS 2021).

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San Benito evening-primrose <i>Camissonia benitensis</i>	FT/-/1B.1	Fresno, Monterey and San Benito Counties	Chaparral, cismontane woodland, valley and foothill grassland on gravelly serpentine alluvial terraces; 485-1435 meters; blooms April-June.	<b>Not Expected.</b> Not known from within 5 miles of the Project site as the area is outside of the species elevation range (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> Study area, downstream of the Project site is outside of the species elevation range (CDFW 2021a and CNPS 2021).
San Francisco collinsia <i>Collinsia multicolor</i>	-/-/1B.2	Coastal California from San Francisco to Monterey County	Closed-cone coniferous forest, coastal scrub; 30-250 meters; blooms March-May.	<b>Possible.</b> Recorded within 0.8 miles of the Project site and suitable habitat is present (CDFW 2021a and CNPS 2021).	<b>Possible.</b> Recorded within 3.6 miles of the study area and suitable habitat is present in coastal scrub downstream of the Project site along the Salians River corridor (CDFW 2021a and CNPS 2021).
San Luis Obispo owl's-clover <i>Castilleja densiflora</i> <i>var. obispoensis</i>	-/-/1B.2	San Luis Obispo County	Valley and foothill grassland, meadows and seeps, sometimes on serpentine; 10-485 meters; blooms March-May.	<b>Possible.</b> Recorded 2.8 miles southeast of the Project site in Camp Roberts Training Area O in 2002 and suitable habitat is present (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> Not known from the vicinity of the study area, downstream of the Project site (CDFW 2021a and CNPS 2021).
San Luis Obispo sedge <i>Carex obispoensis</i>	-/-/1B.2	Coastal central and southern California in Monterey, San Luis Obispo, and San Diego Counties	Closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, valley and foothill grassland, usually in transition zone on sand, clay, serpentine, or gabbro soils in seeps; 5-845 meters; blooms April-June.	<b>Not Expected.</b> Suitable habitat in the form of serpentine, or gabbro soils in seeps do not occur in the Project site (Dudek 2016). The closest record is approximately 2.5 miles east of the Project site (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> Not known from the vicinity of the study area, downstream of the Project site (CDFW 2021a and CNPS 2021).

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San Simeon baccharis <i>Baccharis plummerae</i> <i>ssp. glabrata</i>	-/-/1B.2	Central coastal California in Monterey and San Luis Obispo Counties	Coastal scrub in open shrub-grassland associations; 25–485 meters; blooms June.	<b>Possible.</b> Recorded within 5 miles of the Project site and suitable habitat is present (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> Not known from the vicinity of the study area, downstream of the Project site (CDFW 2021a and CNPS 2021).
Sand-loving wallflower <i>Erysimum</i> <i>ammophilum</i>	-/-/1B.2	Coastal California ranging from the Bay Area south to San Diego County	Chaparral (maritime), coastal dunes and scrub; on sandy openings; 0–130 meters; blooms February–June.	<b>Not Expected.</b> Not known from within 5 miles of the Project site vicinity (CDFW 2021a and CNPS 2021).	<b>Present.</b> One occurrence has been reported within the study area, between Monterey to Castroville, at the end of the Salinas River (occ. 32, CDFW 2021a). Fourteen other occurrences have been reported within 5 miles of the study area, downstream of the Project site. (CDFW 2021a and CNPS 2021). Suitable habitat occurs in the study area along the Salinas River Lagoon and OSR.
Sandmat manzanita <i>Arctostaphylos pumila</i>	-/-/1B.2	Monterey County	Closed-cone coniferous forest, chaparral (maritime), cismontane woodland, coastal dunes and scrub on sandy soil with other chaparral associates; 3–205 meters; blooms February–May.	<b>Not Expected.</b> Not known from within 5 miles of the Project site vicinity (CDFW 2021a and CNPS 2021).	<b>Possible.</b> Five occurrences have been reported within 2 miles of the study area, between Monterey to Marina (CDFW 2021a and CNPS 2021). Suitable habitat occurs in the study area along the Salinas River Lagoon and OSR.

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Santa Cruz clover <i>Trifolium buckwestiorum</i>	-/-/1B.1	Monterey, Marin, Santa Cruz, San Francisco, San Mateo Counties	Broadleafed upland forest, cismontane woodland, coastal prairie; along gravelly margins and moist grassland; 60–545 meters; blooms April–October.	<b>Not Expected.</b> Not known from within 5 miles of the Project site vicinity (CDFW 2021a and CNPS 2021).	<b>Present.</b> One occurrence has been reported within the study area, in the southeast portion of the Fort Ord National Monument (occ. 10, CDFW 2021a). Suitable habitat is present. Four other occurrences have been reported within 3 miles of the study area, downstream of the Project site. (CDFW 2021a and CNPS 2021).
Santa Cruz microseris <i>Stebbinsoseris decipiens</i>	-/-/1B.2	Bay Area and Central Coast	Broadleafed upland forest, closed cone coniferous forest, chaparral, coastal prairie, coastal scrub; open areas in loose or disturbed soil, usually derived from sandstone, shale or serpentine; on seaward slopes; 10–500 meters; blooms April–May.	<b>Not Expected.</b> Not known from within 5 miles of the Project site vicinity (CDFW 2021a and CNPS 2021) and Project site does not support suitable substrates.	<b>Possible</b> Suitable habitat occurs in the study area, downstream of the Project site (Dudek 2016). The closest record is approximately 0.3 miles south of the study area in Camp Roberts (CDFW 2021a and CNPS 2021).

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Santa Cruz tarplant <i>Holocarpha macradeni</i>	FT/SE/1B .1	San Francisco Bay and Monterey Bay regions	Coastal prairie, coastal scrub, and valley and foothill grassland often on clay and sandy substrates; 0-110 meters; blooms June-October.	<b>Not Expected.</b> Not known from the Project site vicinity as site is outside of the species' elevational range (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> General habitat is present, but study area is outside of this species known range which is located north of the study area. The closest extant record is on the Elkhorn Slough approximately 4.8 miles north of the study area, downstream of the Project site (CDFW 2021a and CNPS 2021).
Santa Lucia bush- mallow <i>Malacothamnus</i> <i>palmeri</i> var. <i>palmeri</i>	-/-/1B.2	Monterey and San Luis Obispo Counties	Chaparral on dry rocky slopes, mostly near summits, but occasionally extending down canyons to the sea; 3-670 meters; blooms May-July.	<b>Possible.</b> Recorded within 4.4 miles of the Project site and suitable habitat is present (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> Not known from the vicinity of the study area, downstream of the Project site (CDFW 2021a and CNPS 2021).
Santa Lucia dwarf rush <i>Juncus luciensis</i>	-/-/1B.2	Central and southern coasts	Vernal pools, wet meadows and seeps, ephemeral drainages, streamsides in lower montane coniferous forest, chaparral, and Great Basin scrub; 300- 2040 meters; blooms April- July.	<b>Present.</b> One occurrence has been reported within the Project site on the northern end of the Nacimiento Reservoir (occ.31, CDFW 2021a) (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> The study area is outside the species elevation range. The closest extant record is approximately 2.2 miles west of the study area, downstream of the Project site (CDFW 2021a and CNPS 2021).

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Santa Lucia manzanita <i>Arctostaphylos luciana</i>	-/-/1B.2	San Luis Obispo County	Chaparral and cismontane woodland on shale (one site says serpentine) outcrops, on slopes; 105–825 meters; blooms December–March.	<b>Not Expected.</b> Suitable habitat in the form of serpentine or shale soils do not occur on the Project site (Dudek 2016). The closest record is 4.47 miles from the study area (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> Not known from the vicinity of the study area, downstream of the Project site (CDFW 2021a and CNPS 2021).
Santa Lucia mint <i>Pogogyne clareana</i>	-/SE/1B.2	Monterey County	Chaparral, cismontane woodland, and riparian woodland in intermittent streams and in moist sandy soil; 325–505 meters; blooms: April–July.	<b>Not Expected.</b> Not known from the Project site vicinity as site is outside of the species’ elevational range (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> Not known from the study area vicinity as site is outside of the species’ elevational range (CDFW 2021a and CNPS 2021).
Santa Lucia monkeyflower <i>Erythranthe hardhamiae</i>	-/-/1B.1	Monterey and San Luis Obispo Counties	Chaparral on sandy soils in openings, sand-filled crevices of sandstone outcrops, and sometimes on serpentinite; 300–705 meters; blooms March–May.	<b>Possible.</b> Recorded within 0.3 miles of the south end of San Antonio Reservoir and suitable habitat is present (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> The study area is outside the species elevation range. The closest extant record is approximately 3.5 miles from the study area, downstream of the Project site (CDFW 2021a and CNPS 2021).

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Santa Lucia purple amole <i>Chlorogalum purpureum</i> var. <i>purpureum</i>	FT/-/1B.1	Monterey and San Luis Obispo Counties	Chaparral, cismontane woodland, valley and foothill grassland often in grassy areas with blue oaks in foothill woodland on gravelly clay soils; 240–390 meters; blooms April–June.	<b>Possible.</b> The closest record was reported 2.3 miles south of the Project site and suitable habitat is present (CDFW 2021a and CNPS 2021).	<b>Present.</b> One occurrence has been reported within the study area in the western portion of Camp Roberts (occ.16, CDFW 2021a). One other occurrence has been reported within 0.4 miles of the study area, downstream of the Project site (CDFW 2021a and CNPS 2021).
Seaside bird's-beak <i>Cordylanthus rigidus</i> <i>ssp. littoralis</i>	-/SE/1B.1	Monterey and San Luis Obispo Counties	Closed-cone coniferous forest, chaparral (maritime), cismontane woodland, coastal dunes and scrub on sandy, often disturbed sites; 0–215 meters; blooms April–October.	<b>Not Expected.</b> Not known from within 5 miles of the Project site vicinity (CDFW 2021a and CNPS 2021).	<b>Possible.</b> Ten occurrences have been reported within 4 miles of the study area, between Monterey to Marina (CDFW 2021a and CNPS 2021). The closest occurrence is 0.4 miles from the study area. Suitable habitat occurs in the study area.
Shining navarretia <i>Navarretia</i> <i>nigelliformis</i> ssp. <i>radians</i>	-/-/1B.2	Interior foothills of South Coast Ranges from Merced County to San Luis Obispo County	Mesic areas with heavy clay soils, in swales and clay flats, in oak woodland, grassland; 76– 1000 meters; blooms April– July.	<b>Not Expected.</b> Suitable habitat in the form of heavy clay mesic soils do not occur in the Project site (Dudek 2016). The closest record is 2.28 miles east of the study area in Camp Roberts (CDFW 2021a and CNPS 2021).	<b>Present.</b> One occurrence has been reported within the study area along the Salinas River within Camp Roberts (occ.50, CDFW 2021a). Nine other occurrences have been reported within 4.25 miles of the study area, downstream of the Project site (CDFW 2021a and CNPS 2021).



Common Name Scientific Name	Status <sup>a</sup> Federal/ State/ CNPS	State Geographic Distribution	General Habitat Description	Potential to Occur in Project Site	Potential to Occur in the Study Area Downstream of the Project Site
Straight-awned spineflower <i>Chorizanthe rectispina</i>	-/-/1B.3	Monterey, San Luis Obispo, Santa Barbara Counties	Chaparral, cismontane woodland, coastal scrub, often in granite in chaparral; 355– 1035 meters; blooms April– July.	<b>Possible.</b> The closest record is 1.7 miles from the Project site and suitable habitat is present (CDFW 2021a and CNPS 2021).	<b>Present.</b> Two occurrences have been reported within the study area along the Salinas River within Camp Roberts (occ.27 and 50, CDFW 2021a). Suitable habitat is present (CDFW 2021a and CNPS 2021).
Toro manzanita <i>Arctostaphylos montereyensis</i>	-/-/1B.2	Monterey County	Chaparral (maritime), cismontane woodland, coastal scrub, often in sandy soil; 30– 730 meters; blooms February– March.	<b>Not Expected.</b> Not known from within 5 miles of the Project site vicinity (CDFW 2021a and CNPS 2021).	<b>Present.</b> One occurrence has been reported within the study area along the Salinas River just north of the Toro Regional Park (occ.14, CDFW 2021a). Nine other occurrences have been reported within 4.6 miles of the study area, downstream of the Project site. Suitable habitat is present in coastal scrub downstream of the Project site along the Salinas River corridor (CDFW 2021a and CNPS 2021).
Umbrella larkspur <i>Delphinium umbracolorum</i>	-/-/1B.3	Central coast from Monterey to Ventura County	Cismontane woodland; mesic sites; 400–1600 meters; blooms April–June.	<b>Not Expected.</b> The Project site vicinity is outside the species elevation range. The closest extant record is 2 miles west on the hillsides adjacent to the Project site (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> The study area is outside the species elevation range. The closest extant record is 0.6 miles west on the hillsides adjacent to the study area, downstream of the Project site (CDFW 2021a and CNPS 2021).

Common Name Scientific Name	Status <sup>a</sup> Federal/ State/ CNPS	State Geographic Distribution	General Habitat Description	Potential to Occur in Project Site	Potential to Occur in the Study Area Downstream of the Project Site
Vernal pool bent grass <i>Agrostis lacunavernalis</i>	-/-/1B.1	Monterey County	Vernal pools; in mima mounds areas or on the margins of vernal pools; 115–145 meters; blooms April–May.	<b>Not Expected.</b> Not known from within 5 miles of the Project site vicinity (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> Suitable habitat in the form of vernal pools or mima mounds do not occur in or downstream of the Project site (Dudek 2016). The closest record is 2.3 miles from the study area on the Fort Ord National Monument (CDFW 2021a and CNPS 2021).
Woodland woollythreads <i>Monolopia gracilens</i>	-/-/1B.2	Monterey County	Broadleafed upland forest, closed-cone coniferous forest chaparral, cismontane woodland, valley and foothill grassland; 100–1200 meters; blooms March–July.	<b>Not Expected.</b> Not known from within 5 miles of the Project site vicinity (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> General habitat is present but this species known range is north of the Project site. The closest extant record is on the Pajaro Valley approximately 3.1 miles north of the study area, downstream of the Project site (CDFW 2021a and CNPS 2021).
Yadon's rein orchid <i>Piperia yadonii</i>	FE/-/1B.1	Monterey County	Closed-cone coniferous forest, chaparral, coastal bluff scrub; on sandstone and sandy soil, but poorly drained and often dry. Seriously endangered; 10–415 meters; blooms February–August.	<b>Not Expected.</b> Not known from within 5 miles of the Project site vicinity (CDFW 2021a and CNPS 2021).	<b>Possible.</b> One occurrence has been reported 2.6 miles south of the study area near Marina. There is suitable habitat in the study area along the Salinas River Lagoon and OSR (CDFW 2021a and CNPS 2021).

Common Name Scientific Name	Status <sup>a</sup> Federal/ State/ CNPS	State Geographic Distribution	General Habitat Description	Potential to Occur in Project Site	Potential to Occur in the Study Area Downstream of the Project Site
Yellow-flowered eriastrum <i>Eriastrum luteum</i>	-/-/1B.2	Monterey and San Luis Obispo Counties	Broadleafed upland forest, chaparral, cismontane woodland on bare sandy soil and decomposed granite slopes; 360–1000 meters; blooms May–June.	<b>Present.</b> One occurrence has been reported within the Project site on the northern end of the San Antonio Reservoir (occ. 15, CDFW 2021a). Four other occurrences have been reported less than a mile of the Project site. Suitable habitat is present (CDFW 2021a and CNPS 2021).	<b>Not Expected.</b> The study area is outside the species elevation range. The closest extant record is approximately 2.3 miles west of the study area, downstream of the Project site (CDFW 2021a and CNPS 2021).

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**Notes:****a** Status explanations:**Federal**

FE = listed as endangered under the federal Endangered Species Act.

FT = listed as threatened under the federal Endangered Species Act.

- = no listing.

**State**

SE = listed as endangered under the California Endangered Species Act.

ST = listed as threatened under the California Endangered Species Act.

- = no listing.

**California Rare Plant Rank**

1B = List 1B species: rare, threatened, or endangered in California and elsewhere.

2 = List 2 species: rare, threatened, or endangered in California but more common elsewhere.

.1 = Seriously endangered in California (over 80% of occurrences threatened—high degree and immediacy of threat).

.2 = Fairly endangered in California (20-80% occurrences threatened).

.3 = Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known).

- = no listing.

**b** Potential for Occurrence

- a. **None:** Project site and/or study area contains a complete lack of suitable habitat, the local range for the species is restricted, and/or the species is extirpated in this region.
  - b. **Not Expected:** suitable habitat or key habitat elements might be present in the Project site and/or study area but might be of poor quality or isolated from the nearest extant occurrences. Habitat suitability refers to factors such as elevation, soil chemistry and type, vegetation communities, microhabitats, and degraded/substantially altered habitats.
  - c. **Possible:** the presence of suitable habitat or key habitat elements in the Project site and/or study area that potentially support the species.
  - d. **Present:** either the target species was observed directly or its presence was confirmed by diagnostic signs during field investigations or in previous studies in the Project site and/or study area.
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**Table E-2-. Special-Status Wildlife with the Potential to Occur in the Project Vicinity**

<b>Common Name Scientific Name</b>	<b>Status<sup>a</sup> Federal / State/ Other</b>	<b>State Geographic Range</b>	<b>General Habitat Description</b>	<b>Potential to Occur in Project Site</b>	<b>Potential to Occur in the Study Area Downstream of the Project Site</b>
<b>Invertebrates</b>					
Crotch bumble bee <i>Bombus crotchii</i>	-/SC/-	Throughout California.	Grasslands, meadows, foothill woodlands and other native habitat types.	<b>Possible.</b> Project site supports suitable habitat and within species known range. Not known from the vicinity of the Project site (CDFW 2021a and CNPS 2021).	<b>Present.</b> There is one extant record known from the study area in Soledad (CDFW 2021a). Suitable habitat occurs in the study area.
Kern primrose sphinx moth <i>Euproserpinus euterpe</i>	FT/-/-	Occurs on the Carrizo Plain National Monument in San Luis Obispo County, in the Cuyama Valley of Santa Barbara and Ventura counties, and the Walker Basin of Kern County.	Valley foothill, oak woodland, and chaparral associated with evening primrose.	<b>Not Expected.</b> Project site is located outside of the species known range. Not known from the Project site vicinity (CDFW 2021a).	<b>Not Expected.</b> Downstream of the Project site is also outside of the species range
Mimic tryonia (California brackishwater snail) <i>Tryonia imitator</i>	-/-/-	From Sonoma County south to San Diego County.	Inhabits coastal lagoons, estuaries and salt marshes. Found only in permanently submerged areas in a variety of sediment types; able to withstand a wide range of salinities.	<b>Not Expected.</b> Project site is located outside of the species known range. Not known from the Project site vicinity (CDFW 2021a).	<b>Present.</b> Known from the Elkhorn Slough at the Hwy 1 bridge crossing in the study area (CDFW 2021a). Suitable habitat occurs in the Salinas River Lagoon and OSR.

Common Name <i>Scientific Name</i>	Status <sup>a</sup> Federal / State/ Other	State Geographic Range	General Habitat Description	Potential to Occur in Project Site	Potential to Occur in the Study Area Downstream of the Project Site
Monarch butterfly (California overwintering population) <i>Danaus plexippus</i>	FC/-/-	Winter roost sites extend along the coast from northern Mendocino to southern San Diego County.	Roosts located in wind- protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	<b>Not Expected.</b> Not known from the vicinity of the Project site as site is outside of species range (Xerces Society 2021, CDFW 2021a).	<b>Possible.</b> Not known from the Project site vicinity. Downstream of the Project site suitable roosting habitat may occur, and the closest known roosting location is approximately 5 miles south of the study area along Pebble Beach in Carmel (CDFW 2021a).
Obscure bumble bee <i>Bombus caliginosus</i>	-/-/-	Coastal areas from Santa Barbara County to Oregon border.	Food plant genera include <i>Baccharis</i> , <i>Cirsium</i> , <i>Lupinus</i> , <i>Lotus</i> , <i>Grindelia</i> , and <i>Phacelia</i> .	<b>Not Expected.</b> Not known from the vicinity of the Project site (CDFW 2021a) as site is outside of species range.	<b>Possible.</b> Suitable habitat in coastal portion of the study area. The closest extant record is approximately 3.4 miles east of the study area in Pinnacles National Park (CDFW 2021a). Another location is reported on the coast at Sunset State Beach approximately 4.8 miles north of the Salinas River Lagoon.
Smith's blue butterfly <i>Euphilotes enoptes smithi</i>	FT/-/-	Monterey and Santa Cruz Counties.	Coastal dunes and coastal scrub; hostplant: <i>Eriogonum latifolium</i> and <i>Eriogonum parvifolium</i> are utilized as both larval and adult foodplants.	<b>Not Expected.</b> Not known from the vicinity of the Project site as site is outside of species range (CDFW 2021a).	<b>Present.</b> Known from north and south of the Salinas River Lagoon on state and federal lands in the study area (CDFW 2021a). Suitable habitat in the study area along the Salinas River Lagoon and OSR.

Common Name <i>Scientific Name</i>	Status <sup>a</sup> Federal / State/ Other	State Geographic Range	General Habitat Description	Potential to Occur in Project Site	Potential to Occur in the Study Area Downstream of the Project Site
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	FT/-/-	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools.	Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	<b>Not Expected.</b> Suitable habitat in the form of vernal pools or swales do not occur in the Project site (Dudek 2016). The closest record is approximately 1.6 miles northwest of the Project site on Fort Hunter Liggett (CDFW 2021a) within an area designated as critical habitat. Critical habitat and other occurrences are located adjacent to the study area in Bradley near the confluence of the Nacimiento and Salinas Rivers (USFWS 2021).	<b>Possible.</b> Suitable habitat in the form of vernal pools or swales do not occur in the Project site or downstream of the Project site within the study area (Dudek 2016). The closest record is approximately 0.25 mile east of the Project site on Camp Roberts (CDFW 2021a) within an area designated as critical habitat. Critical habitat and other occurrences are located adjacent to the study area in Bradley near the confluence of the Nacimiento and Salinas Rivers (USFWS 2021).
Western bumble bee <i>Bombus occidentalis</i>	-/SC/-	Northern and Central California.	Grassland and meadows and other native habitat types.	<b>Possible.</b> Suitable habitat occurs in the Project site. Not known from the vicinity of the Project site (CDFW 2021a).	<b>Present.</b> There are three extant records known from the study area in San Lucas, Spreckels, and in coastal habitat near the Salinas River Lagoon (CDFW 2021a). Suitable habitat occurs throughout the study area.

Common Name <i>Scientific Name</i>	Status <sup>a</sup> Federal / State/ Other	State Geographic Range	General Habitat Description	Potential to Occur in Project Site	Potential to Occur in the Study Area Downstream of the Project Site
<b>Fish</b>					
Monterey hitch <i>Lavinia exilicauda harengus</i>	-/-/SSC	Present in the Pajaro and Salinas Rivers and larger tributaries in Monterey (Moyle 2002).	This species can occupy a wide variety of habitats but is most abundant in lowland areas with large pools or in small reservoirs that mimic these conditions.	<b>Present.</b> This species occurs in San Antonio reservoir and river, and in the Salinas River Lagoon (Moyle et al. 2015; Hagar Environmental Science and MCWRA 2015). Suitable habitat occurs in Project site.	<b>Present.</b> This species occurs in the Salinas River Lagoon and upper reaches of the river (Moyle et al. 2015; Hagar Environmental Science and MCWRA 2015). Suitable habitat occurs in the study area.
Monterey roach <i>Lavinia symmetricus subditus</i>	-/-/SSC	Tributaries to Monterey Bay (Salinas, Pajaro, and San Lorenzo drainages)	Various habitats within coastal streams to mountain foothill streams, with maximum water temperature tolerance of 30-35°C and dissolved oxygen as low as 1-2 parts per million. Needs gravel beds or riffles for egg deposition (Univ. of California, Division of Ag. And Nat. Resources 2021).	<b>Not Expected.</b> The species occurs in the San Antonio River (CalFish 2020) downstream of the Project site. Suitable habitat occurs downstream of the Project site, in the study area.	<b>Present.</b> The species occurs in the San Antonio River (CalFish 2020). Suitable habitat occurs downstream of the Project site, in the study area.
Pacific lamprey <i>Lampetra tridentata</i>	-/-/ SSC	Pacific Coast from Hokkaido Island, Japan, through Alaska and south to Rio Santo Domingo in Baja California.	Similar to habitat requirements listed above for steelhead. Cool, clear, fast-flowing rivers and streams containing numerous riffles and cover.	<b>Not Expected.</b> This species is present in the Salinas River and Nacimiento River. Suitable habitat occurs downstream of the Project site and in the study area (Hagar Environmental Science and MCWRA 2015).	<b>Present.</b> This species is present in the Salinas River and Nacimiento River. Suitable habitat occurs in Project site and in the study area (Hagar Environmental Science and MCWRA 2015).



Common Name <i>Scientific Name</i>	Status <sup>a</sup> Federal / State/ Other	State Geographic Range	General Habitat Description	Potential to Occur in Project Site	Potential to Occur in the Study Area Downstream of the Project Site
Sacramento blackfish <i>Orthodon microlepidotus</i>	-/-/SSC	Low elevation reaches of the Sacramento and San Joaquin rivers and their associated tributaries, Clear Lake, and Pajaro and Salinas Rivers.	Warm, turbid waters, in both reservoirs and streams. Found in deep, turbid pools with muddy bottoms. They can survive in extreme environments (i.e., low dissolved oxygen, high water temperatures) (Moyle 2002).	<b>Not Expected.</b> Occurs in the Salinas River including the Salinas River Lagoon (Hagar Environmental Science and MCWRA 2015). Suitable habitat occurs in the study area downstream of the Project site.	<b>Present.</b> Occurs in the Salinas River including the Salinas River Lagoon (Hagar Environmental Science and MCWRA 2015). Suitable habitat occurs in the study area downstream of the Project site.
South-Central California Coast steelhead <i>Oncorhynchus mykiss</i>	FT/-/-	Steelhead are found throughout coastal California and the Sacramento and San Joaquin drainages of the Central Valley.	Cool, clear, fast-flowing rivers and streams containing numerous riffles and cover. While these waterways are generally forested, snow-fed streams, steelhead trout are also found in rain-fed, intermittent streams.	<b>Not Expected.</b> The species is present in the Salinas River Lagoon, the Salinas River and in Nacimiento and San Antonio Rivers downstream of the Project site. Suitable habitat occurs in the study area.	<b>Present.</b> The species is present in the Salinas River Lagoon, the Salinas River and in Nacimiento and San Antonio Rivers. Suitable habitat occurs in the study area.
Tidewater goby <i>Eucyclogobius newberryi</i>	FE/-/ SSC	From Tillas Slough (mouth of the Smith River, Del Norte County) to Agua Hedionda Lagoon (northern San Diego County).	Found primarily in waters of coastal lagoons, estuaries, and marshes.	<b>Not Expected.</b> Not known from the vicinity of the Project site (CDFW 2021a and CNPS 2021).	<b>Present.</b> The species is present in Salinas River Lagoon. After not having been observed in the Salinas River Lagoon since 1951, Hagar Environmental Science (2015) captured the species in the lagoon in 2013 and 2014. Suitable habitat occurs in the study area downstream of the Project site in the Salinas River Lagoon and OSR.

Common Name <i>Scientific Name</i>	Status <sup>a</sup> Federal / State/ Other	State Geographic Range	General Habitat Description	Potential to Occur in Project Site	Potential to Occur in the Study Area Downstream of the Project Site
<b>Amphibians</b>					
Arroyo toad <i>Anaxyrus californicus</i>	FE/- /SSC	Coastal and desert drainages in central and southern California.	Low gradient, medium-to-large streams and rivers with intermittent and perennial flow. Inhabits semi-arid regions near washes or intermittent streams, including valley foothill and desert riparian, desert wash, rivers with sandy banks, willows, cottonwoods, and Sycamores, as well as loose, gravelly areas of streams in drier parts of the range.	<b>Present.</b> Known from along the San Antonio River, approximately 3.7 miles northwest of the Project site on Fort Hunter Liggett (CDFW 2021a, USFWS 2021).	<b>Possible.</b> Perennial streams with sand bars or sandy banks within the species' range also include Nacimiento, San Antonio, and Salinas Rivers, all which occur downstream of the Project site in the study area. No known occurrences reported downstream of the San Antonio and Nacimiento Reservoirs, or within the Salinas River system (CDFW 2021a, USFWS 2021).
California red-legged frog <i>Rana draytonii</i>	FT/- /SSC	Along the coast and coastal mountain ranges of California from Mendocino County to San Diego County and in the Sierra Nevada from Butte County to Stanislaus County.	Permanent and semipermanent aquatic habitats, such as creeks and coldwater ponds, with emergent and submergent vegetation; may aestivate in rodent burrows or cracks during dry periods.	<b>Possible.</b> Suitable habitat along San Antonio River upstream of the reservoir. Known from approximately 3.8 miles south of the Project site in an unnamed perennial stream (CDFW 2021a, USFWS 2021).	<b>Present.</b> Known from the study area along the Salinas River downstream of the Project site near Salinas (CDFW 2021a, USFWS 2021).

Common Name <i>Scientific Name</i>	Status <sup>a</sup> Federal / State/ Other	State Geographic Range	General Habitat Description	Potential to Occur in Project Site	Potential to Occur in the Study Area Downstream of the Project Site
California tiger salamander <i>Ambystoma californiense</i>	FT/ST/-	Central Valley, including Sierra Nevada foothills, up to approximately 1,000 feet in elevation, and coastal region from Sonoma County south to Santa Barbara County.	Small ponds, small lakes, or vernal pools in grasslands and oak woodlands for breeding; rodent burrows, rock crevices, or fallen logs for upland cover during dry season.	<b>Not expected.</b> Suitable breeding habitat in the form of vernal pools or small ponds, or small lakes are not present in the Project site or in the vicinity. An extant record is located approximately 3 miles north of the Project site on Fort Hunter Liggett (CDFW 2021a, USFWS 2021).	<b>Possible.</b> Known from the uplands adjacent to the study area near Gonzales, Chualar, Spreckels, Moss Landing, Prundale, and Marina, and Fort Ord (CDFW 2021a, USFWS 2021).
Coast Range newt <i>Taricha torosa</i>	-/-/SSC	Coast and coast range mountains from Mendocino County south to San Diego county.	Frequents a wide variety of habitats and common in lowlands along sandy washes with scattered low vegetation. Requires open areas for sunning, vegetation for cover, patches of loose soil for burial and abundant supply of ants and other insects.	<b>Possible.</b> Project site occurs within the species current range. Suitable habitat occurs throughout the Project site. No known records within 5 miles (CDFW 2021a).	<b>Present.</b> Known from the study area along the Salinas River under the Hwy 68 bridge, approximately 1.5 miles northwest of Spreckels. Suitable habitat occurs throughout the study area.
Foothill yellow-legged frog <i>Rana boylei</i>	- /SE/SSC	Klamath, Cascade, north Coast, south Coast, Transverse, and Sierra Nevada Ranges up to approximately 6,000 feet.	Streams in woodland, forest, mixed chaparral, and wet meadow habitats with rock and gravel substrate and low overhanging vegetation along the edge; usually found near riffles with rocks and sunny banks nearby.	<b>Possible.</b> Project site occurs within the species known range and the upper reaches of the San Antonio River supports suitable habitat. Two populations are reported within 5 miles of the Project site located near the border of Monterey and San Luis Obispo counties (S. Sweet pers. comm. 2017, McCartney-Melstad et al. 2018, Peek 2018, CDFW 2021a).	<b>Possible.</b> The downstream portions of the Nacimiento and San Antonio Rivers within the study area are located in the species known range and support suitable habitat ( S. Sweet pers. comm. 2017, McCartney-Melstad et al. 2018, Peek 2018, CDFW 2021a).

<b>Common Name Scientific Name</b>	<b>Status<sup>a</sup> Federal / State/ Other</b>	<b>State Geographic Range</b>	<b>General Habitat Description</b>	<b>Potential to Occur in Project Site</b>	<b>Potential to Occur in the Study Area Downstream of the Project Site</b>
Santa Cruz long-toed salamander <i>Ambystoma macrodactylum croceum</i>	FE/SE/F P	Restricted locales in Santa Cruz and Monterey Counties.	Wet meadows near sea level. Aquatic larvae prefer shallow (less than 12 inches) water, using clumps of vegetation or debris for cover; adults use mammal burrows.	<b>Not Expected.</b> Project site does not occur in species current range. No extant locations reported within 5 miles of the Project site (CDFW 2021a, USFWS 2021).	<b>Not Expected.</b> Study area does not occur in species current range. No extant locations reported within 1.5 miles of the study area (CDFW 2021a, USFWS 2021).
Western spadefoot toad <i>Spea hammondi</i>	-/-/SSC	Sierra Nevada foothills, Central Valley, Coast Ranges, coastal counties in southern California.	Shallow streams with riffles and seasonal wetlands, such as vernal pools in annual grasslands and oak woodlands.	<b>Possible.</b> Known from east of the Nacimiento River on Camp Roberts in the study area approximately 2.7 miles from the Project site. Other occurrences known from southeast and northwest of San Antonio Reservoir (CDFW 2021a). Suitable habitat occurs in the Project site.	<b>Present.</b> Known from east of the Nacimiento River on Camp Roberts in the study area. Other occurrences known from southeast and northwest of San Antonio Reservoir (CDFW 2021a). Suitable habitat occurs throughout the study area.
<b>Reptiles</b>					
Blunt-nosed leopard lizard <i>Gambelia silus</i>	FE/SE/F P	San Joaquin Valley and adjacent foothills.	Resident of sparsely vegetated alkali and desert scrub habitats, in areas of low topographic relief.	<b>Not Expected.</b> Project site does not occur in species current range. No extant locations reported within 5 miles of the Project site (CDFW 2021a, USFWS 2021).	<b>Not Expected.</b> Study area does not occur in species current range. No extant locations reported within 5 miles of the study area (CDFW 2021a, USFWS 2021).

Common Name <i>Scientific Name</i>	Status <sup>a</sup> Federal / State/ Other	State Geographic Range	General Habitat Description	Potential to Occur in Project Site	Potential to Occur in the Study Area Downstream of the Project Site
Coast horned lizard (formerly: Blainville's horned lizard) <i>Phrynosoma blainvillii</i>	-/-/SSC	Sacramento Valley, including foothills, south through Transverse and Peninsular Ranges from Ventura to San Diego County in southern California; Coast Ranges south of Sonoma County; below 4,000 feet in northern California.	A variety of habitats, from brush-lands to coniferous forests; requires open areas for sunning.	<b>Possible.</b> May occur in upland habitats on the Project site. Known from the upper reaches of the San Antonio River on Camp Roberts, approximately 3.6 miles northeast of the Project site (CDFW 2021a; Thomson et al. 2021).	<b>Present.</b> Known from the study area on Camp Roberts. Suitable habitat occurs throughout the study area.
Northern California legless lizard <i>Anniella pulchra</i>	-/-/SSC	Occurs from the southern edge of the San Joaquin River in northern Contra Costa County south to the Ventura County.	Chaparral, coastal dunes, coastal scrub in sandy or loose loamy soils under sparse vegetation. Soil moisture is essential; they prefer soils with a high moisture content.	<b>Present.</b> Known from the San Antonio Reservoir (CDFW 2021a; Thomson et al. 2021) and may occur in the upper reaches of the San Antonio River.	<b>Present.</b> Closest known occurrence is near the Nacimiento River, approximately 3.0 miles east of the Project site (CDFW 2021a). Also known from the Salians River and the coastal dunes near the Salinas River Lagoon and OSR.
San Joaquin coachwhip <i>Masticophis flagellum ruddocki</i>	-/-/SSC	Arbuckle in the Sacramento Valley in Colusa County southward to the Grapevine in the Kern County portion of the San Joaquin Valley and westward into the inner South Coast Ranges.	Chenopod scrub, valley and foothill grassland, open, dry habitats with little or no tree cover. Found in valley grassland and saltbush scrub in the San Joaquin Valley. Needs mammal burrows for refuge and oviposition sites.	<b>Possible:</b> Known from the Nacimiento River floodplain on Camp Roberts approximately 3.8 miles east and downstream of the Project site (CDFW 2021a). Suitable habitat occurs in the Project site.	<b>Present:</b> Known from the Nacimiento River floodplain on Camp Roberts downstream of the Project site in the study area (CDFW 2021a). Suitable habitat occurs in the study area.

Common Name <i>Scientific Name</i>	Status <sup>a</sup> Federal / State/ Other	State Geographic Range	General Habitat Description	Potential to Occur in Project Site	Potential to Occur in the Study Area Downstream of the Project Site
Two-striped gartersnake <i>Thamnophis hammondi</i>	-/-/SSC	Coastal California from vicinity of Salinas to southern San Diego County.	Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth. From sea level to 7,000 feet.	<b>Possible.</b> Potential to occur in the Project site. One known extant occurrence from the Salinas area within 2.5 miles of the study area (CDFW 2021a).	<b>Possible.</b> Potential to occur in the three rivers downstream of the Project site. One known extant occurrence from the Salinas area within 2 miles north of the study area (CDFW 2021a).
Western pond turtle <i>Emys marmorata</i>	-/-/SSC	Inhabits the Central Coast Range to the ocean south of the San Francisco Bay area into Baja California.	Ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and with watercress, cattails, water lilies, or other aquatic vegetation in woodlands, grasslands, and open forests.	<b>Present.</b> The species is known from Project site in Nacimiento Reservoir. Species is also known to occur directly southeast and northwest of San Antonio Reservoir (CDFW 2021a; Thomson et al. 2016).	<b>Present.</b> The species is known from the Nacimiento Reservoir, Nacimiento River, and Salinas River floodplains (CDFW 2021a). Suitable habitat occurs throughout the study area.
<b>Birds</b>					
American peregrine falcon <i>Falco peregrinus anatum</i>	BCC/FP/ -	Permanent resident along the north and south Coast ranges; may summer in the Cascade and Klamath Ranges and through the Sierra Nevada to Madera County; winters in the Central Valley south through the Transverse and Peninsular Ranges and the plains east of the Cascade Range.	Nests and roosts on protected ledges of high cliffs, usually adjacent to lakes, rivers, or marshes that support large prey populations.	<b>Possible.</b> May forage and nest on occasion in the Project site. No known nesting occurrences within 5 miles of the Project site, but within the species range (CDFW 2021a).	<b>Present.</b> Not known from the vicinity of the study area, downstream of the Project site (CDFW 2021a and CNPS 2021).

Common Name <i>Scientific Name</i>	Status <sup>a</sup> Federal / State/ Other	State Geographic Range	General Habitat Description	Potential to Occur in Project Site	Potential to Occur in the Study Area Downstream of the Project Site
Bald eagle <i>Haliaeetus leucocephalus</i>	BGPA, BCC/SE, FP/-	Nests in Siskiyou, Modoc, Trinity, Shasta, Lassen, Plumas, Butte, Tehama, Lake, and Mendocino Counties and in the Lake Tahoe Basin; reintroduced into central coast; winter range includes the rest of California, except the southeastern deserts, very high altitudes in the Sierra Nevada, and east of the Sierra Nevada south of Mono County.	In western North America, nests and roosts in coniferous forests within 1 mile of a lake, reservoir, stream, or the ocean.	<b>Present.</b> A pair was observed flying over the central portion of San Antonio Reservoir during fall 2016 surveys (Dudek 2016). Known to forage, overwinter, and nest in the vicinity of San Antonio and Nacimiento Reservoirs and Rivers (CDFW 2021a, Roberson 2002) including the Project site.	<b>Present.</b> The species is known to nest in the riparian canopy of the Nacimiento River and forages downstream of the Project site along the riverine habitats of the three river systems in unpopulated areas (CDFW 2021a, Roberson 2002).
Bank swallow <i>Riparia ripiaria</i>	-/ST/-	Occurs along the Sacramento River from Tehama County to Sacramento County, along the Feather and lower American Rivers, in the Owens Valley; and in the plains east of the Cascade Range in Modoc, Lassen, and northern Siskiyou Counties; small populations near the coast from San Francisco County to Monterey County.	Nests in bluffs or banks, usually adjacent to water, where the soil consists of sand or sandy loam.	<b>Possible.</b> This species may forage or nest in the Project site as it supports suitable habitat, however, it is has not been recorded within 5 miles of the Project site (CDFW 2021a).	<b>Present.</b> The species is considered present in the Salinas River. Species is known to occur southwest of King City, near Greenfield, and Moss Landing in the study area (CDFW 2021a).

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Burrowing owl <i>Athene cunicularia</i>	BCC/- /SSC	Lowlands throughout California, including the Central Valley, northeastern plateau, southeastern deserts, and coastal areas; rare along south coast.	Level, open, dry, heavily grazed or low stature grassland or desert vegetation to forage in with available burrows for refuge and nesting.	<b>Possible.</b> The study area is not within the current breeding range of the species (Shuford, W.D. and Gardali, T., editors. 2008), but owls may overwinter in portions of the Project site. Suitable habitat present where small mammal burrows are present within the Project site. Known from 4.5 miles east of the Project site on Camp Roberts (CDFW 2021a).	<b>Present.</b> Suitable overwintering habitat occurs in the study area and owls have been recorded within the study area on Camp Roberts (CDFW 2021a).
California Condor <i>Gymnogyps californianus</i>	FE/SE/F P	Narrowly distributed in central and southern California.	Require vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Forages up to 100 miles from roost/nest.	<b>Not expected (Nesting).</b> Not expected to nest within the Project site. Condors in Monterey County generally remain along the coast or around the Pinnacles National Monument. Overflights in the project vicinity are typically at relatively high elevations.	<b>Present.</b> A nest was found in San Benito County in the study area in 2010 (CDFW 2021a). Suitable habitat in the form of rocky cliffs or steep canyons along the Salinas River corridor suitable for nesting sites are considered present.
California horned lark <i>Eremophila alpestris actia</i>	-/-/WL	Coastal regions, chiefly from Sonoma County to San Diego County. Also main part of San Joaquin Valley and east to foothills.	Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	<b>Possible.</b> Not known to nest currently in the Project site although suitable habitat for breeding exists in the Project site grasslands. No known nesting occurrences within 5 miles of the Project site (CDFW 2021a).	<b>Present.</b> Observed within Camp Roberts (CDFW 2021a). Suitable habitat occurs in the study area.



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California least tern <i>Sterna antillarum browni</i>	FE/SE/F P	San Francisco Bay south to San Diego County.	Nests along the coast; colonial breeder on bare or sparsely vegetated, flat substrates, such as sand beaches, alkali flats, landfills, or paved areas.	<b>Not expected.</b> Not known to nest in the Project site as site is outside of the species range. No known nesting occurrences within the Project site region (CDFW 2021a).	<b>Not expected.</b> Not known to nest currently in the study area although suitable habitat occurs. No known nesting occurrences within 5 miles of the study area (CDFW 2021a).
California Ridgway's rail (formerly California clapper rail) <i>Rallus obsoletus obsoletus</i>	FE/SE/F P	Salt water and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay south to San Diego.	Brackish marsh, marsh and swamp, salt marsh, and wetlands. Associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs.	<b>Not expected.</b> Not known to nest in the Project site as site is outside of the species range. No known nesting occurrences within the Project site region (CDFW 2021a).	<b>Not expected.</b> Not known to nest currently in the study area although suitable habitat occurs in the Salinas River Lagoon. No known current nesting occurrences within 5 miles of the study area (CDFW 2021a).
Cooper's hawk <i>Accipiter cooperii</i>	-/-/ WL	Distributed throughout California.	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river floodplains; also, live oaks.	<b>Possible.</b> Suitable habitat occurs in the Project site and study area. Project is within species range, though no known locations noted within 5 miles of the Project site (CDFW 2021a).	<b>Possible.</b> Suitable habitat occurs in the Project site and study area. Project is within species range, though no known locations noted within 5 miles of the study area (CDFW 2021a).
Ferruginous hawk <i>Buteo regalis</i>	-/-/ WL	Overwinters throughout California.	Variety of open habitats including grasslands and sparse woodlands.	<b>Possible.</b> Suitable foraging habitat occurs in the Project site. Project is within species overwintering range, though no known locations noted within 5 miles of the Project site (CDFW 2021a).	<b>Possible.</b> Suitable foraging habitat occurs in the study area. Project is within species overwintering range and known from two locations noted within 1.5 miles of the study area in Marina and on Camp Roberts (CDFW 2021a).

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Golden eagle <i>Aquila chrysaetos</i>	BCC/FP/ -	Foothills and mountains throughout California. Uncommon nonbreeding visitor to lowlands such as the Central Valley.	Nest on cliffs and escarpments or in tall trees overlooking open country. Forages in annual grasslands, chaparral, and oak woodlands with plentiful medium and large-sized mammals.	<b>Possible.</b> Potentially suitable nesting/foraging habitat occurs in oak woodland on the Project site. Three individuals (including one juvenile) were observed flying over the central and northern portions of San Antonio Reservoir during fall 2016 surveys (Dudek 2016). Nesting is known from along Nacimiento River near Camp Roberts 2.3 miles southeast of the Project site (CDFW 2021a).	<b>Present.</b> This species is known to nest and forage throughout the unpopulated portions of the study area.
Great blue heron <i>Ardea Herodias</i>	-/-/-	Distributed throughout California.	Colonial nester in tall trees, cliff sides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	<b>Possible.</b> Species may nest and forage in the Project site due to the presence of suitable habitat. Not known from within 5 miles of the Project site (CDFW 2021a).	<b>Present.</b> Rookery known along Salinas River on Camp Roberts in the study area (CDFW 2021a).

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Least Bell's vireo <i>Vireo bellii pusilus</i>	FE/SE/-	Small summer resident populations remain in southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 feet.	Riparian thickets either near water or in dry portions of river bottoms; nests along margins of bushes and forages low to the ground; may also be found using mesquite and arrow weed in desert canyons.	<b>Possible.</b> The species is considered possible to forage and nest in low, dense riparian thickets along the San Antonio and Nacimiento Rivers. Suitable riparian habitat occurs in the Project site. No known recent sightings within 5 miles of the Project site (CDFW 2021a)	<b>Present.</b> The closest known occurrence was in 1983 about 6 miles southeast of San Antonio Reservoir, near Bradley along the Salinas River in the study area. A singing male was observed in the area, at El Piojo Creek, south Fort Hunter Liggett, in 1988 (USFWS 2006). A few incidental sightings of vireos after the breeding season have occurred between 2001-2006 in the Salinas Valley (USFWS 2006). May nest in Salinas River and its tributaries with suitable habitat.

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Loggerhead shrike <i>Lanius lucovicianus</i>	-/-/SSC	Year-round resident throughout much of California; population declines have been observed in the San Francisco Bay Area in areas where oak savannah habitat has been lost.	Inhabits open grasslands and scrub as well as woodlands and riparian areas. Trees, shrubs and fence posts are important habitat features that offer perches for hunting and an announcement site for territory pair maintenance (Shuford and Gardali 2008).	<b>Present.</b> Although no known nesting occurrences are reported within 5 miles of the study area (CDFW 2021a), this species is known to nest widely in Monterey County, and a population was recorded in the Project vicinity during the Monterey County breeding bird atlas project in the late 1980s and early 1990s (Roberson 2002, Roberson and Tenney 1993). Potential to nest in more open areas with suitable nesting trees within the Project site. May winter and forage in additional open habitats elsewhere on the Project site.	<b>Present.</b> Likely to nest in more open areas with suitable nesting trees within the study area. May winter and forage in additional open habitats elsewhere on the study area. The species is considered present in open areas along the Salinas River and its tributaries.
Long-eared owl <i>Asio otus</i>	-/-/SSC	Found throughout most of California.	Riparian woodland of live oak, gray pine, valley oak, cottonwood, willow, surrounded by chaparral habitat (chamise, ceanothus), valley meadow (exotic grasses), and historic ranchland.	<b>Possible.</b> May nest in dense riparian and upland habitat in the Project site. No known nesting occurrences within 5 miles of the Project site (CDFW 2021a; Roberson 2002).	<b>Possible.</b> Suitable habitat throughout study area. No known nesting occurrences within 5 miles of the study area (CDFW 2021a; Roberson 2002). The species is considered possible to nest within riparian habitat along the Salinas River and its tributaries.

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Northern harrier <i>Circus cyaneus</i>	-/-/SSC	Throughout lowland California, but species has been recorded in fall at high elevations.	Grasslands, meadows, marshes, and seasonal and agricultural wetlands; nests on the ground within a thicket of vegetation.	<b>Present.</b> Known to nest at San Antonio Reservoir (Roberson 2002) and one known nesting occurrence approximately 1 mile northwest of San Antonio in 1999 (CDFW 2021a). One juvenile observed in the northern portion of Project site during fall 2016 surveys.	<b>Present.</b> Foraging and nesting habitat for the species is present within the along the Salinas River and its tributaries in the study area.
Prairie falcon <i>Falco mexicanus</i>	BCC/ - /WL	Distributed throughout California.	Inhabits dry, open terrain, either level or hilly in grassland and scrublands. Breeding sites located on cliffs. Forages far afield, even to marshlands and ocean shores.	<b>Present.</b> May nest in the Project site. Known to forage in these areas and from numerous records within the study area 5 miles of Project site (CDFW 2021a).	<b>Present.</b> Known to nest and forage in these areas and from numerous records within the study area 5 miles of Project site (CDFW 2021a).
Sharp-shinned hawk <i>Accipiter striatus</i>	-/-/WL	Distributed throughout California.	Ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats. Prefers riparian areas. North-facing slopes with plucking perches are critical requirements. Nests usually within 275 feet of water.	<b>Possible.</b> Suitable habitat occurs in the Project site. Project is within species range, though no known locations reported within 5 miles of the study area (CDFW 2021a).	<b>Possible.</b> Suitable habitat occurs in the study area. Study area is within species range, though no known locations reported within 5 miles of the study area (CDFW 2021a).

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Short-eared owl <i>Asio flammeus</i>	-/-/SSC	Distributed throughout California.	Found in swamp lands, both fresh and salt; lowland meadows; irrigated alfalfa fields. Tule patches/tall grass needed for nesting/daytime seclusion. Nests on dry ground in depressions concealed in vegetation.	<b>Possible.</b> Suitable habitat occurs in the Project site. Project is within species range. No known occurrences have been reported within 5 miles of the Project site (CDFW 2021a).	<b>Present.</b> Suitable habitat occurs in the study area. Known to nest in the Salinas River Lagoon (CDFW 2021a).
Southwestern willow flycatcher <i>Empidonax traillii extimus</i>	FE/SE/-	Breed in patches of riparian habitat throughout the American southwest. Summer residents in wet meadow and montane riparian habitats in the Cascade and Sierra Nevada ranges.	Dense willow thickets are required for nesting and roosting within close proximity of water; dense riparian habitats along rivers and streams are required for breeding. The presence of dense vegetation is the most important characteristic of the habitat.	<b>Not expected.</b> Project site is outside of the species range. In addition, no known occurrences have been reported from the Project site region (CDFW 2021a).	<b>Not expected.</b> Study area is outside of the species range. In addition, no known occurrences have been reported within study area region (CDFW 2021a).
Tricolored blackbird <i>Agelaius tricolor</i> (nesting colony)	BCC/SE/ SSC	Permanent resident in the Central Valley and vicinity from Butte County to Kern County; breeds at scattered coastal locations from Marin County south to San Diego County, and at scattered locations in Lake, Sonoma, and Solano Counties; rare nester in Siskiyou, Modoc, and Lassen Counties.	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grainfields; habitat must be large enough to support 50 pairs; probably requires water at or near the nesting colony.	<b>Present.</b> Two known occurrences reported from in or near the north portion of San Antonio Reservoir, near the San Antonio River (CDFW 2021a; Roberson 2002) within the Project site. Nesting colonies not expected in Project site construction work areas.	<b>Present.</b> Known to nest in the Salinas River on Camp Roberts in the study area (CDFW 2021a). Nesting colonies possible within fresh emergent wetland throughout the study area.

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Western snowy plover <i>Charadrius alexandrinus nivosus</i>	FT/- /SSC	Population defined as those birds that nest adjacent to or near tidal waters, including all nests along the mainland coast, peninsulas, offshore islands, and adjacent bays and estuaries; 20 breeding sites are known in California from Del Norte to San Diego County.	Coastal beaches above the normal high tide limit in flat, open areas with sandy or saline substrates; vegetation and driftwood are usually sparse or absent.	<b>Not Expected.</b> Project site is outside of the species range. No known locations within 5 miles of the Project site region (CDFW 2021a).	<b>Present.</b> Known to nest and forage in the coastal dunes adjacent to the Salinas River Lagoon and OSR in the study area (CDFW 2021a).
White-tailed kite <i>Elanus leucurus</i>	-/-/FP	Lowland areas west of Sierra Nevada from the head of the Sacramento Valley south, including coastal valleys and foothills, to western San Diego County at the Mexico border.	Dense-topped trees or shrubs for nesting, open grasslands, marshes, or agricultural fields for foraging.	<b>Present.</b> This species was observed foraging over central and northern San Antonio Reservoir during fall 2016 surveys (Dudek 2016). Species may nest in the Project site.	<b>Present.</b> Known to nest and forage in the study area (CDFW 2021a). Suitable nesting and foraging habitat are present throughout the study area.
Yellow-billed cuckoo <i>Coccyzus americanus</i>	FT/SE/-	Most of North America from southern Canada to the Greater Antilles and northern Mexico. Recently distribution in the west has contracted. The northern limit of breeding in the coastal states is now in Sacramento Valley. Overwinters from Columbia and Venezuela, south to northern Argentina.	Cottonwood and willow riparian forest and woodlands with large blocks of habitat for nesting, between 25 to 100 acres.	<b>Not Expected.</b> Not likely in the Project site due to lack of suitable large contiguous stands of dense riparian forest habitat (USFWS 2021). No known locations within 5 miles of the Project site region (CDFW 2021a).	<b>Present.</b> Known from the Salinas River riparian corridor near the SRDF within the study area (ICF pers. comm. 2021)

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Yellow-breasted chat <i>Icteria virens</i>	-/-/SSC	Throughout California	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush.	<b>Present.</b> Known to occur along the San Antonio River in the Project site (Roberson 2002, Roberson and Tenney 1993).	<b>Present.</b> Known to occur along the San Antonio River in the study area (Roberson 2002, Roberson and Tenney 1993). The species is considered present within dense areas of riparian vegetation along the Nacimiento and Salinas Rivers in the study area.
Yellow warbler <i>Setophaga petechia</i>	-/-/SSC	Summer resident throughout California.	Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders. Riparian plant associations in close proximity to water.	<b>Present.</b> A population was recorded around the northwestern portion of San Antonio Reservoir of the Project site during surveys for Roberson and Tenney (1993). Expected to nest in suitable riparian habitat in the San Antonio River.	<b>Present.</b> Known to occur along the San Antonio Reservoir in the study area (Roberson 2002, Roberson and Tenney 1993). The species is considered present within dense areas of riparian vegetation along the Nacimiento and Salinas Rivers in the study area.



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<b>Mammals</b>					
American badger <i>Taxidea taxus</i>	-/-/SSC	The majority of the northern, western, and central United States south to Baja California.	Grasslands, savannas, mountain meadows, and open areas of desert scrub that support small mammal burrow complexes.	<b>Possible.</b> Suitable habitat in the Project site and numerous known locations about 4 miles southeast of San Antonio Reservoir (CDFW 2021a).	<b>Possible.</b> The species is not expected to occur along much of the Salinas River corridor due to the presence of riparian forest, but it is possible, low potential, that it could occur in treeless scrub along the Salinas River Lagoon.
Fringed myotis <i>Myotis thysanodes</i>	-/- /WBWH -High	Throughout California except in the southern desert regions and central valley.	In a wide variety of habitats, optimal habitats are pinyon-juniper, valley foothill hardwood and hardwood-conifer. Uses caves, mines, buildings or crevices for maternity colonies and roosts.	<b>Not Expected.</b> Project site does not support optimal habitats for maternity colonies and roosts. In addition, no known occurrences have been reported within 5 miles of the Project site (CDFW 2021a).	<b>Not Expected.</b> Study area does not support optimal habitats for maternity colonies and roosts. In addition, no known occurrences have been reported within 5 miles of the study area (CDFW 2021a).
Giant kangaroo rat <i>Dipodomys ingens</i>	FE/SE/-	Western portion of San Joaquin Valley.	Annual grasslands, marginal habitat in alkali scrub. Needs level terrain and sandy soils for burrowing.	<b>Not Expected.</b> Project site is east and outside of the species current range. Sandy soils on site for burrowing are marginal. In addition, no known occurrences have been reported within 5 miles of the study area (CDFW 2021a).	<b>Not Expected.</b> Study area is outside of the species current range. In addition, no known occurrences have been reported within 5 miles of the study area (CDFW 2021a).
Hoary bat <i>Lasiurus cinereus</i>	-/- /WBWG- Medium	Widespread throughout California.	Roosts in trees, typically within forests.	<b>Possible.</b> May occur in upland habitats in the Project site due to the presence of suitable habitat. Known from one historical occurrence near Bradley (CDFW 2021a).	<b>Possible.</b> May occur in upland habitats in the study area due to the presence of suitable habitat. Only known from one historical occurrence near Bradley (CDFW 2021a).

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Long-eared myotis <i>Myotis evotis</i>	-/- /WBWG- Medium	Coastal and mountainous regions throughout California.	Found in all brush, woodland and forest habitats from sea level to about 9,000 feet. Prefers coniferous woodlands and forests. Nursery colonies in buildings, crevices, spaces under bark, and snags. Caves used primarily as night roosts.	<b>Possible.</b> May occur in woodland habitats in the Project due to the presence of suitable habitat. No known occurrences have been reported within 5 miles of the study area (CDFW 2021a).	<b>Possible.</b> May occur in woodland habitats in the study area due to the presence of suitable habitat. No known occurrences have been reported within 5 miles of the study area (CDFW 2021a).
Monterey dusky-footed woodrat <sup>1</sup> <i>Neotoma fuscipes</i> <i>annectens</i>	-/-/SSC	Monterey County and northern San Luis Obispo County.	Forest and oak woodland habitats of moderate canopy with moderate to dense understory. Also in chaparral habitats.	<b>Possible.</b> Suitable habitat in the Project site and woodrat midden was observed along the north shore of proposed inundation area during fall 2016 surveys (Dudek 2016)..	<b>Present.</b> Known from one occurrence along the Salinas River near the Hwy 68 Bridge (CDFW 2021a) in the study area. Multiple records found within 4.5 miles of the study area (CDFW 2021a).

<sup>1</sup> Recent taxonomic revisions of woodrats in the genus *Neotoma* have resulted in the re-classification of woodrats in the project vicinity as Bryant’s woodrat (*Neotoma bryanti bryanti*) (Patton and Álvarez-Castañeda 2005; Patton et al. 2014). However, as the regulatory agencies have not yet recognized these revisions, and CDFW still recognizes Monterey dusky-footed woodrat as a Species of Special Concern, woodrats from this complex in the project vicinity are considered to be a special-status species in this EIR.

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Mountain Lion, Central Coast Central ESU <i>Puma concolor</i>	-/SC	Widespread, ranging from sea level to alpine meadows, except in Mojave and Colorado desert and agricultural lands in the Central Valley. Seasonal movements within fixed range.	Requires extensive areas of riparian vegetation and brushy stages of most habitats (pine forest, riparian and oak woodland, streams, chaparral, grassland, and desert) with interspersions of irregular terrain, rocky outcrops, and tree/brush edges. Generally, avoid areas with human disturbance, but will use it for traveling or hunting. Uses caves and natural cavities for cover. Closely associated with deer population.	<b>Possible.</b> Project site and study area is located in the Central Coast - Central ESU range. Suitable undisturbed woodland habitat is present in the Project site. Bay Area Puma Project (2021) reports sighting of mountain lion east and south of the Project site.	<b>Possible.</b> Study area is located in the Central Coast - Central ESU range. Suitable undisturbed woodland habitat is present in riparian habitat of the study area. Bay Area Puma Project (2021) reports sighting of mountain lion within the Salinas River watershed just south of the confluence with the Nacimiento River in the Big Sandy State Wildlife Area in San Miguel.
Salinas (Monterey) Ornate shrew <i>Sorex ornatus salarius</i>	-/-/SSC	Monterey County and Santa Cruz County.	Coastal marshes, riparian woodland, and adjacent sandhills.	<b>Not Expected.</b> Not expected to nest or forage in the Project site as it is outside of the species' range.	<b>Present.</b> Known to occur in the study area near the Salinas River Lagoon and Elkhorn Slough (CDFW 2021a).

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Pallid bat <i>Antrozous pallidus</i>	-/-/SSC, WBWG- High	Widespread throughout California in deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting.	Occurs in a variety of habitats from desert to coniferous forest; most closely associated with oak, yellow pine, redwood, and giant sequoia habitats in northern California and oak woodland, grassland, and desert scrub in southern California; relies heavily on trees for cavity roosts but will use crevices in human-made structures.	<b>Possible.</b> May occur in upland habitats in the Project site due to the presence of suitable habitat. Not known from within 5 miles of the Project site (CDFW 2021a).	<b>Possible.</b> May occur in upland habitats in the study area due to the presence of suitable habitat. Only known from one historical occurrence near Soledad and one recent observation on Camp Roberts approximately 1 mile from the study area (CDFW 2021a).
Salinas harvest mouse <i>Reithrodontomys megalotis distichlis</i>	-/-/-	Salinas River and Monterey region.	Occurs in fresh and brackish water wetlands and probably in the adjacent uplands around the mouth of the Salinas River.	<b>Not Expected.</b> Not expected to nest or forage in the Project site as it is outside of the species' range.	<b>Present.</b> Known to occur downstream of the Project site near the Salinas River Lagoon and Elkhorn Slough in the study area (CDFW 2021a).
Salinas pocket mouse <i>Perognathus inornatus psammophilus</i>	-/-/SSC	Salinas Valley.	Annual grassland and desert shrub communities in the Salinas Valley. Fine-textured, sandy, friable soils. Burrows for cover and nesting.	<b>Possible.</b> May occur in grassland and oak savannah in the Project site due to the presence of suitable habitat. Known from about 1.5 miles east of Nacimiento Reservoir on Camp Roberts (CDFW 2021a).	<b>Possible.</b> May occur in grassland and oak savannah in the study area. Known from about 0.2 miles east of Nacimiento Reservoir on Camp Roberts (CDFW 2021a).

Common Name <i>Scientific Name</i>	Status <sup>a</sup> Federal / State/ Other	State Geographic Range	General Habitat Description	Potential to Occur in Project Site	Potential to Occur in the Study Area Downstream of the Project Site
San Joaquin kit fox <i>Vulpes macrotis mutica</i>	FE/ST/-	San Joaquin Valley and adjacent open foothills to the west; recent records from 17 counties extending from Kern County north to Contra Costa County.	Saltbush scrub, grassland, oak, savanna, and freshwater scrub.	<b>Not Expected.</b> Known historically to occur in upland habitats within 3 miles of the Project site in numerous locations on Camp Roberts (CDFW 2021a). However, species generally avoid steep terrain; slopes under 5 percent are optimal for kit foxes, and slopes greater than 15 percent are unsuitable (Cypher et al. 2007), thus this species is not expected.	<b>Not Expected.</b> Known historically to occur in upland habitats in the study area at numerous locations on Camp Roberts (CDFW 2021a). No longer thought to occur in the region based on current surveys at historically known sites (USFWS 2020).
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	-/-/SSC, WBWG- High	Throughout California in a wide variety of habitats. Most common in mesic sites.	Roosts in caves, tunnels, mines, and dark attics of abandoned buildings; very sensitive to disturbances and may abandon a roost after one onsite visit.	<b>Possible.</b> Known to occur in upland habitats in the study area from a historical record within 0.5 mile of the Project site (CDFW 2021a). May be present in the Project site due to the presence of suitable habitat.	<b>Present.</b> Known to occur in upland habitats in the study area from one historical record (CDFW 2021a) near Stonewall Creek. May be present in study area due to the presence of suitable habitat. Also known from multiple locations within 2 miles of the study area near (CDFW 2021a).
Western mastiff bat <i>Eumops perotis californicus</i>	-/-/SSC, WBWG- High	Occurs primarily at low to mid elevations and widely distributed throughout the southern coast ranges; recent surveys have detected the species north to the Oregon border.	Found in a wide variety of habitats from desert scrub to montane conifer; roosts and breeds in cliffs and canyons, but may also use crevices in trees, buildings, and tunnels.	<b>Possible.</b> May occur in woodland habitats in the study area in or adjacent to the Project site due to the presence of suitable habitat. Not known from within 5 miles of the Project site (CDFW 2021a).	<b>Possible.</b> May occur in woodland habitats in the study area due to the presence of suitable habitat. One historical occurrence has been reported within 0.5 mile of the study area near Soledad (CDFW 2021a).

Common Name <i>Scientific Name</i>	Status <sup>a</sup> Federal / State/ Other	State Geographic Range	General Habitat Description	Potential to Occur in Project Site	Potential to Occur in the Study Area Downstream of the Project Site
Western red bat <i>Lasiurus blossevillii</i>	-/-/SSC, WBWG- High	Year-round range spans the Central Valley, Sierra Nevada foothills, Coast Ranges, and coast except Humboldt and Del Norte Counties.	Mature riparian broadleaf forest in the Central Valley is primary summer breeding habitat for the species in California (females and pups); riverside orchards may also be used as maternity roosts; roosts alone or in small family groups in tree foliage, occasionally shrubs; prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging, including grasslands, shrublands, and open woodlands; unsubstantiated records of hibernation in leaf litter during the winter.	<b>Possible.</b> May occur in woodland habitats in Project site due to the presence of suitable habitat. No known occurrences have been reported within 5 miles of the study area (CDFW 2021a).	<b>Possible.</b> May occur in woodland habitats in the study due to the presence of suitable habitat. No known occurrences have been reported within 5 miles of the study area (CDFW 2021a).
Western small-footed myotis <i>Myotis ciliolabrum</i>	-/- /WBWG- Medium	South and central coast and mountainous regions of California.	Wide range of habitats mostly arid wooded and brushy uplands near water. Seeks cover in caves, buildings, mines, and crevices. Prefers open stands in forests and woodlands. Requires drinking water. Feeds on a wide variety of small flying insects.	<b>Possible.</b> May occur in Project site due to the presence of suitable habitat. No known occurrences have been reported within 5 miles of the study area (CDFW 2021a).	<b>Possible.</b> May occur in the study due to the presence of suitable habitat. No known occurrences have been reported within 5 miles of the study area (CDFW 2021a).

<b>Common Name Scientific Name</b>	<b>Status<sup>a</sup> Federal / State/ Other</b>	<b>State Geographic Range</b>	<b>General Habitat Description</b>	<b>Potential to Occur in Project Site</b>	<b>Potential to Occur in the Study Area Downstream of the Project Site</b>
Yuma myotis <i>Myotis yumanensis</i>	-/-/ WBWH- Low	Throughout California except in the southern desert regions.	Optimal habitats are open forests and woodlands with sources of water over which to feed. Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings, bridges, or crevices.	<b>Possible.</b> May occur in woodland habitats in the study area in or adjacent to the Project site due to the presence of suitable habitat. No known occurrences have been reported within 5 miles of the study area (CDFW 2021a).	<b>Possible.</b> May occur in woodland habitats in the study area due to the presence of suitable habitat. No known occurrences have been reported within 5 miles of the study area (CDFW 2021a).

<sup>a</sup> Species Status explanations:

**Federal**

- FC = listed as candidate under the federal Endangered Species Act
- FE = listed as endangered under the federal Endangered Species Act.
- FT = listed as threatened under the federal Endangered Species Act.
- BCC = bird of conservation concern – USFWS identified species as having a high conservation priority.
- BGPA = Bald and Golden Eagle Protection Act
- = no listing.

**State**

- SC = listed as candidate under the California Endangered Species Act.
- SE = listed as endangered under the California Endangered Species Act.
- ST = listed as threatened under the California Endangered Species Act.
- FP = fully protected under the California Fish and Game Code.
- = no listing.

**Other**

- SSC = species of special concern in California.
- WL = species on CDFW maintained list (i.e., Watch List) that were previously designated as SSC but no longer merit that status, or which do not yet meet SSC criteria, but for which there is concern and a need for additional information to clarify status.

Western Bat Working Group (WBWG) Conservation Priority Available: <<http://wbwg.org/matrices/species-matrix/>>

- High = species imperiled or at high risk of imperilment
- Medium = most research and closer attention needed to adequately assess species' status and needed conservation actions
- Low = most of existing data support stable population of species; potential for major changes in status in near future

- b Potential for Occurrence in Management and/or Study Areas
- a. **None:** Project site and/or study area contains a complete lack of suitable habitat, the local range for the species is restricted, and/or the species is extirpated in this region.
  - b. **Not Expected:** suitable habitat or key habitat elements might be present in the Project site and/or study area but might be of poor quality or isolated from the nearest extant occurrences. Habitat suitability refers to factors such as elevation, soil chemistry and type, vegetation communities, microhabitats, and degraded/substantially altered habitats.
  - c. **Possible:** the presence of suitable habitat or key habitat elements in the Project site and/or study area that potentially support the species.
  - d. **Present:** either the target species was observed directly or its presence was confirmed by diagnostic signs during field investigations or in previous studies in the Project site and/or study area.

USFWS. 2020. *San Joaquin Kit Fox (Vulpes macrotis mutica). 5-Year Review: Summary and Evaluation*. Sacramento, Calif: U.S. Fish and Wildlife Service, Sacramento Fish and Wildlife Office.



## Species Accounts

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# Special-Status Plant and Wildlife Species Accounts

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Appendix E, *Special Status Species Tables*, Tables E-1 and E-2 list special-status plant and wildlife species, respectively, that are known to occur or have the potential to occur in the geographic region (within 5 miles of the study area). These species were identified based on the CNDDDB records search (California Department of Fish and Wildlife 2021), the CNPS Inventory of Rare and Endangered Plants (2021), the USFWS species list (U.S. Fish and Wildlife Service 2021a) (Appendix E, *Species Lists*), and species distribution and habitat requirements data.

For the purpose of this EIR, special-status species are plants and animals that are legally protected under the Endangered Species Act (ESA), the California Endangered Species Act (CESA), or other regulations, and species that are considered sufficiently rare by the scientific community to qualify for such listing. Special-status plants and animals are those species in any of the categories listed below:

- Species listed or proposed for listing as threatened or endangered under ESA (50 CFR 17.11 [listed animals], 50 CFR 17.12 [listed plants], and various notices in the Federal Register [FR] [proposed species]).
- Species that are candidates for possible future listing as threatened or endangered under ESA (81 FR 87246, December 2, 2016).
- Species listed or proposed for listing by the State of California as threatened or endangered under CESA (14 CCR 670.5).
- Plants listed as rare under the California Native Plant Protection Act (CFGC 1900 et seq.).
- Plants with a California Rare Plant Rank (CRPR) of 1 or 2 (California Department of Fish and Wildlife 2021c).
- Animal species of special concern to California Department of Fish and Wildlife, Special Animals List (California Department of Fish and Wildlife 2021d).
- Animals fully protected in California (CFGC Section 3511 [birds], 4700 [mammals], 5050 [amphibians and reptiles], and 5515 [fish])

## Special-Status Plants

### ***Bristlecone Fir***

Bristlecone fir (*Abies bracteata*) is a CNPS CRPR 1B.3 perennial evergreen tree. The general habitats are broadleafed upland forest, chaparral, and lower montane coniferous forest on rocky substrates at elevations of 600-5,100 feet amsl. One extant location is known from near the Project site (California Department of Fish and Wildlife 2021a). No occurrences have been reported east of the Santa Lucia Range California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in the forest and woodland habitats in the study area.

### ***Toro Manzanita***

Toro manzanita (*Arctostaphylos montereyensis*) is a CNPS CRPR 1B.2 perennial evergreen shrub that blooms in February to March. The general habitats are maritime chaparral, cismontane woodland, and coastal scrub in sandy soils at elevations of 100-2,395 feet amsl. One occurrence has been

reported within the study area along the Salinas River just north of the Toro Regional Park. Multiple other occurrences have been reported within 5 miles of the study area along the Salinas River corridor (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in cismontane woodlands and coastal scrub in the study area.

### ***Pajaro Manzanita***

Pajaro manzanita (*Arctostaphylos pajaroensis*) is a CNPS CRPR 1B.1 perennial evergreen shrub that blooms in December to March. The general habitat is chaparral on sandy soils at elevations of 100-2,495 feet amsl. One extant location is known from less than a mile from the study area within Fort Ord. Seven other occurrences have been reported within 5 miles of the study area (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in scrub oak chaparral and potentially within other shrubland communities in the study area.

### ***Sandmat Manzanita***

Sandmat manzanita (*Arctostaphylos pumila*) is a CNPS CRPR 1B.2 perennial evergreen shrub that blooms in February to May. The general habitats are maritime chaparral, closed-cone coniferous forest, cismontane woodland, coastal dunes, and coastal scrub on openings in sandy soils at elevations of 10-675 feet amsl. Five occurrences have been reported within 2 miles of the study area, between Monterey to Marina, at the end of the Salinas River (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in forest/woodlands, coastal dune and coastal scrub habitats in the study area.

### ***Indian Valley Spineflower***

Indian Valley spineflower (*Aristocapsa insignis*) is a CNPS CRPR 1B.2 annual herb that blooms May to September. The general habitat is cismontane woodlands on sandy substrates at elevations of 985-1,970 feet amsl. The Indian Valley spineflower is known from one occurrence recorded in the northwest portion of the Nacimiento Reservoir, within the Project site. An additional occurrence was recorded 1.7 miles from the study area, near the eastern edge of Camp Roberts (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in woodlands on the Project site and in the adjacent study area.

### ***San Simeon Baccharis***

***San Simeon baccharis (Baccharis plummerae ssp. glabrata)*** is a CNPS CRPR 1B.2 perennial deciduous shrub that blooms in June. The general habitat is coastal scrub at elevations of 165-1,575 feet amsl. One extant location is known to occur within 5 miles of the Project site southwest of Nacimiento Reservoir (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in coastal scrub in the study area.

### ***La Panza mariposa-lily***

La Panza mariposa-lily (*Calochortus simulans*) is a CNPS CRPR 1B.3 perennial bulbiferous herb that blooms April to June. The general habitats are valley and foothill grassland, cismontane woodland, chaparral, lower montane coniferous forest most commonly on decomposed granite but also sandy or sometimes on serpentine substrates in elevations of 1,065-3,775 feet amsl. One occurrence was recorded in the northwest portion of the Nacimiento Reservoir (California Department of Fish and

Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in woodlands and grasslands in the study area.

#### **Dwarf Calycadenia**

Dwarf calycadenia (*Calycadenia villosa*) is a CNPS CRPR 1B.1 annual herb that blooms May to October. The general habitats are chaparral, cismontane woodland, meadows and seeps, and valley and foothill grasslands in rocky or fine soils in elevations of 787–4,429 feet amsl. Four extant locations are known within the Project site northwest and southeast of Nacimiento Reservoir in the foothills, Santa Lucia Mountains, and at the confluence with Dip Creek (California Department of Fish and Wildlife 2021a). Multiple records within 5 miles of both the Project site and study area have been documented and suitable habitat is present (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in chaparral, cismontane woodland, and grasslands in the Project site and study area.

#### **Hardham's Evening-Primrose**

Hardham's evening-primrose (*Camissoniopsis hardhamiae*) is a CNPS CRPR 1B.2 annual herb that blooms March to May. The general habitats are chaparral and cismontane woodland often in sandy, decomposed carbonate, disturbed or burned areas in elevations of 459–3,100 feet amsl. One extant location is known from the study area along the Salinas River near Bradley on Camp Roberts (California Department of Fish and Wildlife 2021a). Multiple records within 2.5 miles of the Project site have been documented and suitable habitat is present (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in chaparral and cismontane woodland in the Project site and study area.

#### **San Luis Obispo Owl's-clover**

**San Luis Obispo owl's-clover (*Castilleja densiflora var. obispoensis*)** is a CNPS CRPR 1B.2 annual hemiparasitic herb that blooms in March to May. The general habitats are meadows, seeps, and valley or foothill grasslands occasionally on serpentinite soils at elevations of 35-1,410 feet amsl. Recorded 2.8 miles southeast of the Project site in Camp Roberts Training Area O in 2002 (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in wetland or grassland habitat in the Project site.

#### **Lemmon's Jewelflower**

Lemmon's jewelflower (*Caulanthus lemmonii*) is a CNPS CRPR 1B.2 annual herb that blooms March to May. The general habitat is pinyon and juniper woodland and valley and foothill grassland in elevations of 262–5,184 feet amsl. Three extant locations are known to occur within the Project site, north and south of the San Antonio Reservoir, and one record occurs within the study area northwest of Camp Roberts. Multiple additional occurrences are within 5 miles of the study area and Project site (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in grasslands in the Project site.

#### **Congdon's Tarplant**

Congdon's tarplant (*Centromadia parryi ssp. congdonii*) is a CNPS CRPR 1B.1 annual herb that blooms in May to October (occasionally November). The general habitat is valley or foothill grasslands on alkaline soils at elevations of 0-755 feet amsl. One occurrence is found within the study area and 25 records within 5 miles of the north portion of the study area, (California

Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in grassland habitat in the study area.

### ***Santa Lucia Purple Amole***

Santa Lucia purple amole (*Chlorogalum purpureum* var. *purpureum*) is a federally threatened and CNPS CRPR 1B.1 perennial bulbiferous herb that blooms in April to June. The general habitats are chaparral, cismontane woodland, and valley or foothill grasslands on clay or gravelly soils at elevations of 675-1,265 feet amsl. One occurrence has been reported within the study area in the western portion of Camp Roberts and one other occurrence has been reported within 0.4 miles of the study area. Multiple occurrences are within 3 miles of the Project site (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in grassland, cismontane woodlands, and coastal scrub in the Project site and study area.

### ***Fort Ord Spineflower***

Fort Ord spineflower (*Chorizanthe minutiflora*) is a CNPS CRPR 1B.2 annual herb that blooms in April to July. The general habitats are sandy openings in maritime chaparral and coastal scrub at elevations of 180-490 feet amsl. There are four extant locations reported within 3 miles of the study area in the Fort Ord National Monument (California Department of Fish and Wildlife 2021a). This species has potential to occur in coastal scrublands within the study area.

### ***Monterey Spineflower***

Monterey spineflower (*Chorizanthe pungens* var. *pungens*) is a federally threatened and CNPS CRPR 1B.2 annual herb that blooms in April to June. The general habitats are maritime chaparral, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland in sandy soils at elevations of 10-1,475 feet amsl. There are seven extant locations reported within the study area in Marina and Soledad (California Department of Fish and Wildlife 2021a), with the closest population on Salinas River State Beach. Multiple records within 5 miles of the study area have been documented and suitable habitat is present (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in coastal dunes and coastal scrub within the study area, specifically in the coastal breach outlet zone of the Salinas River as well as along the Salinas River Lagoon and OSR.

### ***Straight-awned Spineflower***

Straight-awned spineflower (*Chorizanthe rectispina*) is a CNPS CRPR 1B.3 annual herb that blooms April to July. It occurs in chaparral, cismontane woodland, and coastal scrub habitats in elevations of 279-3,395 feet amsl. Two extant locations are known from the study area in Camp Roberts (California Department of Fish and Wildlife 2021a). Multiple records within 5 miles of the Project site and the study area have been documented and suitable habitat is present (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in chaparral and cismontane woodland in the Project site and study area.

### ***Jolon Clarkia***

Jolon clarkia (*Clarkia jolonensis*) is a CNPS CRPR 1B.2 annual herb that blooms April to June. The general habitats are chaparral, cismontane woodland, coastal scrub, and riparian woodland areas in elevations of 66-2,165 feet amsl. One possibly extirpated location is known from the study area northeast of San Antonio Reservoir approximately 3 miles from the Project site (California

Department of Fish and Wildlife 2021a). Multiple records within 5 miles of the Project site and study area have been documented and suitable habitat is present (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in chaparral, cismontane woodland, and riparian woodland areas in the Project site and study area.

### ***San Antonio Collinsia***

***San Antonio collinsia (Collinsia antonina)*** is a CNPS CRPR 1B.2 annual herb that blooms in March to May. The general habitats are chaparral and cismontane woodlands at elevations of 920-1,200 feet amsl. Multiple extant locations within 5 miles of the Project site and the study area near the north end of San Antonio Lake (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in chaparral, shrubland, and cismontane woodlands in the study area.

### ***San Francisco Collinsia***

***San Francisco collinsia (Collinsia multicolor)*** is a CNPS CRPR 1B.2 annual herb that blooms in March to May, and occasionally in February. The general habitats are closed-cone coniferous forest and coastal scrub at elevations of 100-900 feet amsl. One extant location within 5 miles of the Project site and the study area north of the San Antonio Lake (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in coastal scrub in the study area.

### ***Seaside bird's-beak***

Seaside bird's-beak (*Cordylanthus rigidus ssp. littoralis*) is state endangered and a CNPS CRPR 1B.2 annual hemiparasitic herb that blooms in April to October. The general habitats are closed-cone coniferous forest, cismontane woodland, maritime chaparral, coastal dunes and coastal scrub at elevations below 1,690 feet amsl. Ten occurrences have been reported within 4 miles of the study area, between Monterey to Marina, at the end of the Salinas River. The closest occurrence is 0.4 miles from the study area. (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in forest/woodlands, scrubland, coastal scrub and dune habitat in the study area.

### ***Hutchinson's Larkspur***

Hutchinson's larkspur (*Delphinium hutchinsoniae*) is a CNPS CRPR 1B.2 perennial herb that blooms March to June. The general habitats are chaparral, coastal prairie, coastal scrub, and broadleaf upland forest areas in elevations of 0-1,400 feet amsl. One extant location is known from the study area near Spreckels along the Salinas River (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in chaparral, coastal scrub, and broadleaf upland forest areas in the study area.

### ***Koch's Cord Moss***

Koch's cord moss (*Entosthodon kochii*) is a CNPS CRPR 1B.3 moss species. It occurs in cismontane woodland at elevation of 591-3,281 feet amsl. There is one extant location within the study area and approximately 2.7 miles from the Project site in Camp Roberts along the Nacimiento River near Twin Bridges (California Department of Fish and Wildlife 2021a). This species has potential to occur in suitable cismontane woodland habitat in the Project site and study area.

**Eastwood's Goldenbush**

Eastwood's goldenbush (*Ericameria fasciculata*) is a CNPS CRPR 1B.1 perennial evergreen shrub that blooms July to October. The general habitats are sandy areas or openings in closed-cone coniferous forests, maritime chaparral, coastal dunes, and coastal scrub in elevations of 100–900 feet amsl. One extant location is known from the study area and six other occurrences have been reported within 5 miles of the study area on the Fort Ord National Monument (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in scrubland, coastal dunes, coastal scrub, and woodlands in the study area.

**Yellow-flowered Eriastrum**

Yellow-flowered eriastrum (*Eriastrum luteum*) is a CNPS CRPR 1B.2 annual herb that blooms May to June. The general habitats are Broadleaf upland forest, chaparral, and cismontane woodland on sandy or gravelly substrates at elevations of 950–3,280 feet amsl. One occurrence has been reported within the Project site on the northern end of the San Antonio Reservoir. Four other occurrences have been reported less than a mile of the Project site. (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in scrubland and forest/woodlands in the study area.

**Pinnacles Buckwheat**

Pinnacles buckwheat (*Eriogonum nortonii*) is a CNPS CRPR 1B.3 annual herb that blooms May to June but occasionally as early as April and as late as September. The general habitats are disturbed or sandy areas or openings in chaparral and valley and foothill grasslands at elevations of 985–3,200 feet amsl. The study area is outside the species elevation range. One extant occurrence is approximately 0.1 miles west of the study area at the base of Pine Canyon. Four other occurrences have been reported within 5 miles of the study area (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in scrubland and grassland habitats in the study area.

**Sand-loving Wallflower**

Sand-loving wallflower (*Erysimum ammophilum*) is a CNPS CRPR 1B.2 perennial herb that blooms February to June. It occurs in maritime chaparral, coastal dunes, and coastal scrub habitats in sandy soils at elevations of 0–195 feet amsl. One occurrence has been reported within the study area, between Monterey to Castroville, at the end of the Salinas River. Fourteen other occurrences have been reported within 5 miles of the study area, downstream of the Project site. Suitable habitat occurs in the study area along the Salinas River Lagoon and OSR (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in coastal dunes and coastal scrub within the study area, specifically in the coastal breach outlet zone of the Salinas River as well as along the Salinas River Lagoon and OSR.

**Menzies' Wallflower**

Menzies' wallflower (*Erysimum menziesii*) is a federally and state endangered species as well as a CNPS CRPR 1B.1 perennial herb that blooms March to September. It occurs in coastal dunes at elevations of 0–115 feet amsl. One occurrence has been reported within the study area near Marina at the end of the Salinas River. Three other occurrences have been reported within 2.5 miles of the study area, downstream of the Project site. There is suitable habitat in the study area along the Salinas River Lagoon and OSR, specifically within the coastal breach outlet zone of the Salinas River



Lagoon (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in coastal dunes within the study area, specifically in the coastal breach outlet zone of the Salinas River as well as along the Salinas River Lagoon and OSR.

### ***Santa Lucia Monkeyflower***

Santa Lucia monkeyflower (*Erythranthe hardhamiae*) is a CNPS CRPR 1B.1 annual herb that blooms March to May. It occurs in openings of chaparral habitat on sandstone outcrops, sandy soils, and sometimes serpentinite substrates, at elevations of 985–2,395 feet amsl. One extant occurrence was recorded 0.3 miles from the Project site and 3.5 miles from the study area at the south end of the San Antonio Reservoir (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in scrubland within the Project site.

### ***Ojai Fritillary***

Ojai fritillary (*Fritillaria ojaiensis*) is a CNPS CRPR 1B.2 perennial bulbiferous herb that blooms in February to May. The general habitats are mesic broadleaved upland forest, chaparral, cismontane woodland, and lower montane coniferous forest on rocky substrates at elevations of 740–3,275 feet amsl. Two extant locations occur within 5 miles of the Project site northwest of the Nacimiento Reservoir (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in forest/woodland and scrublands in the study area.

### ***Monterey Gilia***

Monterey gilia (*Gilia tenuiflora* ssp. *arenaria*) is a federally endangered and state threatened species as well as a CNPS CRPR 1B.2 annual herb that blooms April to June. It occurs in maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub at elevations of 0–150 feet amsl. Three occurrences have been reported within the study area near Moss Landing at the end of the Salinas River. Sixteen other occurrences have been reported within 4 miles of the study area. (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in forest/woodlands, coastal dunes, and coastal scrublands within the study area, specifically in the coastal breach outlet zone of the Salinas River as well as along the Salinas River Lagoon and OSR.

### ***Santa Lucia dwarf rush***

Santa Lucia dwarf rush (*Juncus luciensis*) is a CNPS CRPR 1B.2 annual herb that blooms April to July. It occurs in meadows and seeps, Great Basin scrub, chaparral, lower montane coniferous forest, and vernal pools at elevations of 985–6,695 feet amsl. One occurrence has been reported within the Project site on the northern end of the Nacimiento Reservoir. One additional record has been reported in Camp Roberts 3.2 miles from the study area (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in wetlands, scrublands, and forest/woodlands within the study area.

### ***Point Reyes Horkelia***

Point Reyes horkelia (*Horkelia marinensis*) is a CNPS CRPR 1B.2 perennial herb that blooms May to September. It occurs in coastal dunes, coastal prairie, and coastal scrub on sandy substrates at elevations of 15–2,475 feet amsl. One occurrence has been reported 2.5 miles west of the study area near Marina. There is suitable habitat in the study area along the Salinas River Lagoon and OSR, specifically within the coastal breach outlet zone of the Salinas River Lagoon (California Department

of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in coastal dunes and coastal scrub within the study area, specifically in the coastal breach outlet zone of the Salinas River as well as along the Salinas River Lagoon and OSR.

### ***Contra Costa Goldfields***

Contra Costa goldfields (*Lasthenia conjugens*) is a federally endangered species as well as a CNPS CRPR 1B.1 annual herb that blooms March to June. It occurs in cismontane woodland, on alkaline playas, vernal pools, and valley and foothill grasslands at elevations of 0–1,540 feet amsl. There are three extant locations near the study area at the Fort Ord National Monument (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in the wetlands and grasslands within the study area.

### ***Pale-yellow Layia***

Pale-yellow layia (*Layia heterotricha*) is a CNPS CRPR 1B.1 annual herb that blooms March to June. It occurs on alkaline or clay soils in cismontane woodland, pinyon and juniper woodlands, valley and foothill grasslands, or coastal scrub at elevations of 985–5,595 feet amsl. Two occurrences have been reported within the Project site near the southern portion of San Antonio Lake and one occurrence has been reported within the study area along the Salinas River near Greenfield. Multiple other occurrences have been reported within 3.5 miles of both the Project site and the study area (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in the forest/woodlands, grasslands, and coastal scrub within the Project site and the study area.

### ***Abbott's Bush-Mallow***

Abbott's bush-mallow (*Malacothamnus abbottii*) is a CNPS CRPR 1B.1 perennial deciduous shrub that blooms May to October. The general habitat is riparian scrub at elevations of 443–1,608 feet amsl. There is one extant location near the Project site on the east edge of the Nacimiento reservoir along a hillside adjacent to the entrance road into Lake Nacimiento Resort and Marina. Nine other occurrences are within 3.5 miles of the Project site. Two occurrences within the study area, along the Salinas River, nearest to Sargent Canyon, and 3 occurrences reported within 2 miles of the study area (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in riparian scrub (thickets) in the Project site and the study area.

### ***Indian Valley Bush-Mallow***

Indian Valley bush-mallow (*Malacothamnus aboriginum*) is a CNPS CRPR 1B.2 perennial deciduous shrub that blooms April to October. The general habitat is disturbed or burned areas of chaparral and cismontane woodlands on rocky or granitic substrates at elevations of 490–5,580 feet amsl. The Indian Valley bush-mallow is known from one occurrence recorded 0.5 miles east of the study area, downstream of the Project site on Shirrtail Gulch. Eight other occurrences have been reported east of the study area on the Gabilan and Diablo Ranges. (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in scrubland and forest/woodlands in the study area.

### ***Davidson's Bush-Mallow***

Davidson's bush-mallow (*Malacothamnus davidsonii*) is a CNPS CRPR 1B.2 perennial deciduous shrub that blooms June to January. It occurs in chaparral, cismontane woodland, coastal scrub, and

riparian woodland at elevations of 607–2,805 feet amsl. Approximately 16 extant records are reported from within 4 miles of the Project site. One additional occurrence is found within the study area in the downstream portion of the San Antonio Lake and 6 records within 5 miles of the study area, (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in cismontane woodland, riparian woodland, and scrublands in the Project site and study area.

#### ***Carmel Valley Bush-mallow***

Carmel Valley bush-mallow (*Malacothamnus palmeri* var. *involucratus*) is a CNPS CRPR 1B.2 perennial deciduous shrub that blooms in April to October. The general habitat is chaparral, cismontane woodlands, and coastal scrub at elevations of 100-3,610 feet amsl. One extant location is known from near the study area within Fort Ord (California Department of Fish and Wildlife 2021a). Three records are within 5 miles of the study area and Project site at the northern end of the San Antonio Lake on the hillsides of the Santa Lucia Range (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in shrublands and on woodland hilltops or slopes in the study area.

#### ***Santa Lucia Bush-mallow***

Santa Lucia bush-mallow (*Malacothamnus palmeri* var. *palmeri*) is a CNPS CRPR 1B.2 perennial deciduous shrub that blooms in May to July. The general habitat is chaparral on rocky substrates at elevations of 95-1,180 feet amsl. One extant location is located within 5 miles south of the Project site on the Santa Lucia Range (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in scrublands in the Project site.

#### ***Carmel Valley Malacothrix***

Carmel Valley malacothrix (*Malacothrix saxatilis* var. *arachnoidea*) is a CNPS CRPR 1B.2 perennial rhizomatous herb that blooms June to December. The general habitats are chaparral and coastal scrub in rocky soils at elevations of 80–3,400 feet amsl. One occurrence was reported within the study area and within 2 miles of the Project site. This occurrence is north of Nacimiento River and River Road on Camp Roberts (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in chaparral in the Project site and the study area.

#### ***Oregon meconella***

Oregon meconella (*Meconella oregana*) is a CNPS CRPR 1B.1 annual herb that blooms in March to April. The general habitats are coastal prairie and coastal scrub at elevations of 820-2,035 feet amsl. Two extant occurrences have been reported near the study area within the Fort Ord National Monument (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in coastal scrublands in the study area.

#### ***Marsh microseris***

Marsh microseris (*Microseris paludosa*) is a CNPS CRPR 1B.2 perennial herb that blooms in April to June and occasionally until July. The general habitats are cismontane woodland, valley or foothill grasslands, coastal scrub, and closed-cone coniferous forests at elevations of 5-355 feet amsl. Three extant occurrences have been reported near the study area within the Fort Ord National Monument (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This

species has potential to occur in forest/woodlands, grasslands, and coastal scrublands in the study area.

### ***Northern Curly-leaved Monardella***

Northern curly-leaved monardella (*Monardella sinuata ssp. nigrescens*) is a CNPS CRPR 1B.2 annual herb that blooms in May to July, and occasionally as early as April or as late as September. The general habitats are coastal dunes, coastal scrub, and lower montane coniferous forests on sandy soils at elevations below 985 feet amsl. One extant location is known from near the study area adjacent to the Marina Municipal Airport (California Department of Fish and Wildlife 2021a). Two additional records within 3.5 miles of the study area in the Fort Ord National Monument and the Fort Ord Dunes State Park (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in forest/woodlands and coastal dune and scrub habitat in the study area.

### ***Woodland Woollythreads***

Woodland woollythreads (*Monolopia gracilens*) is a CNPS CRPR 1B.2 annual herb that blooms in March to July, and occasionally in February. The general habitats are cismontane woodland, valley or foothill grasslands, openings of broadleaved upland forest, chaparral, and North Coast coniferous forest on serpentine substrates at elevations of 330-3,935 feet amsl. One extant location is known to occur in the Pajaro Valley approximately 3.1 miles north of the study area (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in forest/woodlands, grasslands, and shrublands in the study area.

### ***Prostrate Vernal Pool Navarretia***

Prostrate vernal pool navarretia (*Navarretia prostrata*) is a CNPS CRPR 1B.2 annual herb that blooms in April to July. The general habitats are coastal scrub, meadows and seeps, vernal pools, or alkaline soils in valley and foothill grasslands at elevations of 10 -3,970 feet amsl. One extant location is within both the Project site at the northern end of San Antonio Lake and the northwestern portion of Camp Roberts in the study area. Multiple records within 3 miles of the Project site and the southern end of the study area (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in grasslands and coastal scrub in the Project site and the study area.

### ***Robbins' Nemacladus***

Robbins' *nemacladus* (*Nemacladus secundiflorus var. robbinsii*) is a CNPS CRPR 1B.2 annual herb that blooms in April to June. The general habitats are openings in chaparral, and valley or foothill grasslands at elevations of 1,150-5,580 feet amsl. One extant location has been reported within 0.7 mile of the Project site between San Antonio Reservoir and the Nacimiento Reservoir (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in grasslands and shrublands in the Project site.

### ***Choris' Popcorn-flower***

Choris' popcorn-flower (*Plagiobothrys chorisianus var. chorisianus*) is a CNPS CRPR 1B.2 annual herb that blooms in March to June. The general habitats are mesic areas of chaparral, coastal prairie, and coastal scrub at elevations of 10-525 feet amsl. Two occurrences have been recorded within 1 mile of the study area near the Fort Ord National Monument and suitable habitat is present in coastal

scrub along the Salinas River corridor (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in shrublands and coastal scrub in the study area.

### ***Yadon's rein orchid***

Yadon's rein orchid (*Piperia yadonii*) is federally endangered and a CNPS CRPR 1B.1 perennial herb that blooms in May to August and occasionally as early as February. The general habitats are sandy soils in maritime chaparral, closed-cone coniferous forest, and coastal bluff scrub at elevations of 35-1,675 feet amsl. One occurrence has been reported 2.6 miles north of the study area near Marina. (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in forest/woodlands, coastal shrublands in the study area.

### ***Hooked Popcorn-flower***

Hooked popcornflower (*Plagiobothrys uncinatus*) is a CNPS CRPR 1B.2 annual herb that blooms in April to May. The general habitats are sandy soils in chaparral, cismontane woodland, and valley or foothill grasslands at elevations of 985-2,495 feet amsl. One extant location is known from the study area north of the Nacimiento River and another occurrence is within 1.5 miles of the study area on Camp Roberts. An additional occurrence is approximately 0.7 miles south of the Project site on the Santa Lucia Range (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in cismontane woodlands, grasslands, and shrublands in the Project site and the study area.

### ***Chaparral Ragwort***

Chaparral ragwort (*Senecio aphanactis*) is a CNPS CRPR 2B.2 annual herb that blooms in January to April, and occasionally in May. The general habitats are coastal scrub, chaparral, cismontane woodland sometimes on alkaline soils at elevations of 50-2,625 feet amsl. Two extant locations occur within 5 miles of both the Project site and the study area. One occurrence is found on the Santa Lucia Range and the other is in the Pinnacles National Park (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in cismontane woodlands, scrubland, and coastal scrub in the study area.

### ***Santa Cruz microseris***

Santa Cruz microseris (*Stebbinsoseris decipiens*) is a CNPS CRPR 1B.2 annual herb that blooms in April to May. The general habitats are openings in broadleaf upland forest, closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, and valley and foothill grasslands, sometimes on serpentinite soils, at elevations of 35-1,640 feet amsl. One extant location is known from Camp Roberts, approximately 0.3 miles from the study area (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in woodlands, shrubland, and grasslands in the study area.

### ***Mason's neststraw***

Mason's neststraw (*Stylocline masonii*) is a CNPS CRPR 1B.1 annual herb that blooms in March to May. The general habitats are chenopod scrub and pinyon or juniper woodlands on sandy soils at elevations of 330-3,935 feet amsl. One extant location is known from the Project site in the northern portion of San Antonio Lake (California Department of Fish and Wildlife 2021a, California Native

Plant Society 2021). This species has potential to occur in cismontane woodlands, shrubland, and coastal scrub in the study area.

### ***Santa Cruz Clover***

Santa Cruz **clover** (*Trifolium buckwestiorum*) is a CNPS CRPR 1B.1 annual herb that blooms in April to October. The general habitats are margins of broadleaf upland forests, cismontane woodlands, and coastal prairies on gravel substrates at elevations of 345-2,000 feet amsl. One occurrence has been reported within the study area, in the southeast portion of the Fort Ord National Monument. Multiple records within 3 miles of the study area (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in woodlands and grassland habitat in the study area.

### ***Saline Clover***

Saline **clover** (*Trifolium hydrophilum*) is a CNPS CRPR 1B.2 annual herb that blooms in April to June. The general habitats are marshes, swamps, vernal pools, and mesic, alkaline, valley or foothill grasslands at elevations of 0-985 feet amsl. One extant record is approximately within 0.1 miles north of the study area near Moss Landing and the northern portion of the study area. Two additional occurrences are within 0.5 miles of the study area. Suitable habitat is present downstream of the Project site along the Salinas River Lagoon and OSR (California Department of Fish and Wildlife 2021a, California Native Plant Society 2021). This species has potential to occur in wetlands and grassland habitat in the study area.

## **Wildlife**

### **Invertebrates**

Special-status invertebrates species include species listed by state or federal agencies as endangered or threatened or designated by CDFW (2021) as California species of special concern (critical, high or moderate).

#### ***Crotch Bumble Bee***

Crotch bumble bee (*Bombus crotchii*) is a candidate to be listed as endangered under the California Endangered Species Act (CDFW 2021a). Endemic to California, Crotch bumble bee historically ranged across southern California, from the coast and coastal ranges, through the Central Valley, and to the adjacent foothills (CDFW 2019). Declines have been found primarily in the Central Valley.

General habitat includes open grasslands, meadows, or foothill woodlands and scrub (Hatfield et al. 2015). They feed on species such as Asclepias, Chaenactis, Lupinus, Medicago, Phacelia, and Salvia (Hatfield et al. 2015). Colonies are annual and only the new, mated queens overwinter. Nesting occurs underground in abandoned rodent nests, or above ground in tufts of grass, old bird nests, rock piles, or cavities in dead trees (Hatfield et al. 2015). Crotch bumble bee is known from one extant record known from the study area in Soledad (CDFW 2021a). Suitable habitat occurs in the Project site and study area. Therefore, the species is considered present in the Project site and is expected to occur within similar habitat in the study area.

**Monarch butterfly (California overwintering population)**

Monarch butterfly (*Danaus plexippus*) is a candidate to be listed as threatened under the federal Endangered Species Act (CDFW 2021a). The monarch butterflies migratory range in North America is both east and west of the Rocky Mountains. The western population migrates from Nevada, New Mexico, and Arizona to overwinter in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby along the California coast to Baja California (USFWS 2020). The butterflies begin migration to overwinter sites in Mexico and California during the fall but the population abundance fluctuates based on environmental conditions (USFWS 2020).

The monarch butterfly is dependent on milkweed host plants for both oviposition and larval feeding (USFWS 2020). The habitat described for the monarch butterflies is typically associated with riparian habitats near water sources such as rivers, creeks, roadside ditches, and irrigated gardens (USFWS 2020). Monarch butterflies are not known from the Project site vicinity and are not expected to occur in the Project site or study area (CDFW 2021a).

**Smith's Blue Butterfly**

Smith's blue butterfly (*Euphilotes enoptes smithi*) is listed as federally threatened (CDFW 2021a). The Smith's blue butterflies range is currently believed to consist of two metapopulations (north and south) separated by development around the City of Monterey. The butterflies occur in scattered colonies with one metapopulation inhabiting the dunes along Monterey Bay and the second in the Carmel Valley stretching south, along the coast, into Big Sur (USFWS 2020).

The Smiths blue butterfly is an annual species that is dependent on the hostplants: *Eriogonum latifolium* and *Eriogonum parvifolium* during both the larval and adult stages. These plants are even utilized for their structure for egg laying and pupae protection (USFWS 2020). These host plants are known to grow in coastal dunes and coastal scrub habitats. The habitat described for the Smith's blue butterfly expands the habitat and includes inland and coastal sand dunes, serpentine grasslands, and cliffside chaparral. Ground disturbance is proposed outside of the species range (USFWS 2020). There are no records from the Project site vicinity, but the species is known from the north and south of the Salinas River Lagoon on state and federal lands (CDFW 2021a). There is suitable habitat in the study area along the Salinas River Lagoon and OSR and the species is considered present.

**Vernal pool fairy shrimp**

Vernal pool fairy shrimp (*Branchinecta lynchi*) is listed as federally threatened (CDFW 2021a). Vernal pool fairy shrimp is endemic to California and the Agate Desert of southern Oregon, occurring in a wide range of vernal pool habitats in the southern and Central Valley regions of California and in Jackson County, Oregon (U.S. Fish and Wildlife Service 2005). Vernal pool fairy shrimp is currently found in 28 counties across the Central Valley and in the central and southern Coast Ranges (U.S. Fish and Wildlife Service 2007).

Vernal pool habitats form in depressions above an impervious soil layer such as hardpan or bedrock and primarily are located in annual grassland communities in alluvial fans and terraces. Occupied habitats generally include a complex of vernal pools with upland mounds interspersed with basins, swales, and drainages connecting the vernal pool features, and populations are defined by the entire complex rather than individual pools (U.S. Fish and Wildlife Service 2007). Vernal pool fairy shrimp

are typically associated with smaller, shallower vernal pools that have relatively short periods of inundation. Long distance dispersal of cysts is thought to be enabled by waterfowl and other migratory birds that ingest cysts, and by animals that move inoculated mud in their fur, feathers, and hooves. Vernal pool fairy shrimp cysts remain dormant in the soil when their vernal pool habitat is dry. Pools fill during winter rain events, and cysts require water temperatures of 50 °F or lower to hatch; water temperatures of 75 °F can lead to die off of immature and adult shrimp (U.S. Fish and Wildlife Service 2007). Multiple hatches have been observed in larger pools that hold water for longer periods, and shrimp have been observed in vernal pools from early December to early May (U.S. Fish and Wildlife Service 2005). Suitable habitat in the form of vernal pools or swales are not known to occur in the Project site or downstream of the Project site within the study area (Dudek 2016). The closest record is approximately 0.25 mile east of the Project site on Camp Roberts (CDFW 2021a) within an area designated as critical habitat. Critical habitat and other occurrences are located adjacent to the study area in Bradley near the confluence of the Nacimiento and Salinas Rivers.

### **Western Bumble Bee**

Western bumble bee (*Bombus occidentalis*) is a candidate to be listed as endangered under the California Endangered Species Act (CDFW 2021a). Western bumble bee historically ranged in California from the Channel Islands to the northern extent of the state, primarily in the coastal and Sierra Nevada ranges (CDFW 2019). Western bumble bee populations are now largely restricted to high elevation sites in the Sierra Nevada and scattered observations along the California coast (CDFW 2019).

General habitat includes open grassy areas, urban parks and gardens, chaparral and shrub areas, and mountain meadows (Hatfield et al. 2015). They feed on a wide variety of plants, foraging open flowers or “nectar robbing” flowers with longer corollas, but most are associated with feeding on plants in the Fabaceae, Asteraceae, Rhamnaceae, and Rosaceae families (Hatfield et al. 2015). Colonies are annual and only the new, mated queens overwinter. Nesting occurs underground and are most commonly found in abandoned rodent nests on open west-southwest slopes bordered by trees but there have also been a few aboveground nests reported in logs and railroad ties (Hatfield et al. 2015). There are three extant records known from the study area in San Lucas, Spreckels, and in coastal habitat near the Salinas River Lagoon (CDFW 2021a). Suitable habitat occurs throughout the study area. Therefore, the species is considered present in the Project site and is expected to occur within similar habitat in the study area.

## **Fish**

Special-status fish species include species listed by state or federal agencies as endangered or threatened or designated by CDFW (Moyle et al. 2015) as California species of special concern. Only California fish species of special concern with a status of critical, high or moderate concern are discussed below; species with a status of low concern are not discussed.

### **Monterey Hitch**

Monterey hitch (*Lavinia exilicauda harengus*) is a species of special concern that is found throughout the Pajaro and Salinas Rivers. This species is found in warm lakes, sloughs, slow river segments, and clear, low gradient streams at low elevations (Moyle 2002). Hitch spawning requires additional study, but they have been observed spawning in the Pajaro River in May through June, during low



summer flows at water temperatures between 18 to 26°C (Smith, J. 1982). This species requires clean, fine to medium-sized gravel for egg deposition (Murphy 1948, Kimsey 1960). Monterey hitch are known to be present in both San Antonio and Nacimiento reservoirs and corresponding rivers downstream (CDFW 2018c).

### **Monterey Roach**

Monterey roach (*Lavinia symmetricus subditus*) is a California species of special concern (Moderate Concern; Moyle et al. 2015) that occurs within a variety of stream habitats in the Salinas, Pajaro, and San Lorenzo tributaries. This species was formerly widespread throughout the Pajaro and San Benito drainages, but they have disappeared from previously occupied stream segments of their range due to reduced water quality (e.g., increased turbidity, low dissolved oxygen) following habitat modification, stream channelization, residential and road development, and intensive agriculture and grazing in the region (Smith 1982). Reduced stream flows from dam construction and operation have contributed to the species' upstream range expansion (Moyle 2002). Monterey roach are considered extirpated from the main stem of the Salinas River (PISCES 2018). Monterey roach are considered extirpated from the Project site (i.e., San Antonio Reservoir, Nacimiento Reservoir, or the increased inundation area around San Antonio Reservoir), and the San Antonio, Nacimiento and Salinas Rivers downstream of the Project site (PISCES 2018).

### **Pacific Lamprey**

Pacific lamprey (*Entosphenus tridentata*) is a federal species of concern and a California species of special concern (Moderate Concern; Moyle et al. 2015). In California, the species is found in coastal streams and rivers from Del Norte to Los Angeles counties and in rivers in the Central Valley. Like steelhead, Pacific lamprey are anadromous and share similar requirements with steelhead as both species need cold, clear water and gravel areas for spawning and egg incubation (Moyle et al. 2015). Ammocoetes (juveniles) burrow in soft sediments during rearing and need habitats with slow to moderately slow water velocities (0–4 inches per second) and detritus that produces algae for food (Moyle et al. 2015). The ammocoete life stage lasts approximately 5 to 7 years, after which ammocoetes undergo physiological and internal anatomical changes, including changes that allow them to tolerate salt water. Downstream migration to the ocean occurs in winter and spring after metamorphosis is completed. Adults live in the ocean for up to 3 to 4 years where they consume the body fluids of a variety of fishes and marine mammals before returning to fresh water to spawn (Moyle et al. 2015). This species is known to occur in the study area within the Salinas River Lagoon (Hagar Environmental Sciences 2015).

### **South-Central California Coast Steelhead DPS**

Steelhead (*Oncorhynchus mykiss*) belonging to the south-central California coast (SCCC) distinct population segment (DPS) occur in coastal basins originating below natural and manmade impassable barriers from the Pajaro River to (but not including) the Santa Maria River (71 FR 833, January 5, 2006). The species is federally threatened throughout its range and is a California species of special concern (High Concern; Moyle et al. 2015). SCCC steelhead are winter-run steelhead and therefore are at or near sexual maturity when they enter fresh water during late fall and winter. In the study area, SCCC steelhead use the Salinas River as a migration corridor to spawning and rearing habitat in tributary streams, including the Nacimiento, San Antonio, and Arroyo Seco rivers, as well as other smaller tributary streams in the upper Salinas River basin. They spawn from December

through April. Juvenile steelhead typically rear in fresh water for 1 to 3 years before emigrating to the ocean as smolts (i.e., juveniles that have undergone physiological changes that prepare them for life in saltwater). They remain at sea for 1 to 4 growing seasons before returning to fresh water as adults to spawn. In general, steelhead require cool, clear freshwater streams year-round with suitable gravel substrate for spawning, adequate cover, and available food resources that connect to the Pacific Ocean in winter and spring to allow adult and juvenile (smolt) migration.

### **Tidewater Goby**

Tidewater goby (*Eucyclogobius newberryi*) is a federally endangered species and California species of special concern (High Concern; Moyle et al. 2015) that occurs from the mouth of the Smith River in Del Norte County south to Agua Hedionda Lagoon in San Diego County. The species occurs within coastal lagoons, estuaries, and marshes—dynamic environments that are subject to considerable fluctuation in salinity and water quality conditions both seasonally and annually (78 FR 8749, February 6, 2013). The tidewater goby typically lives 1 year, although some individuals may live longer (Moyle 2002). Tidewater goby typically select habitat in the upper estuary where freshwater and saltwater mix and salinity is less than 12 parts per thousand (ppt), although they may range upstream a short distance into fresh water and downstream into more saline water of about 28 ppt. Reproduction can occur at any time of the year, but it tends to peak in spring, with a second, smaller peak in late summer (Swenson 1999). This species is known to occur in the study area within the Salinas River Lagoon (HES 2015).

## **Amphibians**

### **Arroyo Toad**

Arroyo toad (*Anaxyrus californicus*) is federally endangered and is a California species of special concern (CDFW 2021a). It is known from the San Antonio River in Monterey County south through the Transverse and Peninsular Ranges to the Arroyo San Simón area in Baja California Norte (Thomson et al. 2016). Arroyo toads occur in low-gradient streams in coastal and desert drainages as well as high-elevation valleys. They use aquatic, riparian, and upland habitats to different degrees, depending on an individual's stage of development, the time of year, and the weather. Arroyo toad is known from the San Antonio River on Fort Hunter-Liggett, with the nearest occurrence within the anticipated inundation area at the northwest end of San Antonio River (California Department of Fish and Wildlife 2021a, USFWS 2014). Perennial streams with sand bars or sandy banks within the species' range also include Nacimiento, San Antonio, and Salinas Rivers, which occur in the Project site and downstream of the Project site in the study area.

### **California Red-legged Frog**

The California red-legged frog is federally listed as threatened and a California species of special concern (CDFW 2021a). The historical range of California red-legged frog generally extends south along the coast from the vicinity of Point Reyes National Seashore, Marin County and inland from the vicinity of Redding, Shasta County, southward along the interior Coast Ranges and Sierra Nevada foothills to northwestern Baja California, Mexico (Storer 1925; Jennings and Hayes 1985). The current range is generally characterized based on the current known distribution. Although California red-legged frog is still locally abundant in portions of the San Francisco Bay area and the central coast, only isolated populations have been documented elsewhere within the species' historical range, including the Sierra Nevada, northern Coast Ranges, and northern Transverse

Ranges (86 FR 47138). California red-legged frog is believed to be extirpated from the floor of the Central Valley (USFWS 2002).

California red-legged frog inhabit marshes, streams, lakes, ponds, and other, usually permanent, sources of water that have dense riparian vegetation (Stebbins, 2003). California red-legged frog primarily breeds in ponds and less frequently in pools within streams (Thomson et al., 2016). Breeding occurs from November through April, and red-legged frogs typically lay their eggs in clusters around aquatic vegetation (USFWS, 2002). Larvae undergo metamorphosis from July to September, 3.5 to 7 months after hatching (66 FR 14626). California red-legged frogs often disperse from breeding sites to various aquatic, riparian, and upland estivation habitats during the summer (66 FR 14628); however, it is common for individuals to remain in the breeding area year-round (66 FR 14628; Bulger et al. 2003; Fellers and Kleeman 2007). Adults may take refuge during dry periods in rodent holes or leaf litter in riparian habitats (USFWS, 2002). Within riparian areas, microhabitats utilized by California red-legged frogs include blackberry thickets, logjams, and root tangles (Fellers and Kleeman 2007). Known from approximately 4.5 miles north of the Project site on Fort Hunter Liggett (CDFW 2021a, USFWS 2021) and from the study area along the Salians River downstream of the Project site near Chualar, Spreckels, and Moss Landing (CDFW 2021a, USFWS 2021).

### **California tiger salamander**

California tiger salamander (*Ambystoma californiense*) is listed as federally and state threatened (CDFW 2021a). The Central California tiger salamander is found, below 1,000 feet, in disjunct populations along the foothills of the Central Valley and Inner Coast Range from San Luis Obispo, Kern, and Tulare Counties in the south, to Sacramento and Yolo Counties in the north (USFWS 2017).

The California tiger salamander inhabits upland habitats most of the year such as annual grasslands and open woodlands that contain small mammal burrows. California tiger salamander breed in vernal pools, as well as in stock ponds and other permanent ponds that usually lack predatory fish or breeding bullfrogs (USFWS 2017). Adults typically migrate to ponds to breed following rainy periods from November to April, and the peak period for metamorphs to leave the natal pond in search of upland habitat occurs from May to July (USFWS 2017). California tiger salamanders are known from the uplands adjacent to the study area near Gonzales, Chualar, Spreckels, Moss Landing, Prunedale, and Marina, and Fort Ord.

### **Coast Range Newt (Southern Populations)**

The Coast Range newt (*Taricha torosa*) is a California species of special concern (CDFW 2021a). This species occurs in a variety of coastal drainages from central Mendocino County south to San Diego County. It inhabits valley-foothill hardwood, valley-foothill hardwood-conifer, coastal scrub, mixed chaparral, annual grassland, and mixed conifer habitats from near sea level to 1,830 m (6000 feet) elevation (Zeiner et al. 1988). The species breeds in intermittent streams, rivers, permanent and semi-permanent ponds, lakes, and large reservoirs, starting with the fall or winter rains. Although CNDDDB includes no occurrences of this species within 5 miles of the Project site and anticipated inundation areas (California Department of Fish and Wildlife 2021a), it is known from downstream of the Project site in the study area along the Salians River 1.5 miles northwest of Spreckels. The Coast Range newt may occur in or near permanent and semi-permanent water sources and occupy underground refuges in a variety of habitats that occur in the Project site and study area.

### **Foothill Yellow-legged Frog**

The foothill yellow-legged frog is listed as a state endangered species as well as a California species of special concern (CDFW 2021a). In California the species has been reported from foothill and mountain streams in the Klamath, Cascade, Sutter Buttes, Coast, Sierra Nevada, and Transverse ranges from sea level to around 6,000 feet. Foothill yellow-legged frog inhabits rivers and streams in hardwood, conifer, and valley-foothill riparian forests, mixed chaparral, and wet meadows (CDFW 2019). Habitat is generally characterized as partly shaded, shallow perennial rivers and streams with a low gradient and rocky substrate that is at least cobble-sized; however, they have also been known to occupy intermittent and ephemeral streams by post-metamorphic frogs and small impoundments, isolated pools in intermittent streams, and meadows along the edge of streams (CDFW 2019). Breeding sites in rivers and streams are often located near the confluence of tributary streams in sunny, wide shallow reaches. Tadpoles require slow, stable flows during development. Post-metamorphic frogs remain close to the water's edge (average <10 ft), select sunny areas with limited canopy cover, and are often associated with riffles and pools. Adequate water, food resources, cover from predators, ability to regulate their body temperature (e.g., presence of basking sites and cool refugia), and absence of non-native predators are important components of non-breeding habitat (CDFW 2019). During the winter months they typically move away from larger streams and rivers to avoid high flows, usually inhabiting smaller tributaries or taking cover in adjacent vegetation on the stream or river (CDFW 2019). They have also been observed using upland habitats at an average distance from the stream of about 234 feet though have been reported moving as far as 2,723 feet from a river. The species can be active both day and night. Project site occurs within the species known range. Two populations are reported within 5 miles of the Project site located near the border of Monterey and San Luis Obispo counties (CDFW 2021a).

### **Western Spadefoot**

Western spadefoot toad (*Spea hammondi*) is a California species of special concern (CDFW 2021a). It occurs in the Sierra Nevada foothills, Central Valley, Coast Ranges, and coastal counties in Southern California, from sea level to 4,460 feet (Zeiner et al. 1990). Breeding occurs in temporary rain pools or seasonal pools in streams with water temperatures between 48-86°F (U.S. Fish and Wildlife Service 2005). It spends the majority of its life underground in self-constructed burrows, primarily in grasslands and occasionally in valley-foothill hardwood woodlands (Zeiner et al. 1990). This species has been documented southeast and northwest of San Antonio Reservoir (California Department of Fish and Wildlife 2021a, Thomson et al. 2016). The closest CNDDDB occurrence is approximately 2.7 miles northwest of the anticipated inundation areas of San Antonio Reservoir in a perennial pool (California Department of Fish and Wildlife 2021a). The species also potentially occurs in the San Antonio River itself, in the anticipated inundation areas at the northwest end of the lake and has some potential to breed in pools elsewhere in Project vicinity and aestivate in a variety of upland habitats in the study area.

## **Reptiles**

### **Coast Horned Lizard**

The Coast horned lizard (*Phrynosoma blainvillii*; formerly known as Blainville's horned lizard) is a California species of special concern (CDFW 2021a). It occurs in the Sierra Nevada foothills from Butte County to Kern County, and the central and southern California coasts, usually below 2,000 feet in the north and 3,000 feet in the south (Zeiner et al. 1990). It inhabits open areas of sandy soils

and low vegetation in a variety of habitats, often by ant nests. Coast horned lizards burrow into loose soil to escape predators and extreme heat, and use rocks, mammal burrows, or crevices for periods of inactivity (Zeiner et al. 1990). Eggs are laid in nests in loose soil and hatching occurs after two months (Zeiner et al. 1990). Most activity occurs during the middle of the day in spring and fall, and in the morning and late afternoon in mid-summer, with nocturnal activity sometimes occurring during warm periods (Zeiner et al. 1990). The closest species occurrence is along San Antonio River, approximately 4 miles east northeast of the San Antonio Reservoir dam (CDFW 2021a, Thomson et al. 2016). It is also known from the Salinas River floodplain near Soledad. The coast horned lizard potentially occurs in a variety of vegetation communities present in the Project site and riparian areas of the study area where suitable soils also occur.

### **Northern California Legless Lizard**

The Northern California legless lizard (*Anniella pulchra*) is a California species of special concern (CDFW 2021a). It occurs in the Coast Ranges from Contra Costa County to the Mexican border, with spotty occurrences in the San Joaquin Valley, the Tehachapi Mountains, and the mountains of Southern California (Zeiner et al. 1990). The species inhabits a variety of habitats with loose soils, sandy washes, or thick duff or leaf litter, and often where substrates are slightly moist (Zeiner et al. 1990). This species is known from occurrences south and southeast of San Antonio Reservoir (California Department of Fish and Wildlife 2021a, Thomson et al. 2016). The closest CNDDDB occurrence is near the Nacimiento River, approximately 3 miles east of the Nacimiento Reservoir inlet work area (California Department of Fish and Wildlife 2021a). Its highest potential to occur in the project site is along the San Antonio River, in the anticipated inundation areas, and in oak woodland in the project site where suitable soils or leaf litter occur. This species is considered present in the dunes near the Salinas River Lagoon adjacent to the study area.

### **San Joaquin Coachwhip**

San Joaquin coachwhip (*Masticophis flagellum ruddocki*) is a California species of special concern (CDFW 2021a). The San Joaquin coachwhip is endemic to California with a small range extending from the Arbutle and Contra Costa Counties in the north, through the Sacramento Valley, south to the Kern County portion of the San Joaquin Valley and west into the inner South Coast Ranges. One disjunct population is known to occur in the Sutter Buttes (Thomson et al. 2016).

Habitat for the San Joaquin coachwhip occurs in chenopod scrub, valley and foothill grassland, open, dry habitats with little or no tree cover. In the San Joaquin Valley this species is found in valley grassland and saltbush scrub. Mammal burrows are used for overwintering, refuge, and oviposition sites (Thomson et al. 2016). This species can be found outside of the burrows during the warmest times of the day. Known from the Nacimiento River floodplain on Camp Roberts approximately 5 miles east and downstream of the Project Site (CDFW 2021a). Suitable habitat occurs in the Project site.

### **Two-striped Gartersnake**

The two-striped garter snake (*Thamnophis hammondi*) is a California species of special concern (CDFW 2021a). This species is found in coastal California in the vicinity of the southeast slope of the Diablo Range and the Salinas Valley south along the Coast and Transverse ranges to Rio Rosario in Baja California, Mexico. It is found in a variety of perennial and intermittent freshwater streams within oak woodlands, shrublands, and sparse coniferous forests from sea level to 2,400 meters (7,874 feet) amsl (Stebbins 2003; Zeiner et al. 1988). Two-striped gartersnakes are restricted to

streams, vernal pools, lakes, and stock and artificial ponds with good adjoining riparian vegetation (Jennings and Hayes 1994) and are commonly found within wetlands and streams having rocky or sandy beds with willows (*Salix* sp.) or dense vegetation (Zeiner et al. 1988). This species is not known to occur within 5 miles of the Project site or anticipated inundation areas, but its range is considered to include the Project vicinity (California Department of Fish and Wildlife 2021a, Thomson et al. 2016). The highest likelihood of occurrence is within the anticipated inundation areas and termini of the proposed tunnel in the Project site. This species is expected to occur within the San Antonio River and, to a lesser extent, elsewhere in the study area. It has been recorded near Salinas in Pine Canyon (CDFW 2021a).

### **Western Pond Turtle**

The western pond turtle (*Actinemys marmorata*) is a California species of special concern (CDFW 2021a). It occurs throughout California west of the Sierra-Cascade crest and below 4,690 feet (Zeiner et al. 1990). It inhabits permanent or semi-permanent water, including ponds, marshes, rivers, streams, and irrigation canals. Suitable aquatic habitat contains basking sites such as logs, rocks, floating vegetation, or mud banks (Zeiner et al. 1990). Eggs are laid from March to August, and nesting sites occur up to 325 feet from aquatic habitat in a variety of soil types (Zeiner et al. 1990). This species is known from several occurrences in the Project vicinity, with the closest approximately 2.8 miles east of the Nacimiento Reservoir on Camp Roberts (CDFW 2021a, Thomson et al. 2016). It has the potential to occur in pools within or near the Project site and may nest or aestivate in uplands near aquatic habitat, sometimes several hundred meters away. It is known to occur in Nacimiento Reservoir and along the Nacimiento and Salinas Rivers. It also has potential to occur along San Antonio River, in the anticipated inundation areas, or along other semi-permanent streams entering San Antonio or Nacimiento Reservoirs.

## **Birds**

### **American Peregrine Falcon**

The American peregrine falcon (*Falco peregrinus anatum*) is a California fully protected species under the California Fish and Game Code (CDFW 2021a). It was delisted from ESA in 1999 (60 FR 34406–34409; 64 FR 46542–46558) and from CESA in 2008 (Comrack and Logsdon 2008). The species' California breeding range has expanded to include the Central and southern coasts, Inner North Coast Ranges, Klamath Mountains, Cascade Range, and Sierra Nevada (USFWS 1982;). They nest on protected ledges on high cliffs primarily in woodland, forest, and coastal habitats, but also in some desert areas (USFWS 1982; White et al. 2002). Peregrines most often nest near marshes, lakes, and rivers that support an abundance of avian prey (Johnsgard 1990). Suitable areas for nesting are absent in the Project site and the anticipated inundation areas, and CNDDDB includes no nesting occurrences within 5 miles (CDFW 2021a). However, this species has a high potential to forage around both San Antonio and Nacimiento Reservoirs when suitable prey, such as waterfowl, are present. Similarly, this species is expected to forage over portions of the study area, but nesting is not expected due to the lack of suitable nesting substrate.

### **Bald Eagle**

The bald eagle (*Haliaeetus leucocephalus*) is listed as endangered under CESA and is a Fully Protected species under the California Fish and Game Code (CDFW 2021a). USFWS delisted the bald eagle from ESA in 2007 (72 FR 37346–37372). It is also protected under the Bald and Golden Eagle

Protection Act. In California, most nesting bald eagles are found in the northern part of the state, but pairs nest locally south through the Sierra Nevada, coastal counties in Central and Southern California, and on the Channel Islands. Bald eagles typically nest in large conifers or on rock outcrops near aquatic features, but also occasionally in large hardwoods, such as sycamores and oaks (Anthony et al. 1982; U.S. Fish and Wildlife Service 1986). They usually nest in one of the largest trees available within about 1.2 miles of water, but often much closer and generally situated with a prominent overview of the surrounding area (Buehler 2000). Bald eagles preferentially forage on fish and waterfowl, but their diet varies regionally and seasonally in response to locally available resources, and often includes a variety of mammals as well as carrion, especially in winter (Ewins and Andress 1995; Buehler 2000). The San Antonio and Nacimiento Reservoirs support a wintering population of bald eagles, and two nesting sites have been reported along the northern shoreline of Nacimiento (California Department of Fish and Wildlife 2021a, Roberson 2002). Foraging and nesting is possible within the project site and other unpopulated portions of the study area. A pair was observed flying over the central portion of San Antonio Reservoir during fall 2016 surveys (Dudek 2016).

### **Bank Swallow**

The bank swallow (*Riparia riparia*) is listed as threatened under CESA (CDFW 2021a). It primarily occurs along the Sacramento River and its tributaries from Tehama County to Sacramento County as well as along the Feather and lower American Rivers; in the Owens Valley; and in the plains east of the Cascade Range in Modoc, Lassen, and northern Siskiyou Counties; and small populations can be found near the coast from San Francisco County to Monterey County (CDFG 1992).

In their present range in California, bank swallows primarily nest in cavities build on the vertical faces of earthen riverbanks (CDFG 1992). Foraging areas for bank swallows include waterbodies and neighboring grasslands or agricultural fields where they catch flying terrestrial and aquatic insects. The species is considered present in the Salinas River and could possibly occur within suitable habitat in the Project site. Bank swallow is known to occur southwest of King City, near Greenfield, and Moss Landing (CDFW 2021a).

### **Burrowing Owl**

The western burrowing owl (*Athene cunicularia*) is a California species of special concern (CDFW 2021a). It occurs year-round in lowlands throughout California, including the Central Valley, northeastern plateau, southeastern deserts, and coastal areas. It inhabits open, dry, grassland or desert with available small mammal burrows and forages on insects, small mammals, reptiles, birds, and carrion (Zeiner et al. 1990). Small mammal burrows are used for roosting and nesting; nests have also been observed in buildings, pipes, culverts, and nest boxes where burrows are scarce. There are two CNDDDB occurrences within 5 miles of the study area, with the closest occurrence inside the study area (CDFW 2021a). Potential habitat for western burrowing owl is present in grasslands throughout the study area, and numerous ground squirrel burrows that could be utilized by western burrowing owl were observed during the wildlife surveys. There are multiple CNDDDB occurrence records of the species from uplands near the Nacimiento River approximately 2.2 miles east of the Project site on Camp Roberts. The Project site is not within the current breeding range of the species (Shuford, W.D. and Gardali, T., editors. 2008). This species has potential to forage within the project site and the area near the San Antonio and Nacimiento Rivers, but it is generally considered absent from the study area elsewhere.

### **California Condor**

California condor (*Gymnogyps californianus*) is listed as endangered under ESA and CESA and considered Fully Protected under the state Fish and Game Code (CDFW 2021a). Currently, California condors are found in parts of California, Arizona, Utah, and Baja California. In California, condors range from the Coast Ranges in Monterey County southward and east through the western Transverse Ranges, and along the Tehachapi and the Sierra Nevada range north to Fresno County (U.S. Fish and Wildlife Service 2013). In 1982, only 22 individual condors remained in the wild, and in 1987, the last wild condor was captured as part of a captive breeding program. Adult and captive-bred condors were first released back into the wild in the 1990's; today, the population of California condors now exceeds 400, with more than 220 in the wild population split between California, Arizona/Utah, and Mexico (U.S. Fish and Wildlife Service 2015). California condors typically nest in mountainous areas in cavities along cliff and rock faces and have also been recorded nesting in giant Sequoia (*Sequoiadendron giganteum*) and coast redwood (*Sequoia semervirens*) trees. Condors most often forage in open habitat such as grasslands, oak savannahs, and open scrublands in foothill and mountainous regions, and along the coastline in the Big Sur area. Approximately 60 condors occur along the Big Sur/central coast and in the Pinnacles National Monument area (U.S. Fish and Wildlife Service 2015). A captive release and supplemental feeding site occurs in the Ventana Wilderness area and is managed by the Ventana Wildlife Society; another occurs in Pinnacles National Monument and is managed by the National Park Service. While most of the condors that are based in these two areas tend to stay in those areas, some do fly more widely, including occasional overflights of the Project site and study area. However, USFWS GPS data (from GPS transmitters attached to condors) show that the majority of overflights in 2003–2008 occurred at altitudes above 200 meters (approximately 660 feet) (Sorenson et al. 2009). Therefore, this species has potential to forage in the Project site and study area but is not expected to nest in these areas due to the lack of suitable nesting substrate.

### **Golden Eagle**

The golden eagle (*Aquila chrysaetos*) is a California fully protected species (CDFW 2021a). The species occurs in foothills and mountains throughout California below 11,500 feet; it can be found in the nonbreeding season in lowlands such as the Central Valley. Golden eagles forage on lagomorphs, rodents, and other mammals, birds, and reptiles in grasslands, deserts, savannahs, and early successional forest and shrub habitats (Zeiner et al. 1990). Golden eagles nest primarily on cliffs and escarpments at any height, or in large trees in open areas. Nests are large platforms composed of sticks, twigs, and greenery. This species is known to nest in both the Gabilan Range and the Santa Lucia Mountains. It is observed regularly around San Antonio and Nacimiento Reservoirs (Roberson 2002). Nesting is known from along Nacimiento River near Camp Roberts, as well as 3.3 miles northwest of the San Antonio Reservoir and approximately 3.4 miles southeast of the Project site (CDFW 2021a). Potentially suitable nesting habitat occurs in oak woodland on the Project site and anticipated inundation areas, and suitable foraging habitat is present widely in the area. This species is expected to forage and could nest in unpopulated portions of the study area.

### **Least Bell's Vireo**

Least Bell's vireo (*Vireo bellii pusillus*) is listed as endangered under FESA and CESA (CDFW 2021a). It formerly nested through the coastal slope of southern California, interior Coast Ranges of Central California, the San Joaquin and Sacramento Valleys and surrounding foothills, and parts of Inyo County. It now is limited to isolated locations of extensive riparian habitat in the southern California



coastal slope and has bred in small numbers at widely scattered sites elsewhere in its former range (U.S. Fish & Wildlife Service 2006). Least Bell's vireo nesting habitats in cismontane and coastal areas include southern willow scrub, mulefat scrub, arroyo willow riparian forest edge, wild blackberry thickets, and, more rarely, cottonwood forest, sycamore alluvial woodland, and southern coast live oak riparian forest. More specifically, they tend to occupy dry portions of intermittent streams that typically provide dense cover within one to two meters (3.3 to 6.6 feet) of the ground, often adjacent to a complex, stratified canopy. In some areas, least Bell's vireos also forage in upland habitats (59 FR 4846). This species was formerly common along the Salinas River and its tributaries, but was thought to be extirpated as a breeding species by about 1960 (Roberson 2002). However, since the 1980s, least Bell's vireos have been observed in suitable habitat along the Salinas River on several occasions, including three singing males in 1983. A single male was also observed along El Piojo Creek in southern Fort Hunter-Liggett, less than 10 miles west of the San Antonio Reservoir, in May 1988 (Roberson and Tenney 1993, Roberson 2002). In 2001, individuals have been reported during the breeding season as far north as Monterey County near San Juan Bautista (Roberson 2004; CDFW 2021a). Therefore, this species is considered to have a potential (albeit small) to nest and possibly forage in the Project site and throughout the study area.

### **Loggerhead Shrike**

The loggerhead shrike (*Lanius ludovicianus*) is a California species of special concern (CDFW 2021a). The species occurs year-round in lowlands and foothills throughout California, and only in winter on the coastal slope north of Mendocino County (Zeiner et al. 1990). It inhabits open habitats with perches such as scattered shrubs, trees, posts, fences, or utility lines. (Zeiner et al. 1990). Loggerhead shrike forage primarily on large insects, but also eat small birds, mammals, amphibians, reptiles, fish, and carrion. Nests are built in trees or shrubs with dense foliage, typically 1.3 to 50 feet above the ground. Eggs are laid from March to May, and young become independent in July or August (Zeiner et al. 1990). The breeding bird atlas Project confirmed nesting within one atlas block surrounding San Antonio Reservoir, in an area where between two and 10 pairs were present. A similar density was found in an adjacent atlas block surrounding the northwest end of the lake (Roberson and Tenney 1993). Therefore, the Project site and anticipated inundation areas likely support foraging habitat and may support nesting for the loggerhead shrike.

### **Long-eared Owl**

The long-eared owl (*Asio otus*) is a California species of special concern when breeding (CDFW 2021a). It's breeding range extends throughout California, except in the Central Valley, the Imperial and Coachella valleys in Imperial and Riverside counties, and much of the immediate coast. Long-eared owls may be migratory throughout most of their range and are thought to winter in most of their breeding range and southward across most of the United States and northern and central Mexico (Marks et al. 1994). Long-eared owls nest in dense woodlands and thickets adjacent to open grassland, shrubland, or woodland habitats used for foraging. The CNDDDB includes no occurrences of long-eared owl for Monterey County, and the breeding bird atlas Project detected no long-eared owls in the southern part of the county (CDFW 2021a, Roberson and Tenney 1993). However, largely because of the difficulty in detecting this species, its status in the area is poorly known. San Antonio Reservoir is believed to be within or very near the species' breeding range (Hunting 2008, Roberson 2002). Therefore, the species could forage and has a low potential to nest within the Project site. It is expected to forage and may nest in unpopulated portions of the study area.

### **Northern Harrier**

The northern harrier (*Circus cyaneus*) is a California species of special concern when breeding (CDFW 2021a). The species breeds throughout most of Canada and Alaska; south through the northern and central Great Basin, Rocky Mountains, and Great Plains; in the northeastern United States; and in scattered locales from central, coastal, and southwestern California south to Baja California, Mexico (Smith et al. 2011). Northern harriers winter across most of the coterminous United States south through Mexico, Central America, the Bahamas, and Cuba. In California, northern harriers breed in the Central Valley, Great Basin, most of the Coast Ranges, and in various locations along the entire coast (Davis and Niemela 2008). Northern harrier has been known to nest at San Antonio Reservoir. Nesting during the breeding bird atlas Project was considered possible in the area around the northwest end of the lake, and CNDDDB includes an occurrence approximately 0.25-mile northwest of the anticipated inundation area (Roberson 2002, Roberson and Tenney 1993, CDFW 2021a). Potential exists for nesting elsewhere in the Project site and study area where dense herbaceous vegetation or dense scrub habitat occurs within or near open foraging habitat.

### **Short-eared Owl**

The short-eared owl (*Asio flammeus*) is a California species of special concern (CDFW 2021a). Mostly migrants from the north, some year-round Northern California residents of short-eared owl live the Great Basin region and the Sacramento-San Joaquin River Delta. Episodic breeding has been observed in the coastal central California and the San Joaquin Valley.

Habitat consists of fresh and saltwater marshes, lowland meadows, pastures, and irrigated alfalfa or grains fields. Tule patches or tall grass are needed for nesting and daytime seclusion. The short-eared owl nests on dry ground in depressions concealed in vegetation. Nesting pairs require open country with abundant concentrations of microtine rodents. In restoration areas on the San Joaquin Valley short, weedy vegetation may provide suitable habitat. Suitable habitat occurs in the Project site and study area. Project is within species range and one known nesting location noted within the study area in the Salians River Lagoon (CDFW 2021a).

### **Tricolored Blackbird**

Tricolored blackbird (*Agelaius tricolor*) is state listed as threatened (CDFW 2021a). The species occurs primarily within the Sacramento and San Joaquin Valleys and Sierra Nevada foothills but can also be found along the coast and inland areas of southern and central California (U.S. Fish and Wildlife Service 2019b). Tricolored blackbirds forage in croplands, grasslands, flooded land, and pond edges (Zeiner et al. 1990). They nest in dense colonies in emergent marsh vegetation (such as cattails and tules) or upland sites with blackberries, nettles, thistles, and grain fields. Two colonies have been recorded within or near the San Antonio River, in the vicinity of the San Antonio Reservoir anticipated inundation area. One colony was at the edge of the anticipated inundation areas as late as 2012, possibly more recently (CDFW 2021a). A colony near this location was in upland habitat south of the river, in stinging nettles (*Urtica dioica*) and cocklebur (*Xanthium* sp.), approximately 1.5 miles of the Interlake Road Bridge, last observed in 1996 (CDFW 2021a, Roberson 2002). The potential for nesting elsewhere in the Project site is low. Foraging potentially occurs in grasslands surrounding the reservoirs, and additional open habitats on the Project site may support foraging during winter. This species is expected to occur and may nest within tall emergent marsh habitat within the study area downstream of the Project site.

### **Western Snowy Plover**

The western snowy plover Pacific coast population DPS (*Charadrius alexandrinus nivosus*) is federally listed as threatened. The Pacific coast population is defined as those individuals that nest within 50 miles of the Pacific Ocean on the mainland coast, peninsulas, offshore islands, bays, estuaries or rivers of the United States and Baja California, Mexico (U.S. Fish and Wildlife Service 2019). The current known breeding range of the Pacific coast population extends from Midway Beach, Washington to Bahia Magdalena in Baja California Sur, Mexico (U.S. Fish and Wildlife Service 2019). Some western snowy plovers remain in their coastal breeding areas year-round, while others migrate north or south for winter (U.S. Fish and Wildlife Service 2007). The majority of western snowy plovers' nest in California above the high tide line on coastal beaches, sand spits, dune-backed beaches, sparsely-vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries; less commonly, they breed on bluff-backed beaches, dredged material disposal sites, salt pond levees, dry salt ponds, and river bars (U.S. Fish and Wildlife Service 2016). Not expected to nest or forage in the Project site or within the anticipated inundation area as these are outside of the species range. Known to nest and forage downstream of the Project site in the coastal dunes adjacent to the Salinas River Lagoon (CDFW 2021a).

### **White-tailed Kite**

White-tailed kite (*Elanus leucurus*) is a California fully protected species. The species occurs in lowland areas west of the Sierra Nevada from the Sacramento Valley to western San Diego County. It is usually found near agricultural areas (Zeiner et al. 1990). White-tailed kites forage primarily on small mammals in open grasslands, farmlands, and emergent wetlands. Nests are located near the top of dense oak, willow, or other tree stands, typically 20-100 feet above the ground, and are composed of loosely piled sticks and twigs (Zeiner et al. 1990). Breeding occurs from February to October, with peak breeding from May to August. CNDDDB includes no occurrences for the Project vicinity (CDFW 2021a). Roberson and Tenney (1993) reported that nesting was possible and probably in adjacent atlas blocks at the northwest end of San Antonio Reservoir. Suitable breeding habitat occurs in oak woodland and oak savannah in the Project site and anticipated inundation areas. Suitable foraging habitat is widespread. This species is expected to nest within riparian habitat along all three rivers in the study area.

### **Yellow-billed Cuckoo**

The western yellow-billed cuckoo (*Coccyzus americanus*) is federally listed as threatened. In California, persistent populations occur along the Sacramento River from Red Bluff to Colusa and along the South Fork Kern River from Isabella Reservoir to Canebrake Ecological Reserve. Other sites where populations have been recorded but may not breed or persist include the Feather River from Oroville to Verona in Butte, Yuba, and Sutter Counties; the Prado Flood Control Basin in San Bernardino and Riverside Counties; the Amargosa River near Tecopa in Inyo County; the Owens Valley near Lone Pine and Big Pine in Inyo County; the Santa Clara River in Los Angeles County; the Mojave River near Victorville in San Bernardino County; and the Colorado River from Needles in San Bernardino County to Yuma in Imperial County (Laymon and Halterman 1987). Western yellow-billed cuckoos are primarily foliage gleaners. The primary food sources for this species are caterpillars, cicadas, katydids, and other insects; frogs and lizards; and fruits and seeds (National Park Service 2015). The western yellow-billed cuckoo is a Neotropical migratory species that travels between wintering grounds in Central and South America and breeding grounds in North America, often using river corridors as travel routes. It occupies low- to moderate-elevation riparian forests. The species requires large, contiguous stretches of multilayered riparian habitat for nesting. Important tree species for the western yellow-billed cuckoo are cottonwood, willow, alder, box elder

(*Acer negundo*), mesquite, Arizona walnut (*Juglans major*), Arizona sycamore (*Platanus wrightii*), oak, netleaf hackberry (*Celtis reticulata*), velvet ash (*Fraxinus velutina*), Mexican elderberry (*Sambucus mexicanus*), seepwillow (*Baccharis glutinosa*), and sometimes tamarisk (National Park Service 2015). Known from the Salinas River riparian corridor near the SRDF within the study area (ICF pers. comm.). Not likely in the Project site or inundation area due to lack of suitable dense riparian forest habitat.

### **Yellow-breasted Chat**

Yellow-breasted chat (*Icteria virens*) is a California species of special concern for nesting. Its nesting range includes the eastern United States from Wisconsin south to the Gulf coast, and east to the Atlantic Coast; western breeding populations occur along the Pacific coast, within the Great Basin valleys, lower montane portions of the Rocky Mountains, and south into Arizona and New Mexico, with isolated populations in Texas (Dunn and Garrett 1997). It has a broad nesting range in California, including the northwestern part south along the Sierra Nevada foothills and along the coast through San Diego County, and in the eastern deserts in the Colorado River Valley, the Imperial Valley, the Owens Valley, and other scattered locations (Comrack 2008). Nesting is usually restricted to “early successional riparian habitats with a well-developed, dense understory shrub layer and an open canopy” (Comrack 2008). Yellow-breasted chat is known to occur along the San Antonio River, within the anticipated inundation areas, where it was confirmed nesting during Monterey County breeding bird atlas surveys (Roberson 2002, Roberson and Tenney 1993). Therefore, the species is considered present in the Project site and is expected to occur within similar habitat in the study area.

### **Yellow Warbler**

The yellow warbler (*Setophaga petechia*) is a California species of special concern for nesting. It nests from northern Alaska eastward to Newfoundland in Canada and southward to Georgia and northern Baja California, Mexico. The species nests in much of California but is absent from higher elevations of the Sierra Nevada and is present only locally in the eastern deserts. It is widespread and common as a migrant in spring and fall. The yellow warbler usually nests in wet, deciduous thickets, especially those dominated by willows, and in disturbed and early successional riparian vegetation (Lowther et al. 1999). A population of this species was recorded around the northwestern portion of San Antonio Reservoir during Monterey breeding bird atlas surveys, and this species likely nests in this area, including within the anticipated inundation areas (Roberson and Tenney 1993, Roberson 2002). This species is expected to occur within the Project site and study area.

## **Migratory Birds**

Non-special-status migratory birds have the potential to nest in the study area. Although these species are not considered special-status wildlife species, their occupied nests and eggs are protected by California Fish and Game Code Sections 3503 and 3503.5 and the Migratory Bird Treaty Act.

Fifty-seven bird species were observed in flight or roosting in the study area during the 2016 surveys (Appendix X). No nesting surveys were conducted as part of the reconnaissance level surveys. Bird observation records reviewed in the Cornell Lab of Ornithology’s online bird

observation database, called eBird, indicate that at least 116 bird species have been observed within the study area (eBird 2019).

## Mammals

### ***American Badger***

The American badger (*Taxidea taxus*) is a California species of special concern. American badgers occur throughout the state except for the humid coastal forests of northwestern California in Del Norte and Humboldt Counties (Williams 1986). American badgers occur in a wide variety of open, arid habitats including shrub, forest, and herbaceous habitat, but most commonly are associated with grasslands, savannas, mountain meadows, and open areas of desert scrub. They require sufficient food (burrowing rodents), friable soils, and relatively open, uncultivated ground (Williams 1986). Badgers dig burrows for cover and reproduction, and frequently reuse old burrows (Zeiner et al. 1990). Dens are usually located in sandy soil in areas with sparse overstory cover. American badgers are active yearlong, and day and night (Zeiner et al. 1990). Open habitats occurring in the Project vicinity, such as those surrounding San Antonio Reservoir and within the anticipated inundation areas, likely support this species, where a suitable prey base and friable soils are present. There are numerous occurrences for this species approximately 3.7 miles southeast of San Antonio Reservoir, between San Antonio Reservoir and San Miguel (CDFW 2021a). This species has potential to occur within the Project site and unforested portions of the study area.

### ***Monterey Dusky-footed Woodrat***

Monterey dusky-footed woodrat (*Neotoma macrotis luciana*) is a California species of special concern that occurs in the Coast Ranges of Monterey County and northern San Luis Obispo County (Carraway and Verts 1991). However, recent taxonomic revisions of woodrats in the genus *Neotoma* have resulted in the re-classification of woodrats in the Project vicinity as Bryant's woodrat (*Neotoma bryanti bryanti*) (Patton and Álvarez-Castañeda 2005; Patton et al. 2014). However, as the regulatory agencies have not yet recognized these revisions, and CDFW still recognizes Monterey dusky-footed woodrat as a species of special concern, woodrats from this complex in the Project vicinity are considered to be a special-status species in this EIR. Dusky-footed woodrats occur in chaparral, coastal scrub, and dense woodland. The build and occupy middens composed of "sticks, bark, plant cuttings, and miscellaneous objects piled in a conical heap ... where brush, rock piles, or vegetative cover are abundant" (Carraway and Verts 1991). Although CNDDDB includes no occurrences within 5 miles of the Project site, it includes several occurrences to the north and south, just that are slightly beyond 5 miles (CDFW 2021a). A woodrat, unknown species, midden was observed within the Project site during reconnaissance surveys in 2016. Therefore, this species has potential to occur where scrub or dense woodland habitat is found in the Project site. This species is not anticipated to occur within the riparian habitat in the downstream study area due to periodic flooding and lack of suitable habitat.

### ***Monterey Ornate Shrew***

Monterey ornate shrew (*Sorex ornatus salarius*) is a California species of special concern. This subspecies inhabits coastal salt-marshes and adjacent sandhill areas in the vicinity Monterey County and riparian, wetland and upland terrestrial communities in the vicinity of the Salinas River Delta. Historic records show the subspecies in the vicinity of the mouth of the Pajaro River in Santa Cruz County (Bolster, B.C., editor. 1998). Shrews use low dense vegetation for foraging, cover from

predators, and nesting sites. The Monterey shrew (Owen and Hoffman. 1983) Known to occur downstream of the Project site near the Salinas River Lagoon and Elkhorn Slough (CDFW 2021a). Not expected to nest or forage in the Project site or within the proposed inundation area as these are outside of the species' range.

### **Mountain Lion, Central Coast Central ESU**

Mountain Lion, Central Coast Central ESU (*Puma concolor*) is a candidate to be listed as threatened under the California Endangered Species Act and is one of six subpopulations divided by interstate freeways or major highways within California. The geographic range of the Central Coast Central ESU is southern Monterey Bay to the Ventura Area (Subpopulation #2) (CDFW 2020).

Mountain lions are primarily solitary, territorial, predators which occur in low densities and require a large home range. The home range needs to contain a sustainable deer population and habitat connectivity to allow for successful dispersal and gene flow. Mountain lions are typically associated with riparian, chaparral, oak woodlands, coniferous forests, grasslands, and occasionally in rocky desert upland habitat (CDFW 2020). The Project site and study area are located in the Central Coast - Central ESU range. Suitable undisturbed woodland habitat is present in the Project site. Bay Area Puma Project (2021) reports sighting of mountain lion east and south of the Project site. Additionally, suitable undisturbed woodland habitat is present in riparian habitat of the study area. Bay Area Puma Project (2021) reports sighting of mountain lion within the Salinas River watershed just south of the confluence with the Nacimiento River in the Big Sandy State Wildlife Area in San Miguel.

### **Pallid Bat**

The pallid bat (*Antrozous pallidus*) is a California species of special concern. The species occurs throughout the state except for the high Sierra Nevada from Shasta to Kern Counties, and the northwestern corner from Del Norte and western Siskiyou Counties to Mendocino County, from sea level up to mixed conifer forests. Pallid bats use a variety of habitats such as grasslands, shrublands, woodlands, and forests, but are most common in open, dry areas with rock outcrops or cliffs for roosting (Zeiner et al. 1990). Pallid bats forage over open ground for a wide variety of insects and arachnids. They are a yearlong resident in most of their range and hibernate in winter near their summer roost. Roosting sites must protect bats from high temperatures, and include caves, crevices, mines, and occasionally hollow trees and buildings. Night roosts may include porches and open buildings (Zeiner et al. 1990). This species is unlikely to roost in the Project site or anticipated inundation areas, which lack rocky outcrops suitable for roosting, although a small potential may exist for the species to roost in hollow trees. Bats roosting in the area may forage over a variety of communities occurring in the Project site. This species is considered possible to roost and likely forages within the study area.

### **Salinas Pocket Mouse**

Salinas pocket mouse (*Perognathus inornatus psammophilus*) is a California species of special concern. It occurs in the Salinas Valley, from the Salinas Valley southward to at least Hog Canyon, Monterey County (Williams 1986, Williams et al. 1993). Habitat preferences for this species are not well understood, but it is known to occur in grassland, desert scrub, and oak savannah communities in sandy and other friable soils, especially where plant cover is not dense (Williams 1986, Brylski 1998). Many of these communities occur in the Project site and anticipated inundation areas. The nearest CNDDDB occurrence is from approximately 1.7 miles east of Nacimiento Dam in 1995 (CDFW

2021a). Therefore, this species has potential to occur in the Project site, where scrub or dense woodland habitat is present. This species is not anticipated to occur within the riparian habitat in the downstream study area due to periodic flooding and lack of suitable substrate.

### **Townsend's Big-eared Bat**

Townsend's big-eared bat (*Corynorhinus townsendii*) is a California species of special concern (CDFW 2021a). It ranges throughout the western United States; British Columbia, Canada; and Mexico (Kunz and Martin 1982). In the United States, it occurs in a continuous distribution in all of the western states and east into western South Dakota, northwestern Nebraska, southwestern Kansas, western Oklahoma, and western Texas (Piaggio et al. 2009). Townsend's big-eared bat occurs throughout California with the exception of alpine and subalpine areas of the Sierra Nevada, although it has been found in the subalpine zone in the White Mountains to the east of the Sierra Nevada (Szewczak et al. 1998). Townsend's big-eared bat is primarily associated with mesic areas characterized by coniferous and deciduous forests and riparian communities, although it also occurs in xeric areas (Kunz and Martin 1982). In California, it roosts in limestone caves and lava tubes located in coastal lowlands, agricultural valleys, hillsides with mixed vegetation, human-built structures (Kunz and Martin 1982), mines (López-González and Torres-Morales 2004), and the basal hollows of old-growth redwood trees (*Sequoia sempervirens*) on the north coast of California (Zielinski and Gellman 1999). Roosting habitat is absent on the Project site, and this species is not expected to roost there or in the anticipated inundation areas. However, this species may occasionally forage over suitable vegetation communities on occasion. The closest species CNDDDB occurrence is approximately 4.8 miles southwest of San Antonio Reservoir (CDFW 2021a).

### **Western Mastiff Bat**

Western mastiff bat (*Eumops perotis californicus*) is a California species of special concern (CDFW 2021a). The species occurs in southeastern San Joaquin Valley, Coastal Ranges from Monterey County to southern California, and from the coast eastward to the Colorado Desert (Zeiner et al. 1990). Western mastiff bats use a variety of open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, and desert scrub. Suitable roosting habitat includes rock outcrops and buildings for roosting, with vertical faces to allow room to drop off to take flight (Zeiner et al. 1990). Western mastiff bats forage at night and rarely use night roosts. Western mastiff bats are known to commonly share roosts with other large bat species (Zeiner et al. 1990). Although western mastiff bats are yearlong residents in California and are known to shift day roosts throughout the year, whether they are seasonally migratory is unknown (Pierson and Rainey 1998). Although not expected to roost on the Project site or anticipated inundation areas, due to the absence of suitable cliffs, crevices, and trees for roosting, this species may forage over the Project site on occasion. CNDDDB includes no occurrences within 5 miles of the project site (CDFW 2021a).

### **Western Red Bat**

The western red bat (*Lasiurus blossevillii*) is a California species of special concern (CDFW 2021a). The species occurs from Shasta County to the Mexican border, west of the Sierra Nevada crest. Most individuals in California make short migrations in March-May and September-October between winter and summer habitats (Zeiner et al. 1990). Roosting occurs primarily in trees (sometimes in shrubs) in forests and woodlands from sea level up to mixed conifer forests, typically 2-40 above the ground. Foraging occurs at night in a variety of open habitats, including grasslands, shrublands, open woodlands and forests, and croplands. Western red bats usually do not roost with other

species but may forage with other species (Zeiner et al. 1990). There are no CNDDDB occurrences within 5 miles of the study area. The closest occurrence is approximately 50 miles south of the study area (CDFW 2021a). Potential roost trees for western red bat are present in the Project site and study area within riparian woodland and ornamental trees with potential foraging habitat present in open areas.

## References (Updated Renee 09/21/2021)

- Anthony, R. G., R. L. Knight, G. T. Allen, B. R. McClelland, and J. I. Hodges. 1982. Habitat use by nesting and roosting bald eagles in the Pacific Northwest. Pages 332-342 in Transactions of the 47th North American Wildlife and Natural Resources Conference, 1982. Wildlife Management Institute, Washington, D.C., USA.
- Bolster, B.C., editor. 1998. Terrestrial Mammal Species of Special Concern in California. Draft Final Report prepared by P.V. Brylski, P.W. Collins, E.D. Pierson, W.E. Rainey and T.E. Kucera.
- Buehler, D. A. 2000. Bald Eagle (*Haliaeetus leucocephalus*). In The Birds of North America, No. 506 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, Pennsylvania, USA.
- Bulger, J. B., N. J. Scott, and R. B. Seymour. 2003. Terrestrial activity and conservation of adult California Red-legged Frogs *Rana aurora draytonii* in coastal forests and grasslands. *Biological Conservation* 110:85–95.
- California Department of Fish and Game. 1994. Staff Report regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California. November 8, 1994
- California Department of Fish and Wildlife. 2018c. Monterey Hitch *Lavinia exilicauda harengus* (Girard). Accessed: September 27, 2021. Available: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=104339>
- California Department of Fish and Wildlife. 2019. A Status Review of the Foothill Yellow-Legged Frog (*Rana boylei*) in California. State of California Natural Resources Agency Department of Fish and Wildlife.
- \_\_\_\_\_. 2020. Evaluation of a Petition from the Center for Biological Diversity and the Mountain Lion Foundation to List the Southern California/Central Coast Evolutionary Significant Unit (ESU) of Mountain Lions as Threatened Under the California Endangered Species Act. State of California Natural Resources Agency Department of Fish and Wildlife
- \_\_\_\_\_. 2021a. [Internet]. California Natural Diversity Database. California Department of Fish and Wildlife, XX, 2021 Version. Accessed XX, 2021.
- California Native Plant Society (CNPS). 2021. *Inventory of Rare and Endangered Plants* (online edition, v8-03 0.39). Sacramento, CA. Available: <http://www.rareplants.cnps.org>. Accessed XX, 2021.
- Jeff N. Davis and Chris A. Niemela. 2008. California Bird Species of Special Concern: Northern Harrier. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.
- Ewins, P.J. and R.A. Andress. 1995. The diet of bald eagles, *Haliaeetus leucocephalus*, wintering in the lower Great Lakes Basin, 1987-1995. *The Canadian Field-Naturalist* 109:418-424.



- Fellers, G. M., and P. M. Kleeman. 2007. California Red-legged Frog (*Rana draytonii*) movement and habitat use: implications for conservation. *Journal of Herpetology* 41:276–286.
- Hagar Environmental Sciences. 2015. Salinas River Lagoon Monitoring Report. Accessed: September 27, 2021. Available: <http://www.co.monterey.ca.us/home/showdocument?id=19132>
- Hatfield, R., Jepsen, S., Thorp, R., Richardson, L. & Colla, S. 2015. *Bombus crotchii*. The IUCN Red List of Threatened Species 2015: e.T44937582A46440211. <https://dx.doi.org/10.2305/IUCN.UK.2015-2.RLTS.T44937582A46440211.en>. Downloaded on 21 September 2021.
- Hatfield, R., Jepsen, S., Thorp, R., Richardson, L., Colla, S. & Foltz Jordan, S. 2015. *Bombus occidentalis*. The IUCN Red List of Threatened Species 2015: e.T44937492A46440201. <https://dx.doi.org/10.2305/IUCN.UK.2015-2.RLTS.T44937492A46440201.en>. Downloaded on 21 September 2021
- Jennings, M. R., and M. P. Hayes. 1985. Pre-1900 over harvest of California red-legged frog (*Rana aurora draytonii*): The inducement for bullfrog (*Rana catesbeiana*) introduction. *Herpetologica* 41:94–103.
- Jennings, Mark and Hayes, Marc. 1994. Amphibian and Reptile Species of Special Concern in California
- Johnsgard, Paul A. 1990. Hawks, Eagles, & Falcons of North America: Biology and Natural History. *University of Nebraska-Lincoln*
- Kimsey, J.B., and L. O. Fisk. 1960. Keys to the freshwater and anadromous fishes of California. CDFG 46:453-479.
- Kunz, T.H. and R.A Martin. 1982. *Plecotus townsendii*. *Mammalian Species* 175:1-6.
- Laymon, S. A. and M. D. Halterman. 1987. Can the Western Subspecies of the Yellow-Billed Cuckoo be Saved from Extinction? *Western Birds* 18:19–25.
- López-González, C. and L. Torres-Morales. 2004. Use of abandoned mines by long-eared bats, genus *Corynorhinus* (Chiroptera: Vespertilionidae) in Durango, Mexico. *Journal of Mammalogy* 85:989-994.
- Lyann A. Comrack Randi J. Logsdon. 2008. Status Review of the American Peregrine Falcon (*Falco peregrinus anatum*) in California. California Department of Fish and Game.
- Marks, J. S., Evans, D. L., and Holt, D. W. 1994. Long-eared Owl (*Asio otus*), in *The Birds of North America* (A. Poole and F. Gill, eds.), no. 211. Acad. Nat. Sci., Philadelphia.
- Moyle, P. B. 2002. *Inland fishes of California*. 2nd edition. Davis, CA: University of California Press.
- Moyle, P.B., R. M. Quiñones, J.V.E. Katz, and J. Weaver. 2015. *Fish Species of Special Concern in California*. 3rd edition. Sacramento: California Department of Fish and Wildlife. <https://www.wildlife.ca.gov/Conservation/Fishes/Special-Concern>
- Murphy, G.I. 1948 Notes on biology of the Sacramento hitch (*Lavinia e. exilicauda*) of Clear Lake, California. CDFG 34:101-110.

- National Park Service. 2015. Western Yellow-Billed Cuckoo. U.S. Department of the Interior. Available at: <https://www.nps.gov/articles/western-yellow-billed-cuckoo.htm>. Accessed September 21, 2021.
- Owen, James G. and Hoffman, Robert S. 1983. Mammalian Species (*Sorex onratus*). No 212, pp. 1-5, The American Society of Mammalogists.
- Piaggio, A.J.; Figueroa, J.A.; Perkins, S.L. 2009. Intraspecific comparison of population structure, genetic diversity, and dispersal among three subspecies of Townsend's big-eared bats, *Corynorhinus townsendii townsendii*, *C. t. pallascens*, and the endangered *C. t. virginianus*. Springer Science+Business Media B.V. *Conserv Genet* (2009) 10:143–159
- Pierson, Elizabeth D., Rainey, William E.. 1998. Distribution, Habitat Associations, Status, and Survey Methodologies for Three Molossid Bat Species (*Eumops perotis*, *Nyctinomops femorosaccus*, *Nyctinomops macrotis*) and the Vespertilionid (*Euderma maculatum*). Prepared for: California Department of Fish and Game Wildlife Management Division Bird and Mammal Conservation Program 1416 Ninth Street
- PISCES. 2018. *Lavinia symmetricus subditus*. UC Davis Center for Watershed Sciences. Accessed: September 27, 2021. Available: <https://pisces.ucdavis.edu/content/lavinia-symmetricus-subditus>.
- Shuford, W.D. and Gardali, T., editors. 2008. California Bird Species of Special Concern. A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California. California Department of Fish and Game Sacramento, California.
- Smith, J. 1982 Fishes of the Pajaro River system, California. *Univ. Calif. Publ. Zool.* 115:83-170.
- Smith, K. G., S. R. Wittenberg, R. B. Macwhirter and K. L. Bildstein. 2011. Northern Harrier (*Circus cyaneus*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/210>
- Stebbins, R. C. 2003. *A Field Guide to Western Reptiles and Amphibians*. 3rd Edition. Houghton Mifflin Company.
- Storer, T. I. 1925. A synopsis of the Amphibia of California. *University of California Publications in Zoology* 27:1–342.
- Swenson, R.O. 1999. The ecology, behavior, and conservation of the tidewater goby, *Eucyclogobius newberryi*. *Environmental Biology of Fishes*. 55:99-119.
- Szcewczak, J.M., S.M. Szcewczak, M.L. Morrison, and L.S. Hall. 1998. Bats of the White and Inyo Mountains of California-Nevada. *Great Basin Naturalist* 58:66-75.
- Thomson, R. C., A. N. Wright, and H. B. Shaffer. 2016. California Amphibian and Reptile Species of Special Concern. 390 pp. University of California Press.
- U.S. Fish and Wildlife Service (USFWS). 1982. Recovery plan for the Peregrine Falcon-Alaska Population U.S. Fish and Wildlife Service in Cooperation with the Alaska Peregrine Falcon Recovery Team

- \_\_\_\_\_. 1986. Recovery plan for the Pacific bald eagle. U.S. Fish and Wildlife Service, Portland, Oregon, USA.
- \_\_\_\_\_. 2002. Recovery Plan for the California Red-legged Frog (*Rana aurora draytonii*). U.S. Fish and Wildlife Service, Portland, Oregon, USA. viii + 173 p.
- \_\_\_\_\_. 2005. Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon. Region 1 U.S. Fish and Wildlife Service Portland, Oregon
- \_\_\_\_\_. 2006. Least Bell's Vireo (*Vireo bellii pusillus*) 5-Year Review Summary and Evaluation. U.S. Fish and Wildlife Service, Carlsbad
- . 2007. Vernal Pool Fairy Shrimp (*Branchinecta lynchi*). 5-Year Review: Summary and Evaluation. U.S. Fish and Wildlife Service, Sacramento Fish and Wildlife Office, Sacramento, California.
- \_\_\_\_\_. 2007. Recovery Plan for the Pacific Coast Population of the Western Snowy Plover (*Charadrius alexandrinus nivosus*). In 2 volumes. Sacramento, California.
- \_\_\_\_\_. 2013. California Condor (*Gymnogyps californianus*). U.S. Fish and Wildlife Service, Pacific Southwest Region
- \_\_\_\_\_. 2014. Arroyo Toad (*Anaxyrus californicus*). U.S. Fish and Wildlife Service, Ventura, California.
- \_\_\_\_\_. 2016. Western Snowy Plover, *Charadrius nivosus nivosus*. Arcata Fish and Wildlife Office.
- \_\_\_\_\_. 2017. Recovery Plan for the Central California Distinct Population Segment of the California Tiger Salamander (*Ambystoma californiense*). U.S. Fish and Wildlife Service, Pacific Southwest Region, Sacramento, California. v + 69pp.
- \_\_\_\_\_. 2019. 5-Year Review Western Snowy Plover [Pacific Coast population Distinct Population Segment] (*Charadrius nivosus nivosus*). Arcata Fish and Wildlife Office. Arcata, CA.
- \_\_\_\_\_. 2020. Species Status Assessment for Smith's Blue Butterfly (*Euphilotes enoptes smithi*) (Version 1.0). U.S. Fish and Wildlife Service, Ventura, California.
- . 2020. Monarch (*Danaus plexippus*) Species Status Assessment Report. V2.1 96 pp + appendices.
- White, C.M., N.J. Clum, T.J. Cade, and W.G. Hunt. 2002. Peregrine Falcon (*Falco peregrinus*). In *The Birds of North America*, No. 660 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.
- Zielinski, W.J.; Gellman, S.T. 1999. Bat use of remnant old-growth redwood stands. *Conservation Biology*. 13(1): 160-167.
- Zeiner, D. C., W. F. Laudenslayer, Jr., and K. E. Mayer (eds.). 1988. California's wildlife. Volume 1: Amphibians and reptiles. California statewide wildlife habitat relationships system. Sacramento, CA: California Department of Fish and Game.
- . 1990. California's wildlife. Volume 2: Birds. California statewide wildlife habitat relationships system. Sacramento, CA: California Department of Fish and Game.

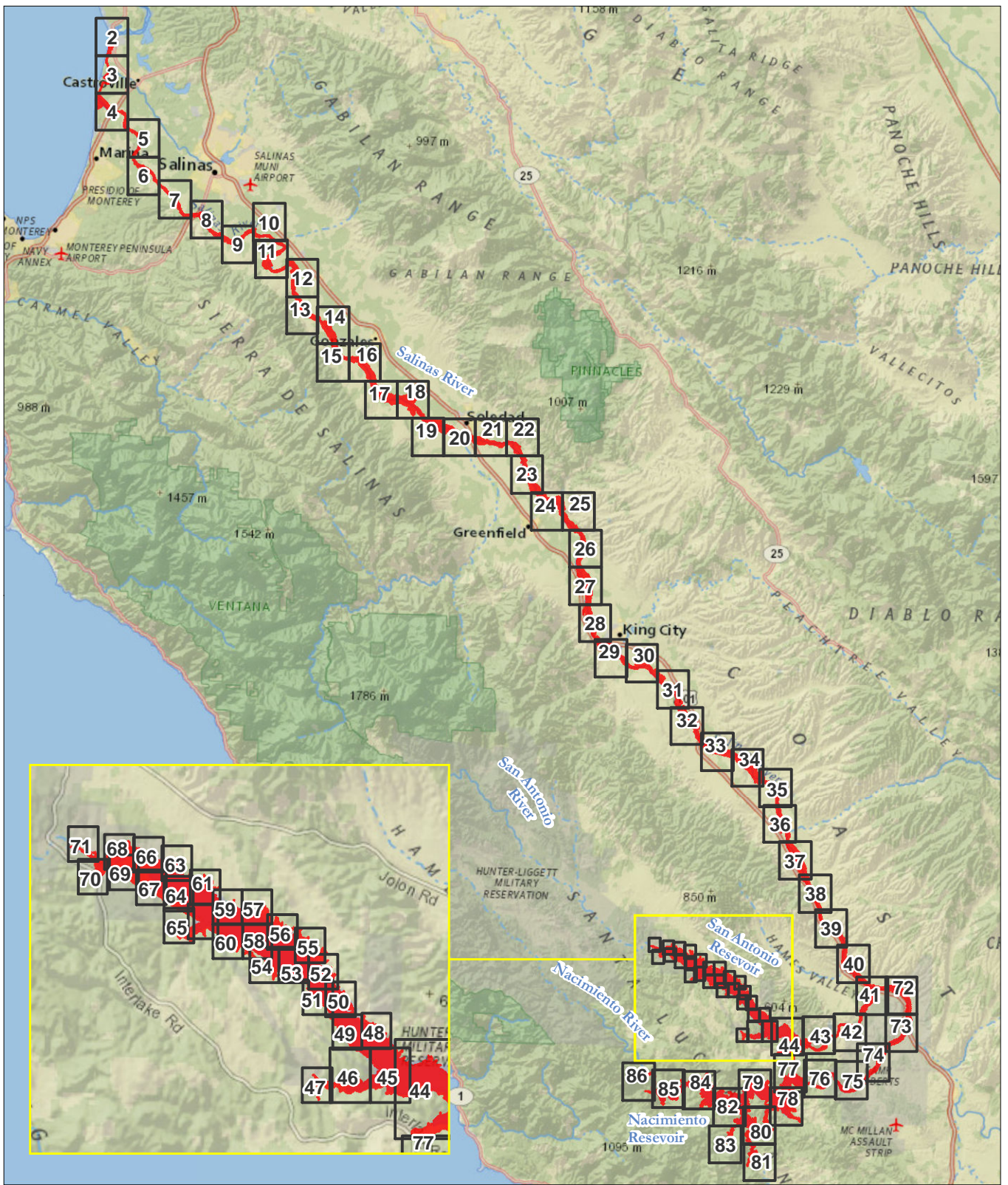
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# Land Cover Mapbook

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- Biological Resources Study Area
- Biological Resources Study Area Map Page

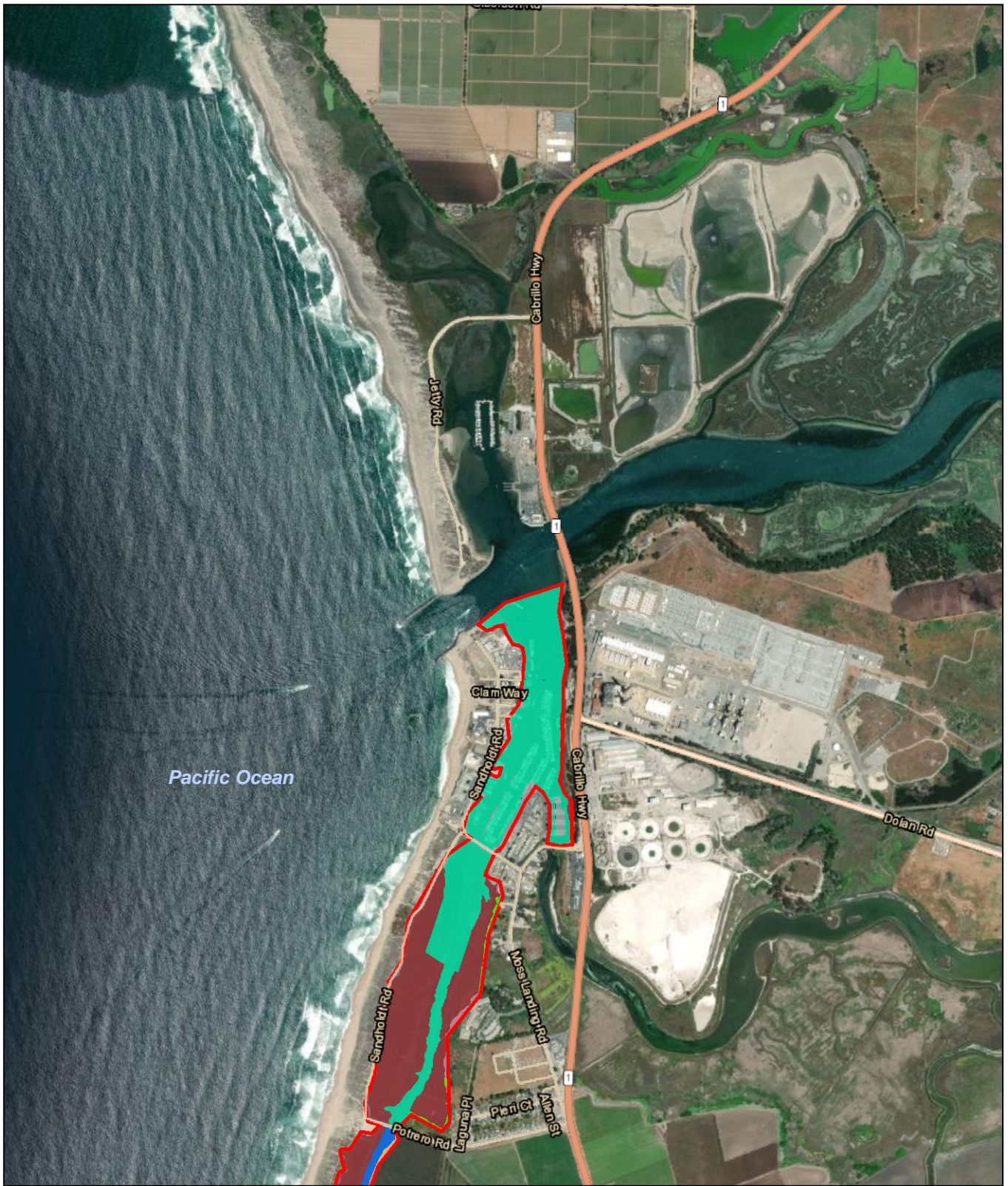
**Appendix E - Index Sheet 1  
Land Cover Mapbook**



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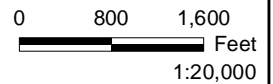
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Source: Basemap, ESRI 2021



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| <b>Land Cover</b>   | <span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black;"></span> Coastal Strand and Dune | <span style="display: inline-block; width: 15px; height: 10px; background-color: #800000; border: 1px solid black;"></span> Northern Coastal Salt Marsh |
| <span style="display: inline-block; width: 15px; height: 10px; background-color: #ffa500; border: 1px solid black;"></span> Agriculture       | <span style="display: inline-block; width: 15px; height: 10px; background-color: #808080; border: 1px solid black;"></span> Developed               | <span style="display: inline-block; width: 15px; height: 10px; background-color: #0000ff; border: 1px solid black;"></span> Riverine                    |
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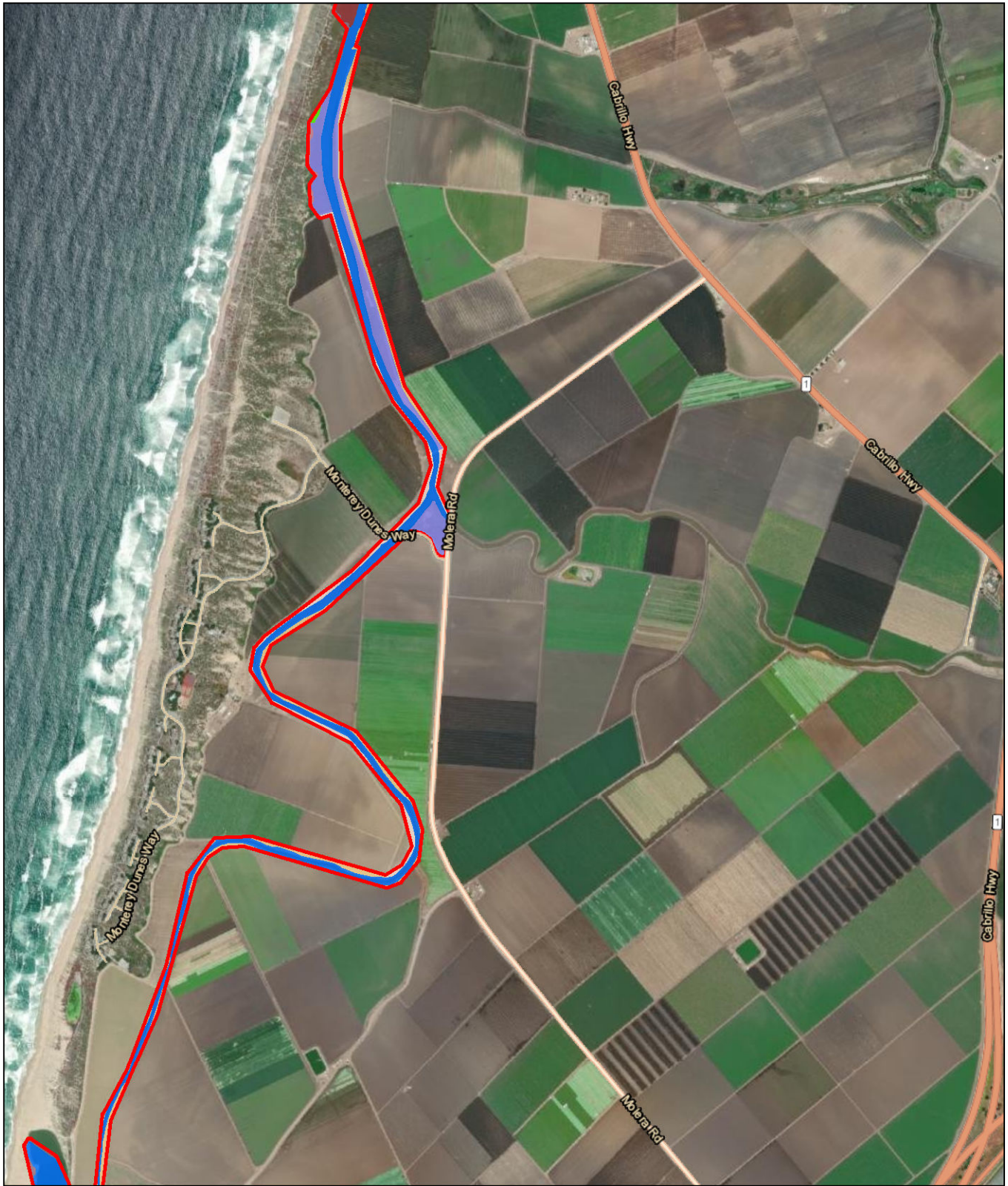
**Appendix E - Sheet 2  
Land Cover Mapbook**



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

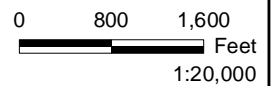


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|---------------------------------|-----------------------------|-----------------------------|
| Biological Resources Study Area | California Annual Grassland | Developed                   |
| <b>Land Cover</b>               | Coastal Brackish Marsh      | Northern Coastal Salt Marsh |
| Agriculture                     | Coastal Scrub               | Riverine                    |
| Barren                          | Coastal Strand and Dune     |                             |

### Appendix E - Sheet 3 Land Cover Mapbook

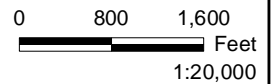


Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.



Biological Resources Study Area	Coastal Scrub	Lacustrine
<b>Land Cover</b>	Coastal Strand and Dune	Mixed Riparian Forest and Woodland
Agriculture	Developed	Northern Coastal Salt Marsh
Barren	Forest and Woodland	Riverine
California Annual Grassland	Freshwater Emergent Wetland	Giant Reed Thickets
Coastal Brackish Marsh		

**Appendix E - Sheet 4  
Land Cover Mapbook**



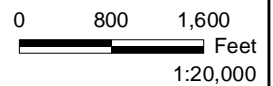
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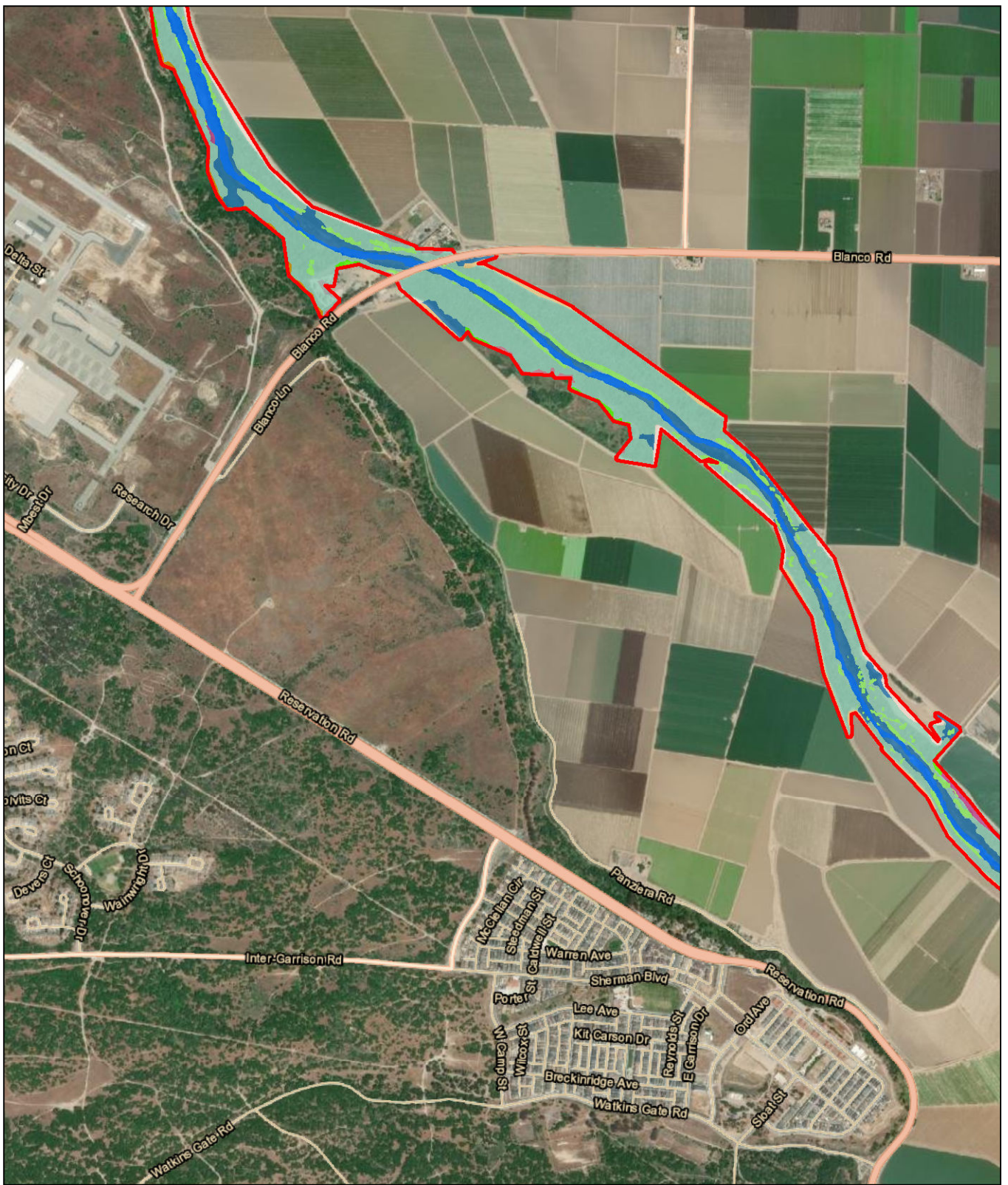
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| Biological Resources Study Area | California Annual Grassland | Mixed Riparian Forest and Woodland |
| <b>Land Cover</b>               | Developed                   | Riverine                           |
| Agriculture                     | Freshwater Emergent Wetland | Giant Reed Thickets                |
| Barren                          |                             |                                    |

### Appendix E - Sheet 5 Land Cover Mapbook



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

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| <span style="border: 2px solid red; padding: 2px;"> </span> Biological Resources Study   | <span style="display: inline-block; width: 15px; height: 10px; background-color: #d9ead3; border: 1px solid #ccc;"></span> Coastal Scrub               | <span style="display: inline-block; width: 15px; height: 10px; background-color: #e74c3c; border: 1px solid #ccc;"></span> Lacustrine                         |
| <b>Land Cover</b>  | <span style="display: inline-block; width: 15px; height: 10px; background-color: #f0f0f0; border: 1px solid #ccc;"></span> Developed                   | <span style="display: inline-block; width: 15px; height: 10px; background-color: #27ae60; border: 1px solid #ccc;"></span> Mixed Riparian Forest and Woodland |
| <span style="display: inline-block; width: 15px; height: 10px; background-color: #fff2cc; border: 1px solid #ccc;"></span> Agriculture       | <span style="display: inline-block; width: 15px; height: 10px; background-color: #f1c40f; border: 1px solid #ccc;"></span> Forest and Woodland         | <span style="display: inline-block; width: 15px; height: 10px; background-color: #2980b9; border: 1px solid #ccc;"></span> Riverine                           |
| <span style="display: inline-block; width: 15px; height: 10px; background-color: #f4cccc; border: 1px solid #ccc;"></span> Barren            | <span style="display: inline-block; width: 15px; height: 10px; background-color: #27ae60; border: 1px solid #ccc;"></span> Freshwater Emergent Wetland | <span style="display: inline-block; width: 15px; height: 10px; background-color: #27ae60; border: 1px solid #ccc;"></span> Giant Reed Thickets                |
| <span style="display: inline-block; width: 15px; height: 10px; background-color: #27ae60; border: 1px solid #ccc;"></span> California Annual |  |   |

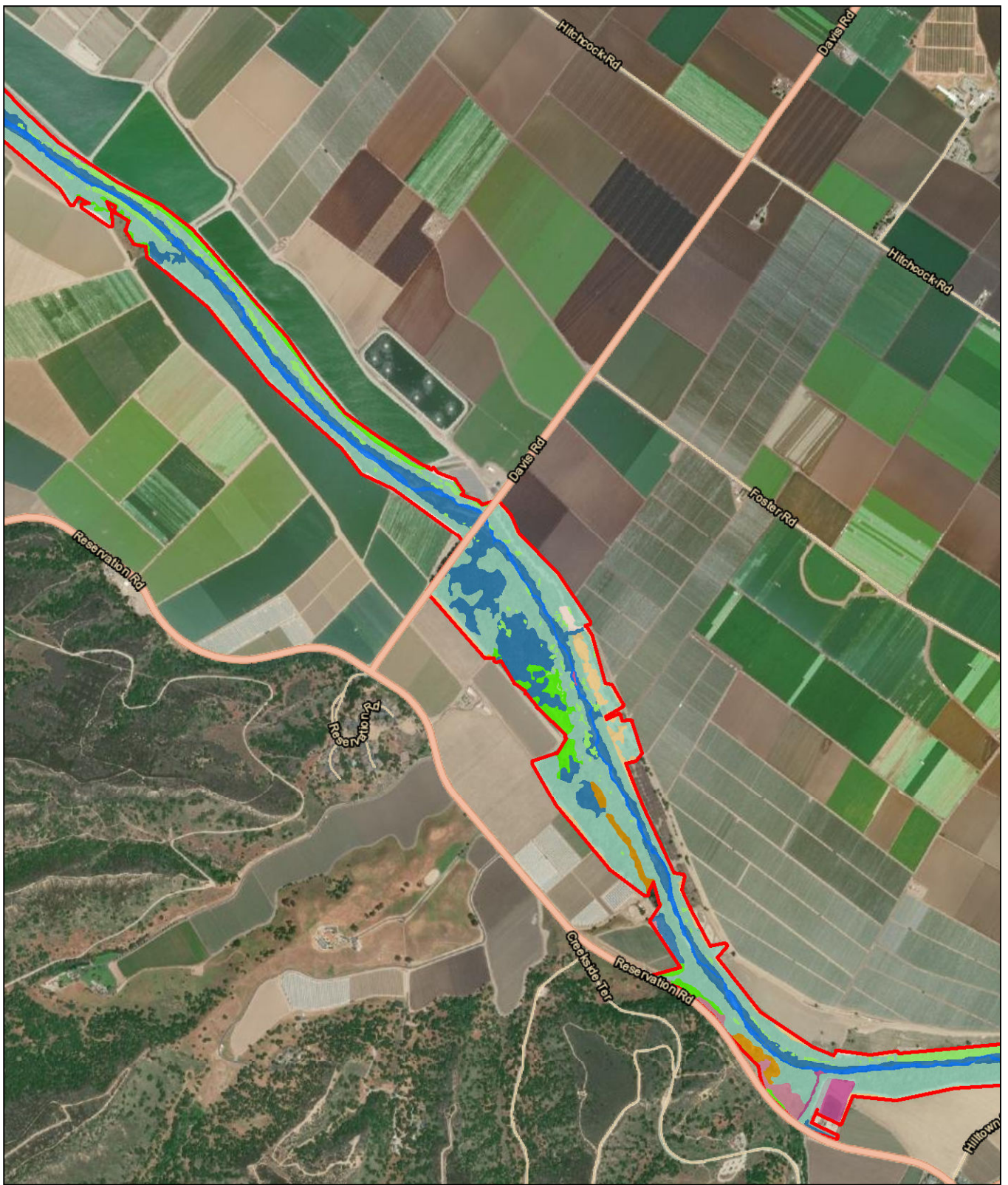
**Appendix E - Sheet 6  
Land Cover Mapbook**

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Feet  
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Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

IPDC\OTR\G60\Projects - \County of Monterey\00171 - 19 Interfac\Tran\all\Figures\Doc\EIR\_1 - DEIR\01\_ADEIR\AppendixE\_BioStudyArea\_LandCover.mxd User: 25119 Date: 10/27/2022



- |                                 |                             |                                    |
|---------------------------------|-----------------------------|------------------------------------|
| Biological Resources Study Area | Coastal Scrub               | Lacustrine                         |
| <b>Land Cover</b>               | Developed                   | Mixed Riparian Forest and Woodland |
| Agriculture                     | Forest and Woodland         | Riverine                           |
| Barren                          | Freshwater Emergent Wetland | Giant Reed Thickets                |
| California Annual Grassland     | Giant Reed Thickets         |                                    |

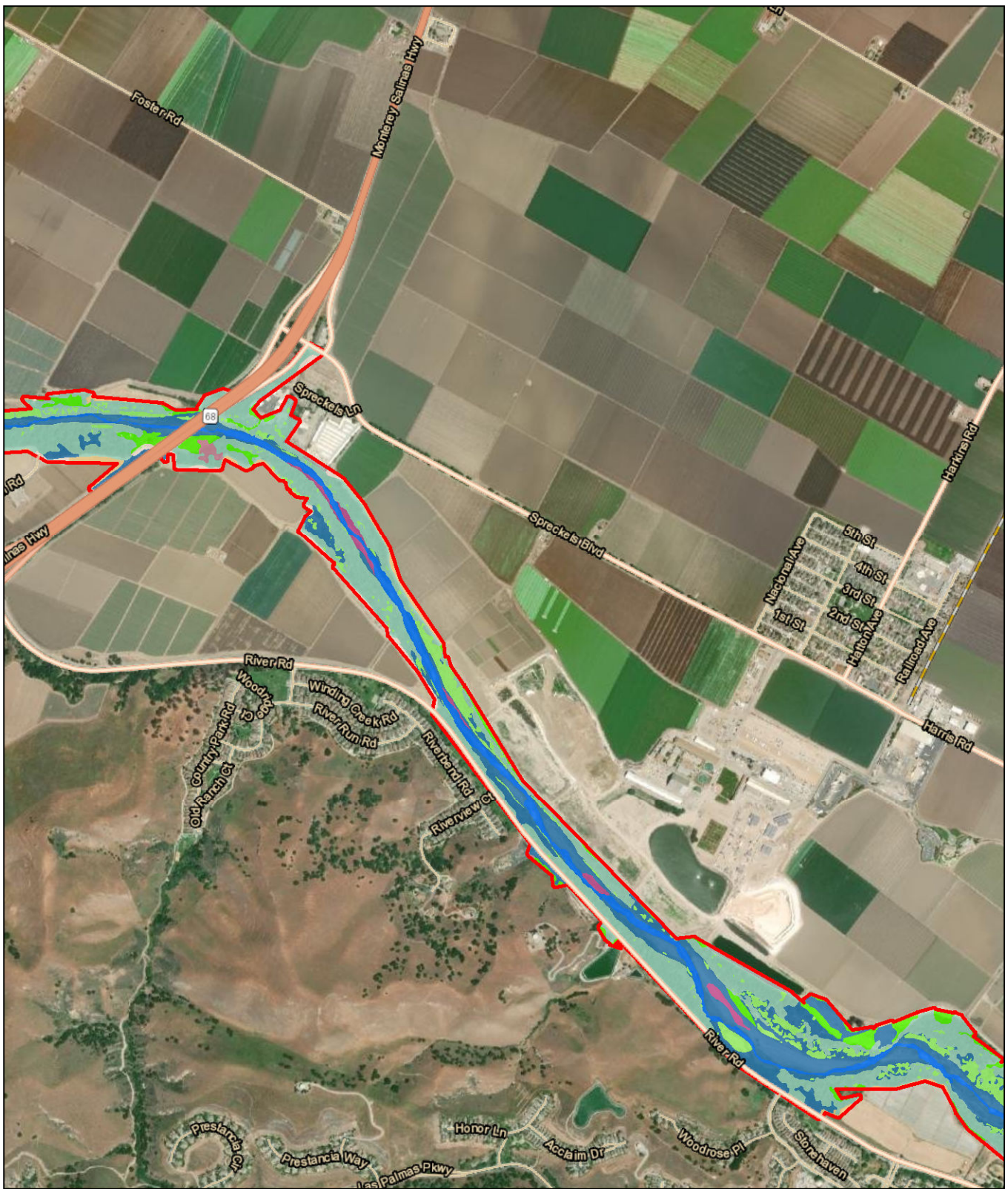
### Appendix E - Sheet 7 Land Cover Mapbook

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Feet  
1:20,000



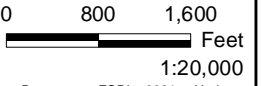
Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

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- |                                 |                             |                                    |
|---------------------------------|-----------------------------|------------------------------------|
| Biological Resources Study Area | Coastal Scrub               | Lacustrine                         |
| <b>Land Cover</b>               | Developed                   | Mixed Riparian Forest and Woodland |
| Agriculture                     | Forest and Woodland         | Riverine                           |
| Barren                          | Freshwater Emergent Wetland | Giant Reed Thickets                |
| California Annual Grassland     | Giant Reed Thickets         |                                    |

**Appendix E - Sheet 8  
Land Cover Mapbook**



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

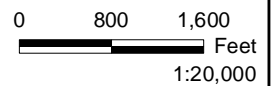


\\PDC\OTRSD\GIS\Projects - \County of Monterey\00171 - 19 InterfacialTransect\Figures\Doc\EIR\_1 - ADEIR\AppendixE - BioStudy\Area - LandCover.mxd User: 25119 Date: 10/27/2022



- |                            |                             |                                    |
|----------------------------|-----------------------------|------------------------------------|
| Biological Resources Study | Barren                      | Giant Reed Thickets                |
| <b>Land Cover</b>          | California Annual           | Mixed Riparian Forest and Woodland |
| Agriculture                | Freshwater Emergent Wetland | Riverine                           |

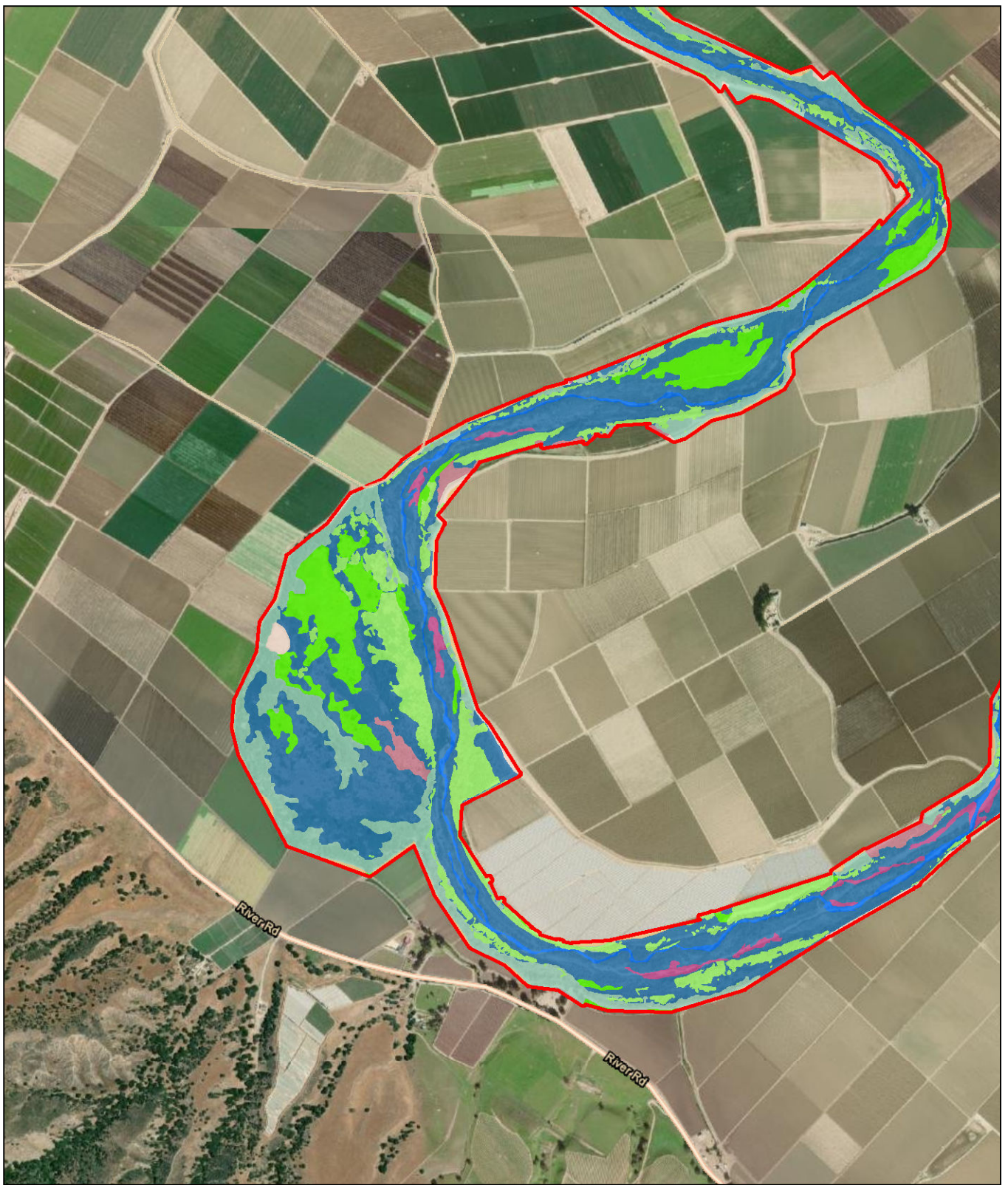
### Appendix E - Sheet 10 Land Cover Mapbook




Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.






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 Biological Resources Study



**Land Cover**

-  Agriculture
-  Barren
-  California Annual

 Coastal Scrub

-  Developed
-  Forest and Woodland
-  Freshwater Emergent Wetland
-  Giant Reed Thickets

 Lacustrine

-  Mixed Riparian Forest and Woodland
-  Riverine

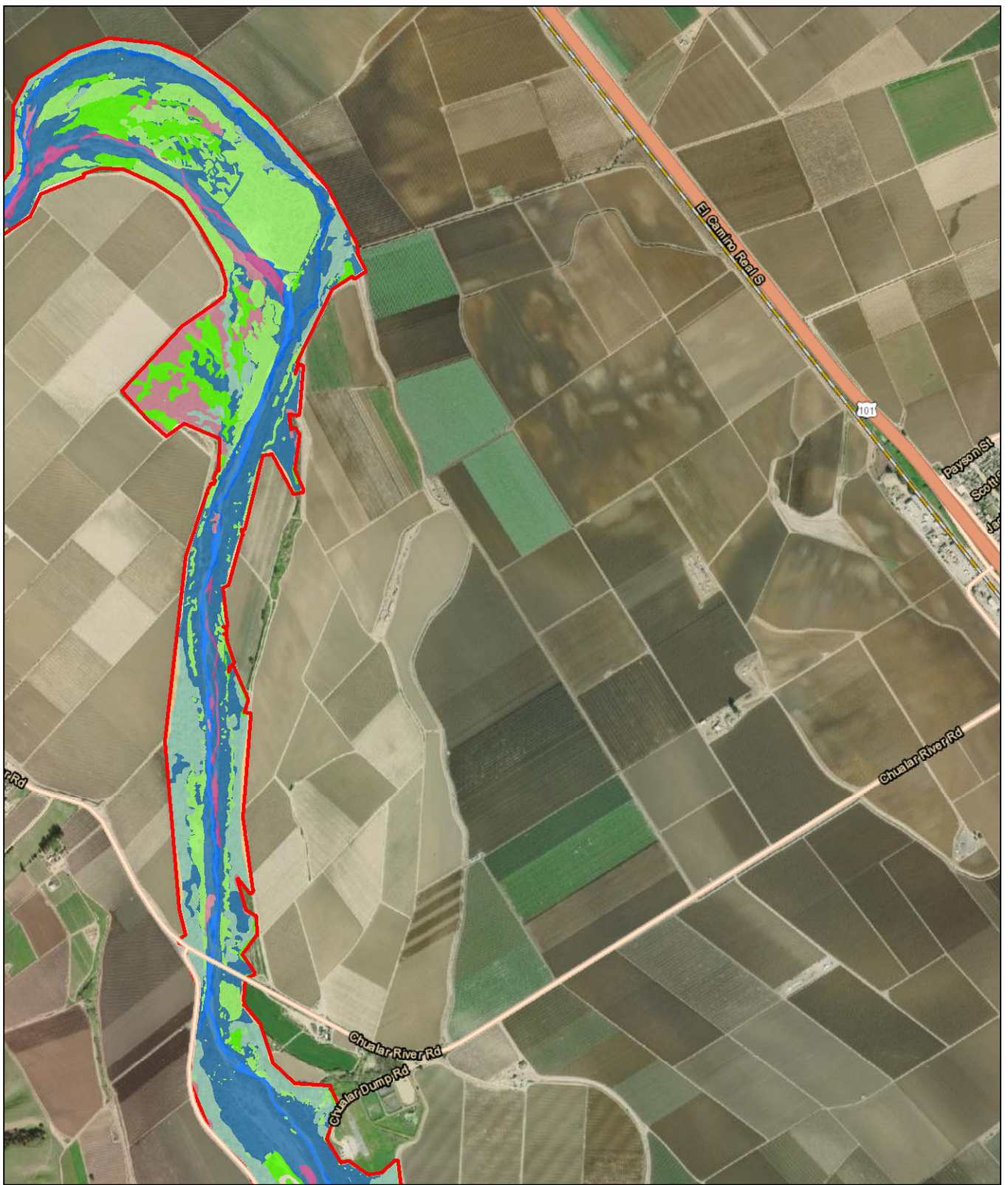
**Appendix E - Sheet 11  
Land Cover Mapbook**

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Feet  
1:20,000



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

\\PDC\GIS\Projects\1\County of Monterey\00171\_19\_InterfakTunnel\Figures\Doc\EIR\_1\_DEIR\01\_ADEIR\AppendixE\_BioStudy\Area\_LandCover.mxd User: 25119 Date: 10/27/2022



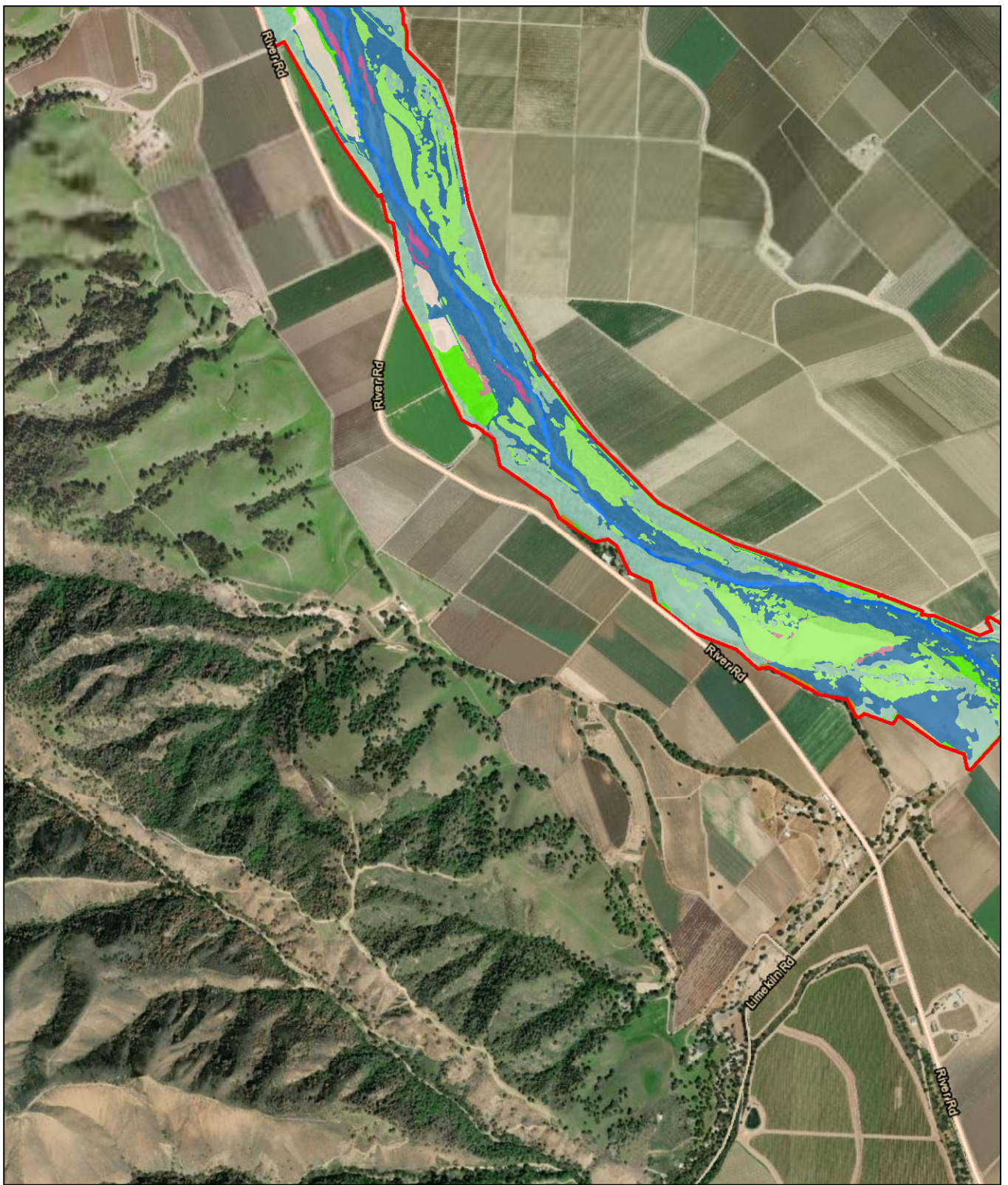
- Biological Resources Study Area
- California Annual Grassland
- Giant Reed Thickets
- Land Cover
- Agriculture
- Coastal Scrub
- Developed
- Lacustrine
- Barren
- Freshwater Emergent Wetland
- Riverine
- Mixed Riparian Forest and Woodland


### Appendix E - Sheet 12 Land Cover Mapbook

0 800 1,600  
Feet  
1:20,000








Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.



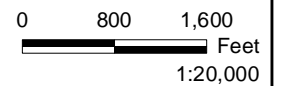
 Biological Resources Study

**Land Cover**

-  Agriculture
-  Barren
-  California Annual

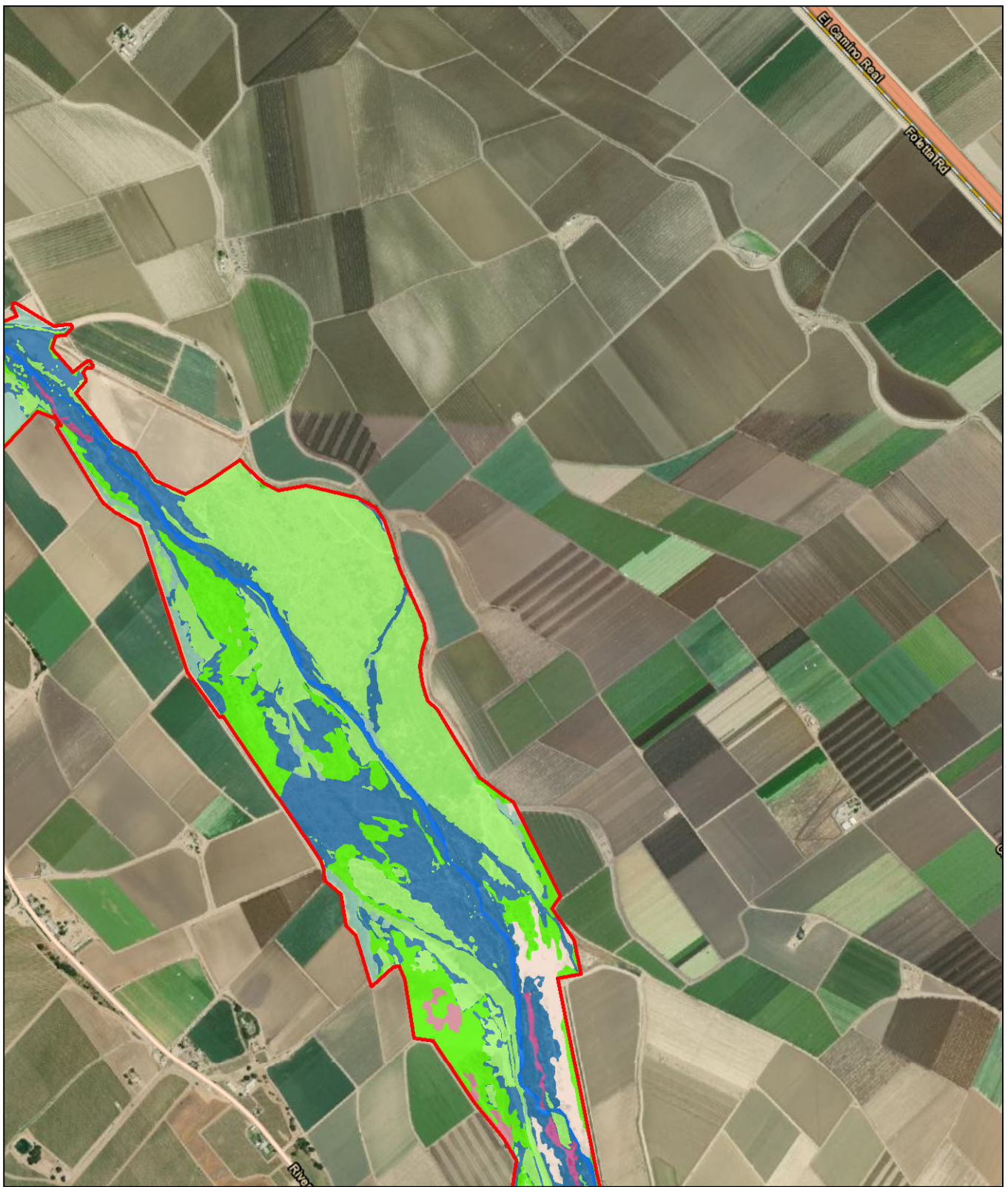
-  Coastal Scrub
-  Developed
-  Forest and Woodland
-  Freshwater Emergent Wetland
-  Giant Reed Thickets
-  Lacustrine
-  Mixed Riparian Forest and Woodland
-  Riverine

**Appendix E - Sheet 13  
Land Cover Mapbook**



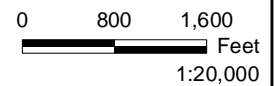
Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

\\PDC\GIS\Projects - \County of Monterey\00171 - 19 InterfacialTunnel\Figures\Doc\EIR1 - DEIR\01\_ADEIR\AppendixE\_BioStudyArea\_LandCover.mxd User: 25119 Date: 10/27/2022

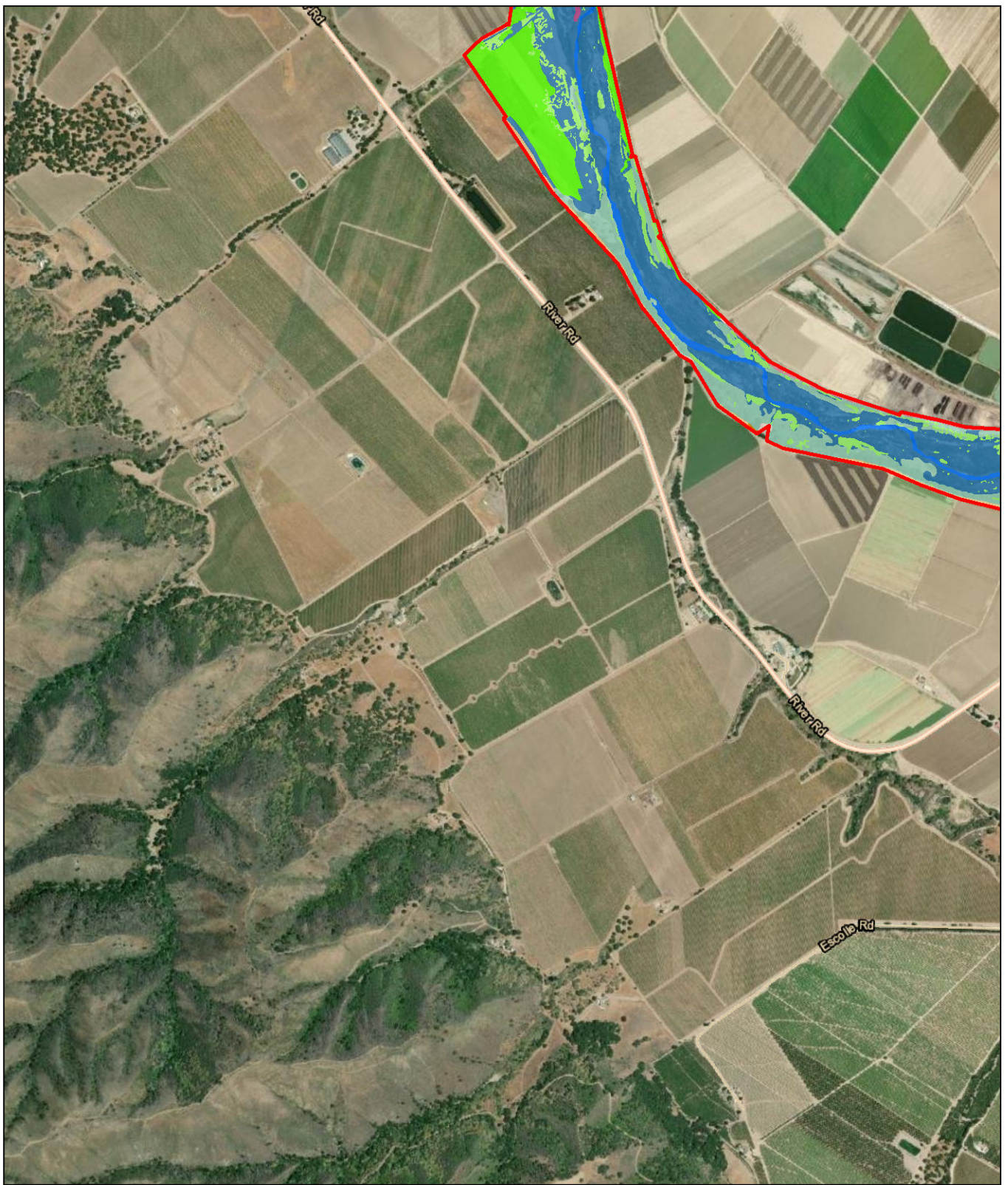


- |                                 |                             |                                    |
|---------------------------------|-----------------------------|------------------------------------|
| Biological Resources Study Area | California Annual Grassland | Lacustrine                         |
| <b>Land Cover</b>               | Coastal Scrub               | Mixed Riparian Forest and Woodland |
| Agriculture                     | Freshwater Emergent Wetland | Riverine                           |
| Barren                          | Giant Reed Thickets         |                                    |

### Appendix E - Sheet 14 Land Cover Mapbook

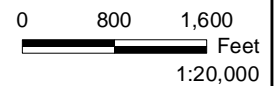


Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.



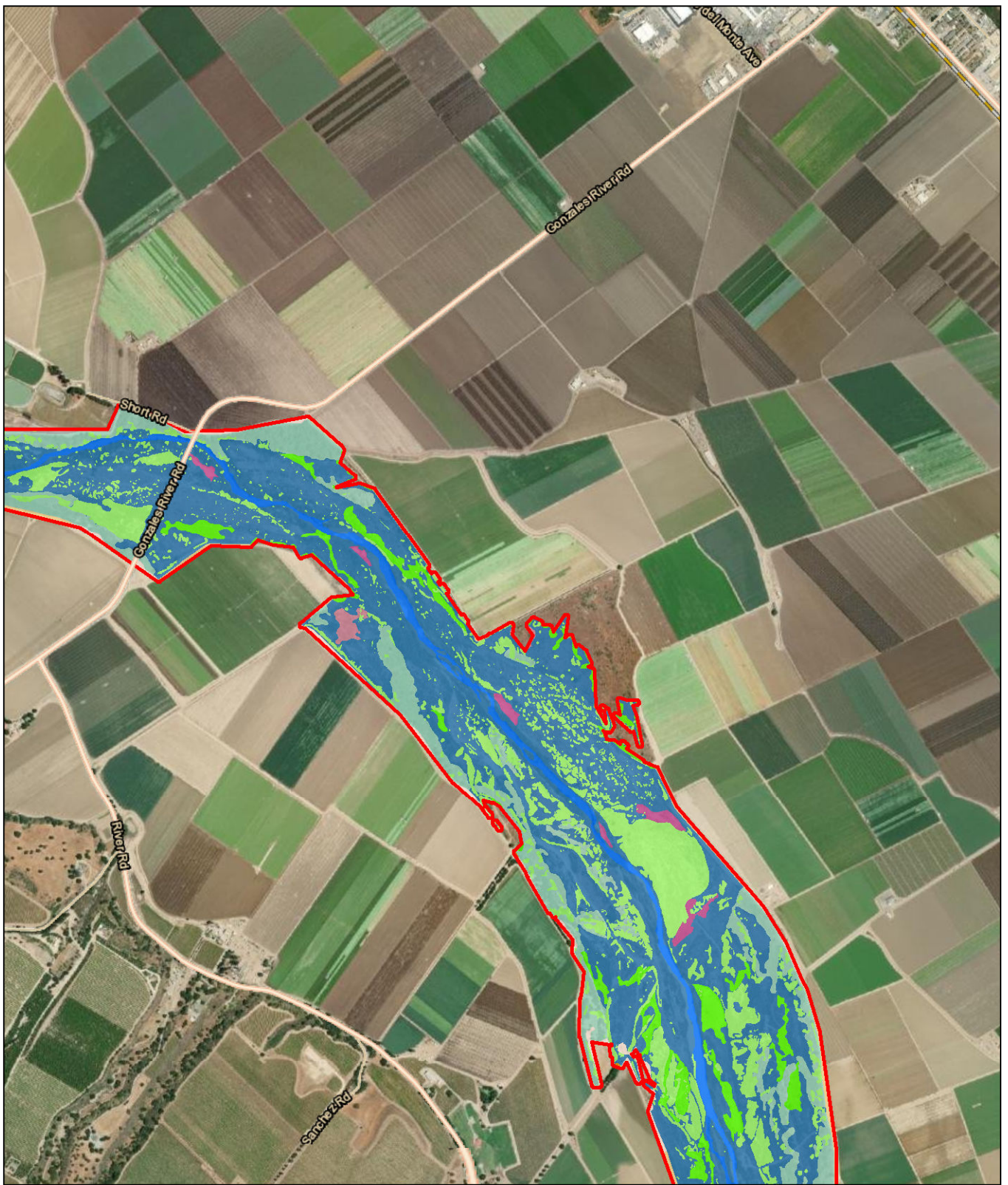
- |                            |                             |                                    |
|----------------------------|-----------------------------|------------------------------------|
| Biological Resources Study | Coastal Scrub               | Lacustrine                         |
| <b>Land Cover</b>          | Developed                   | Mixed Riparian Forest and Woodland |
| Agriculture                | Forest and Woodland         | Riverine                           |
| Barren                     | Freshwater Emergent Wetland | Giant Reed Thickets                |
| California Annual          |                             |                                    |

### Appendix E - Sheet 15 Land Cover Mapbook



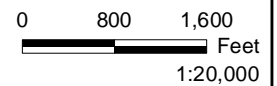
Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

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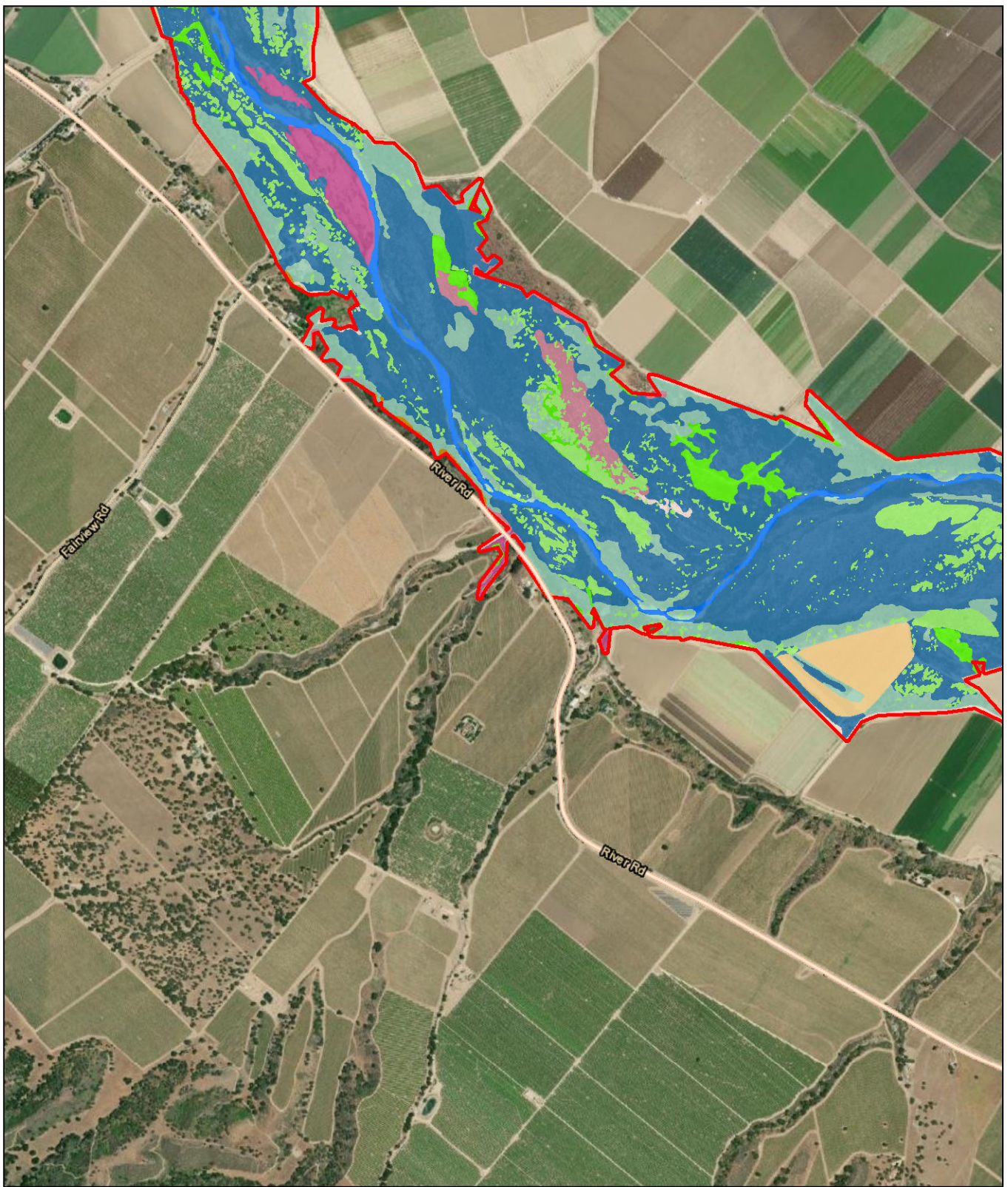
- |                                 |                             |                                    |
|---------------------------------|-----------------------------|------------------------------------|
| Biological Resources Study Area | Coastal Scrub               | Lacustrine                         |
| <b>Land Cover</b>               | Developed                   | Mixed Riparian Forest and Woodland |
| Agriculture                     | Forest and Woodland         | Riverine                           |
| Barren                          | Freshwater Emergent Wetland | Giant Reed Thickets                |
| California Annual Grassland     |                             |                                    |

### Appendix E - Sheet 16 Land Cover Mapbook



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

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- |                                 |                             |                                    |
|---------------------------------|-----------------------------|------------------------------------|
| Biological Resources Study Area | Coastal Scrub               | Lacustrine                         |
| <b>Land Cover</b>               | Developed                   | Mixed Riparian Forest and Woodland |
| Agriculture                     | Forest and Woodland         | Riverine                           |
| Barren                          | Freshwater Emergent Wetland | Giant Reed Thickets                |
| California Annual Grassland     |                             |                                    |

### Appendix E - Sheet 17 Land Cover Mapbook

0 800 1,600  
Feet  
1:20,000



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

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- |                                 |                             |                                    |
|---------------------------------|-----------------------------|------------------------------------|
| Biological Resources Study Area | California Annual Grassland | Giant Reed Thickets                |
| <b>Land Cover</b>               | Coastal Scrub               | Lacustrine                         |
| Agriculture                     | Forest and Woodland         | Mixed Riparian Forest and Woodland |
| Barren                          | Freshwater Emergent Wetland | Riverine                           |

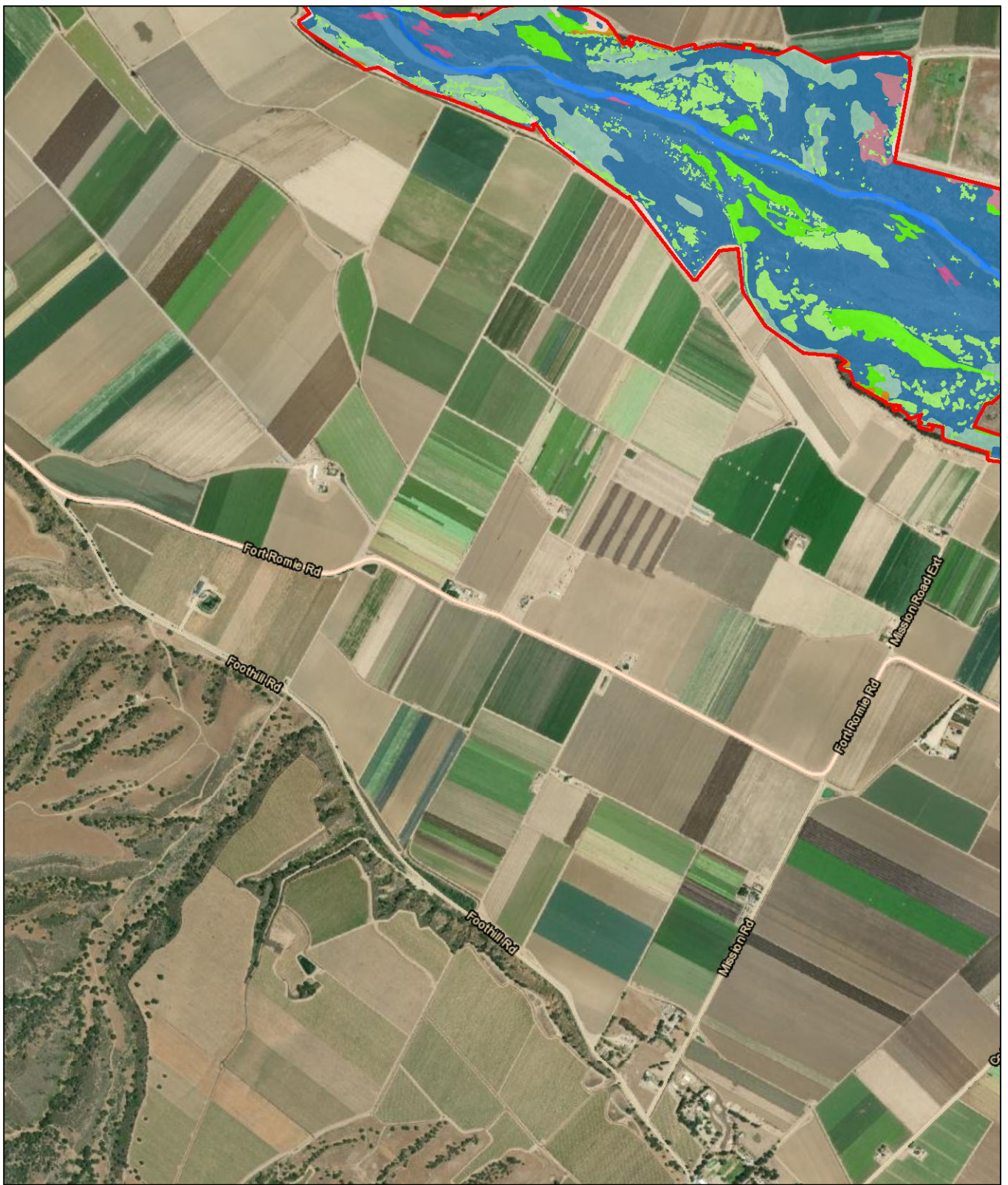
### Appendix E - Sheet 18 Land Cover Mapbook

0 800 1,600  
Feet  
1:20,000



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.





**Biological Resources Study**

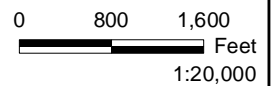
**Land Cover**

- Agriculture
- Barren

- California Annual
- Coastal Scrub
- Forest and Woodland
- Freshwater Emergent Wetland

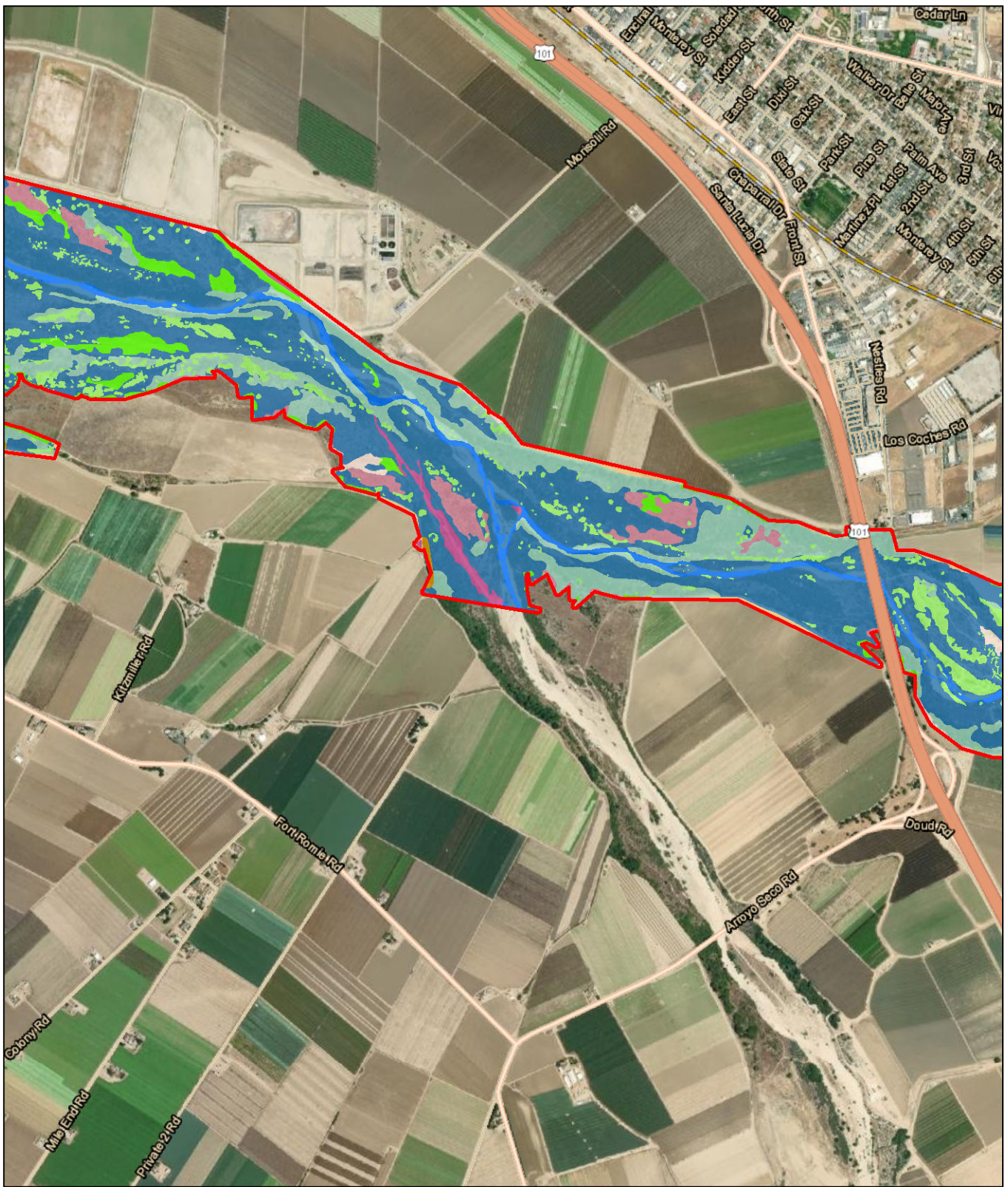
- Giant Reed Thickets
- Lacustrine
- Mixed Riparian Forest and Woodland
- Riverine

**Appendix E - Sheet 19  
Land Cover Mapbook**



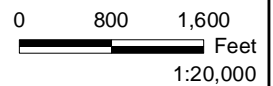
Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

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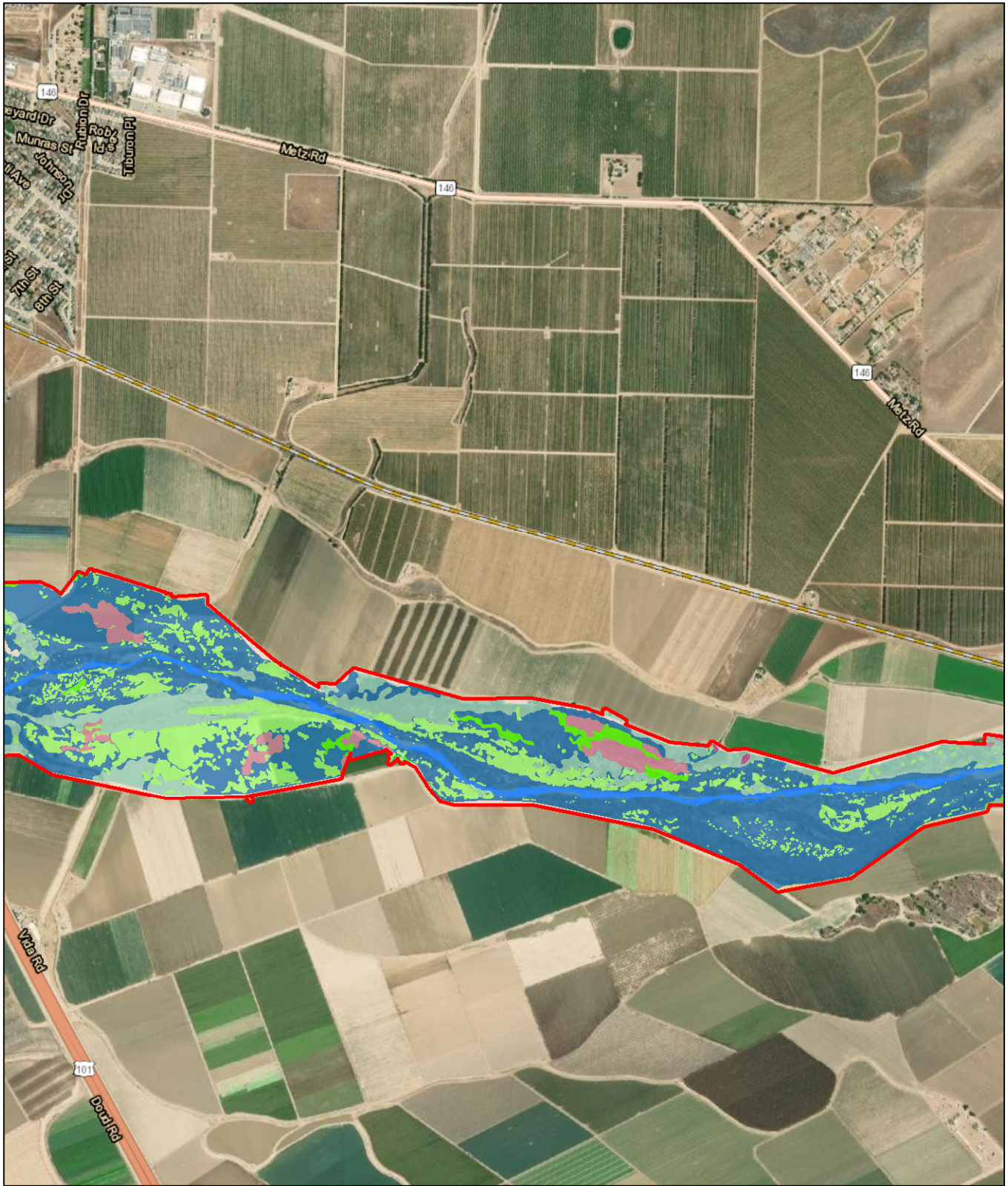
- |                            |                             |                                    |
|----------------------------|-----------------------------|------------------------------------|
| Biological Resources Study | Coastal Scrub               | Lacustrine                         |
| <b>Land Cover</b>          | Developed                   | Mixed Riparian Forest and Woodland |
| Agriculture                | Forest and Woodland         | Riverine                           |
| Barren                     | Freshwater Emergent Wetland | Giant Reed Thickets                |
| California Annual          |                             |                                    |

**Appendix E - Sheet 20  
Land Cover Mapbook**



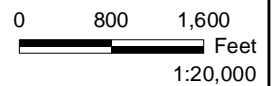
Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

\\PDC\GIS\Projects\_1\County of Monterey\00171\_19\_InterfakTunnel\Figures\Doc\EIR\_1\_DEIR\01\_ADEIR\AppendixE\_BioStudy\Area\_LandCover.mxd User: 25119 Date: 10/27/2022



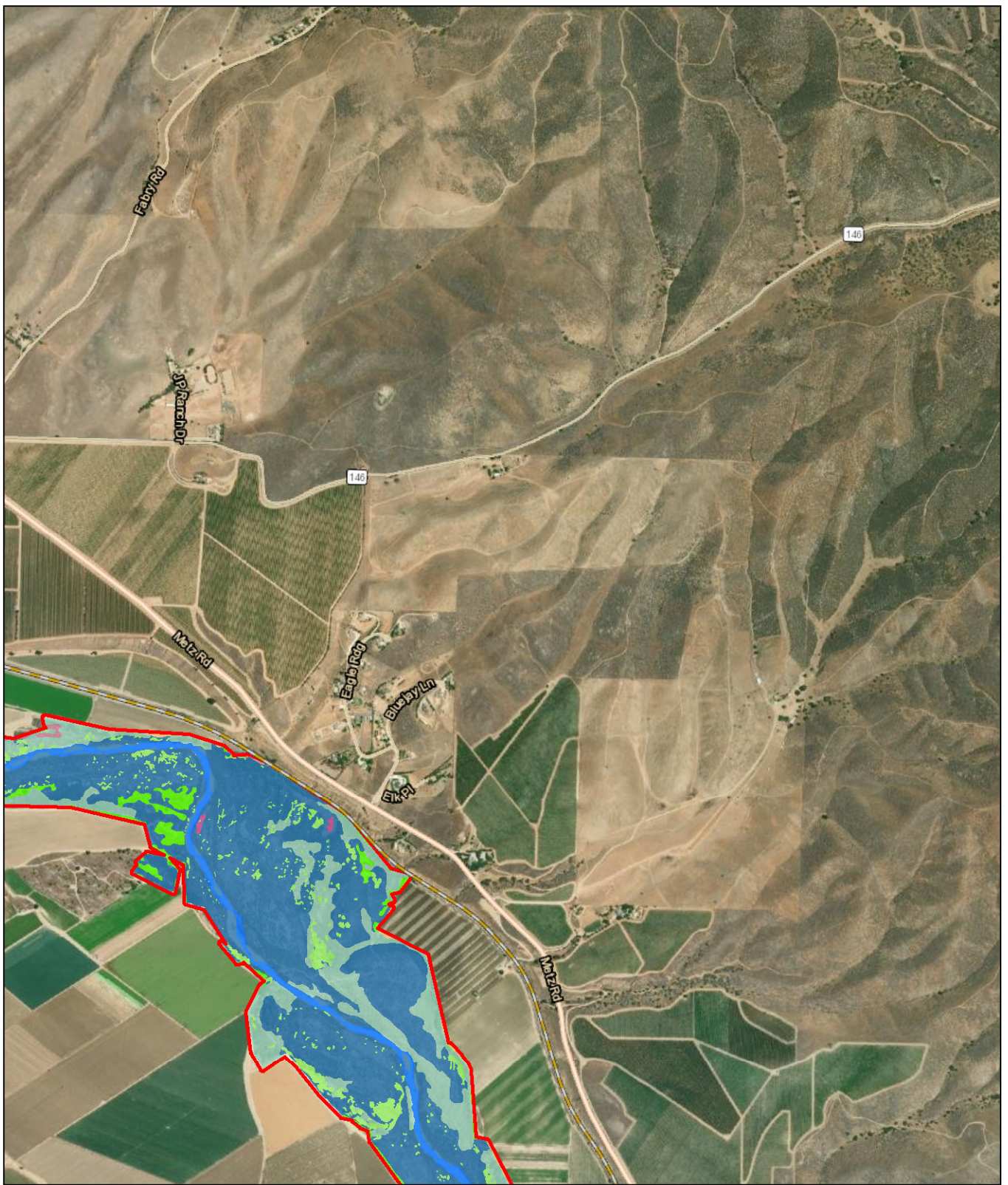
- |                                 |                             |                                    |
|---------------------------------|-----------------------------|------------------------------------|
| Biological Resources Study Area | California Annual Grassland | Lacustrine                         |
| <b>Land Cover</b>               | Coastal Scrub               | Mixed Riparian Forest and Woodland |
| Agriculture                     | Freshwater Emergent Wetland | Riverine                           |
| Barren                          | Giant Reed Thickets         |                                    |


### Appendix E - Sheet 21 Land Cover Mapbook





Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.


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 Biological Resources Study


**Land Cover**


-  Agriculture
-  Barren


 California Annual

 Coastal Scrub

 Freshwater Emergent Wetland

 Giant Reed Thickets

 Lacustrine

 Mixed Riparian Forest and Woodland

 Riverine

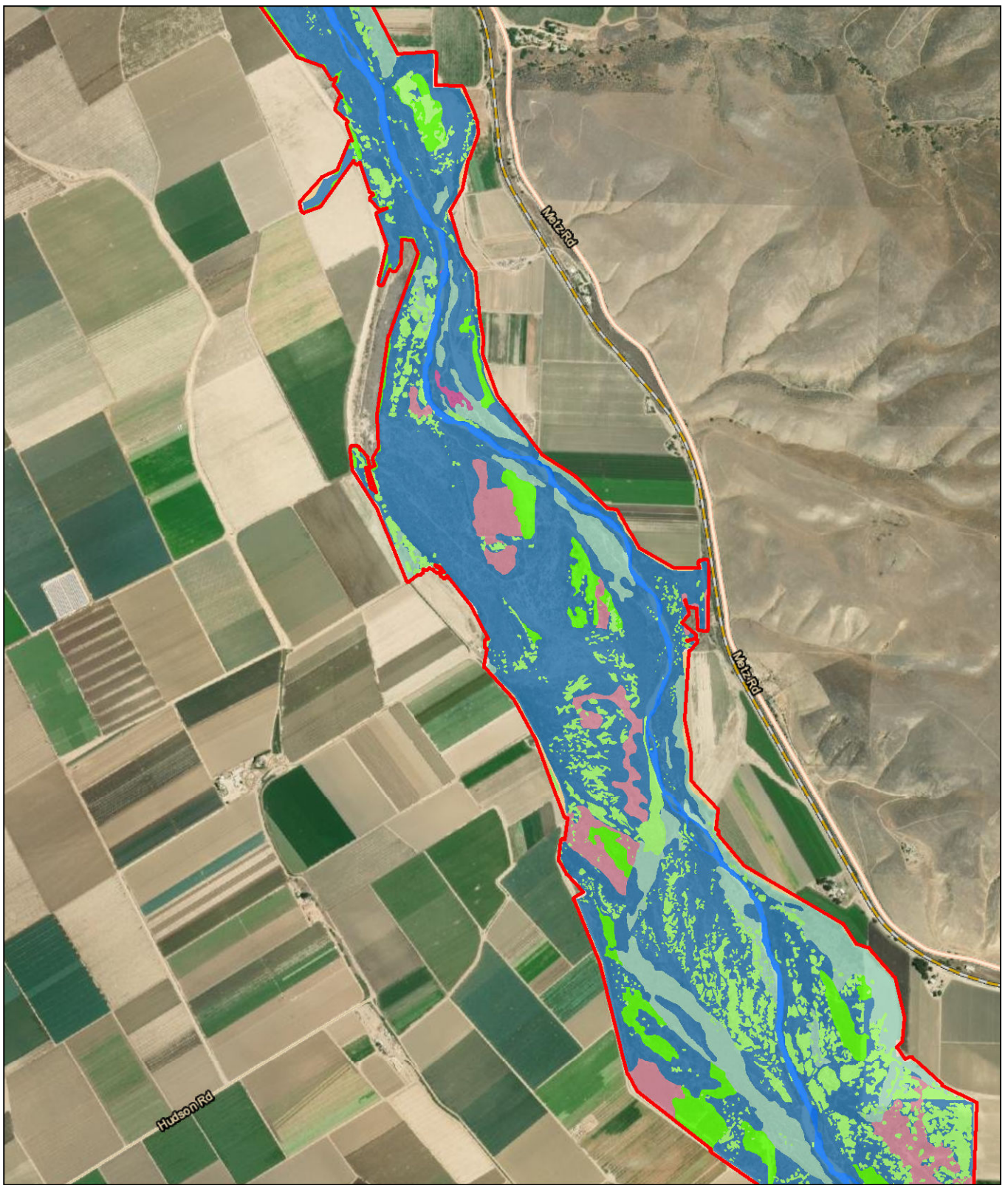
**Appendix E - Sheet 22  
Land Cover Mapbook**

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Feet

1:20,000



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.



- |                            |                             |                                    |
|----------------------------|-----------------------------|------------------------------------|
| Biological Resources Study | California Annual           | Lacustrine                         |
| <b>Land Cover</b>          | Coastal Scrub               | Mixed Riparian Forest and Woodland |
| Agriculture                | Freshwater Emergent Wetland | Riverine                           |
| Barren                     | Giant Reed Thickets         |                                    |

### Appendix E - Sheet 23 Land Cover Mapbook

0 800 1,600  
Feet  
1:20,000



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

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|---|---|--|
| <span style="border: 2px solid red; padding: 2px;"> </span> Biological Resources Study  | <span style="background-color: #90EE90; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> California Annual           | <span style="background-color: #90EE90; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Giant Reed Thickets                |
| <b>Land Cover</b>   | <span style="background-color: #FFDAB9; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Coastal Scrub               | <span style="background-color: #FFDAB9; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Lacustrine                         |
| <span style="background-color: #FFD700; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Agriculture | <span style="background-color: #A9A9A9; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Developed                   | <span style="background-color: #ADD8E6; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Mixed Riparian Forest and Woodland |
| <span style="background-color: #D2B48C; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Barren      | <span style="background-color: #4682B4; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Freshwater Emergent Wetland | <span style="background-color: #4169E1; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Riverine                           |

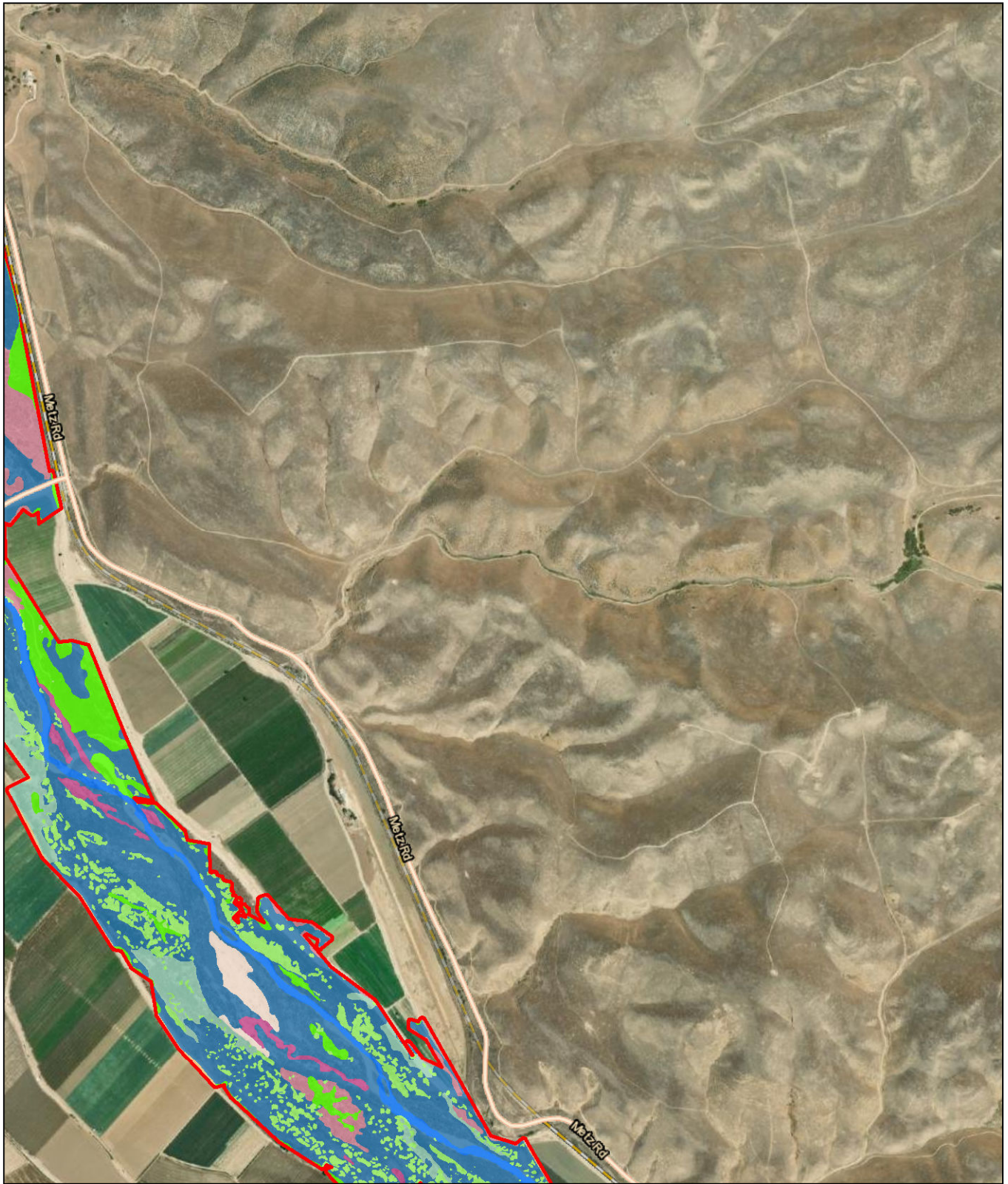
**Appendix E - Sheet 24  
Land Cover Mapbook**


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 Feet  
 1:20,000





Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.


\\PDC\GIS\Projects - \County of Monterey\00171 - 19 InterfacialTunnel\Figures\Doc\EIR1 - DEIR\01\_ADEIR\AppendixE\_BioStudy\Area\_LandCover.mxd User: 25119 Date: 10/27/2022




 Biological Resources Study


**Land Cover**

-  Agriculture
-  Barren


 California Annual


 Coastal Scrub

 Developed

 Freshwater Emergent Wetland

 Giant Reed Thickets

 Lacustrine

 Mixed Riparian Forest and Woodland

 Riverine

**Appendix E - Sheet 25  
Land Cover Mapbook**

0 800 1,600  
Feet


1:20,000





Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

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 Biological Resources Study

**Land Cover**

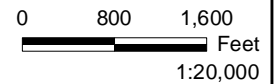
-  Agriculture
-  Barren

 California Annual

-  Coastal Scrub
-  Freshwater Emergent Wetland
-  Giant Reed Thickets

-  Lacustrine
-  Mixed Riparian Forest and Woodland
-  Riverine

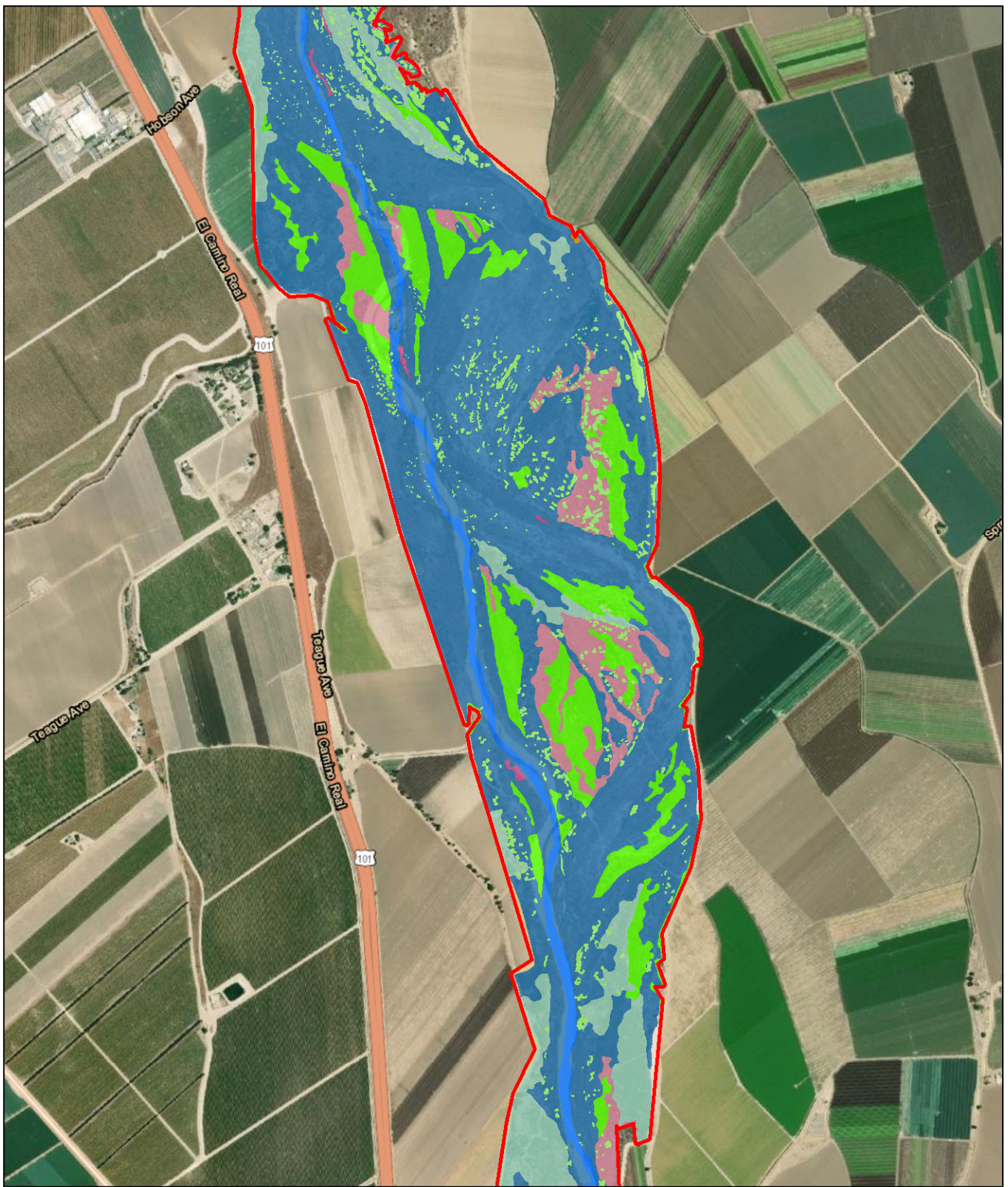
**Appendix E - Sheet 26  
Land Cover Mapbook**



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.



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- |                            |                             |                                    |
|----------------------------|-----------------------------|------------------------------------|
| Biological Resources Study | Coastal Scrub               | Lacustrine                         |
| <b>Land Cover</b>          | Developed                   | Mixed Riparian Forest and Woodland |
| Agriculture                | Forest and Woodland         | Riverine                           |
| Barren                     | Freshwater Emergent Wetland | Giant Reed Thickets                |
| California Annual          |                             |                                    |

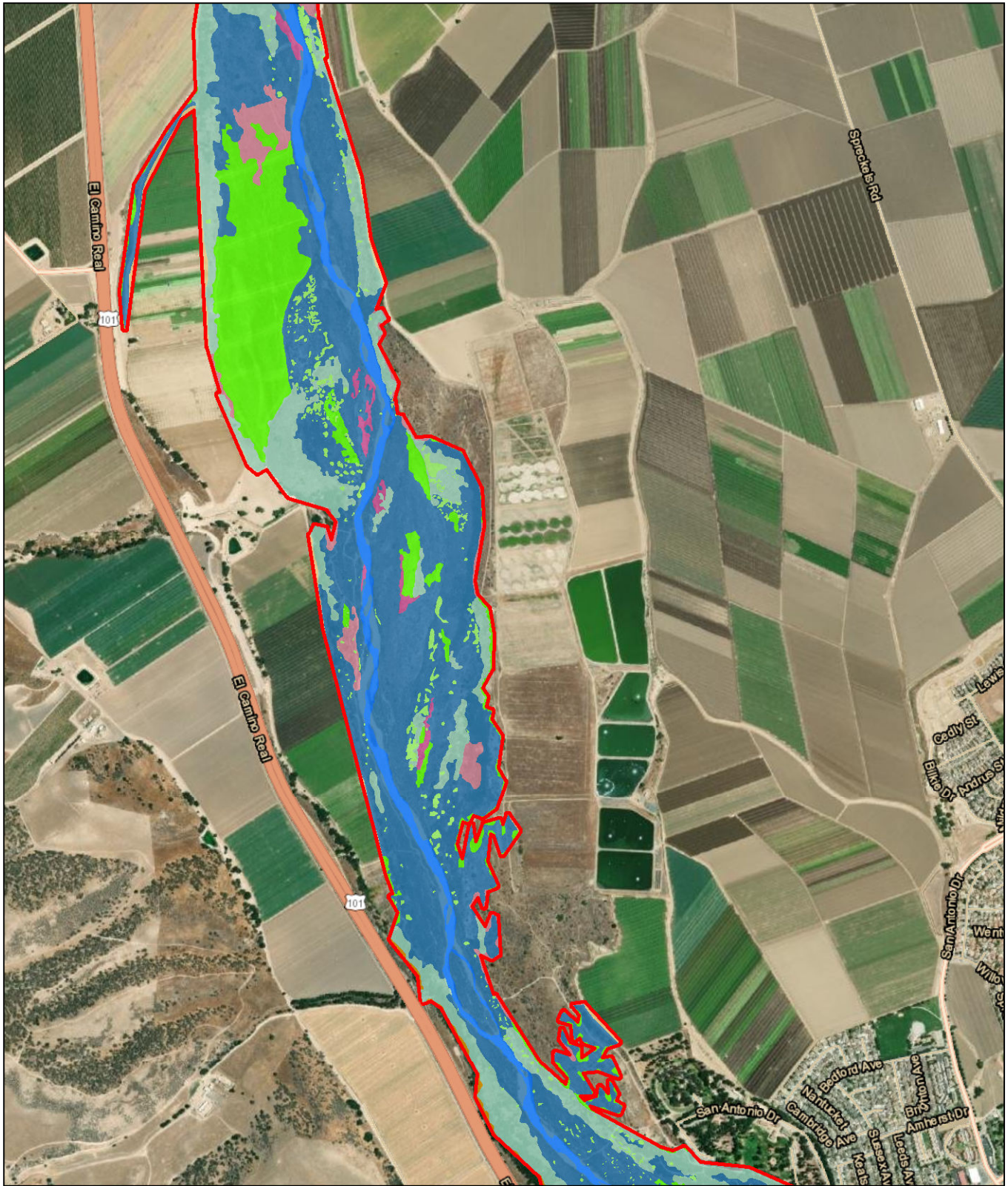
### Appendix E - Sheet 27 Land Cover Mapbook

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Feet  
1:20,000



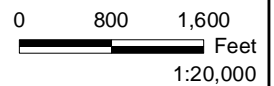
Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

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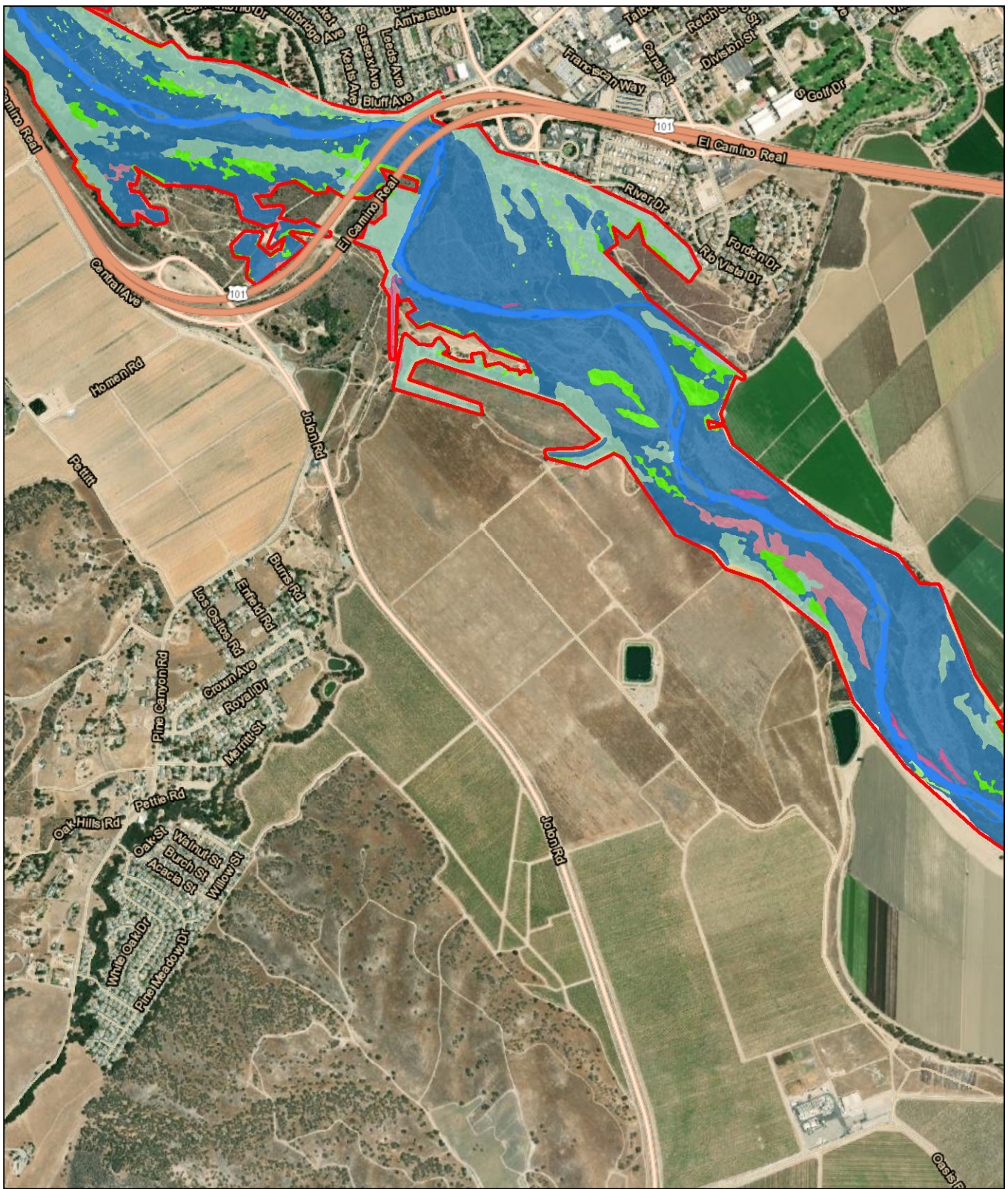
- |                                 |                             |                                    |
|---------------------------------|-----------------------------|------------------------------------|
| Biological Resources Study Area | Coastal Scrub               | Lacustrine                         |
| <b>Land Cover</b>               | Developed                   | Mixed Riparian Forest and Woodland |
| Agriculture                     | Forest and Woodland         | Riverine                           |
| Barren                          | Freshwater Emergent Wetland | Giant Reed Thickets                |
| California Annual Grassland     |                             |                                    |

**Appendix E - Sheet 28  
Land Cover Mapbook**



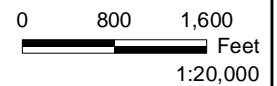
Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

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- |                                 |                     |                                    |
|---------------------------------|---------------------|------------------------------------|
| Biological Resources Study Area | Coastal Scrub       | Lacustrine                         |
| <b>Land Cover</b>               | Developed           | Mixed Riparian Forest and Woodland |
| Agriculture                     | Forest and Woodland | Freshwater Emergent Wetland        |
| Barren                          | Riverine            | Giant Reed Thickets                |
| California Annual Grassland     |                     |                                    |

**Appendix E - Sheet 29  
Land Cover Mapbook**



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

\\PDC\PROD\GIS\Projects - \County of Monterey\00171 - 19 InterfacialTunnel\Figures\Doc\EIR - DEIR\01\_ADEIR\AppendixE\_BioStudyArea\_LandCover.mxd User: 25119 Date: 10/27/2022



- |                                 |                             |                                    |
|---------------------------------|-----------------------------|------------------------------------|
| Biological Resources Study Area | California Annual Grassland | Lacustrine                         |
| <b>Land Cover</b>               | Coastal Scrub               | Mixed Riparian Forest and Woodland |
| Agriculture                     | Freshwater Emergent Wetland | Giant Reed Thickets                |
| Barren                          | Riverine                    |                                    |

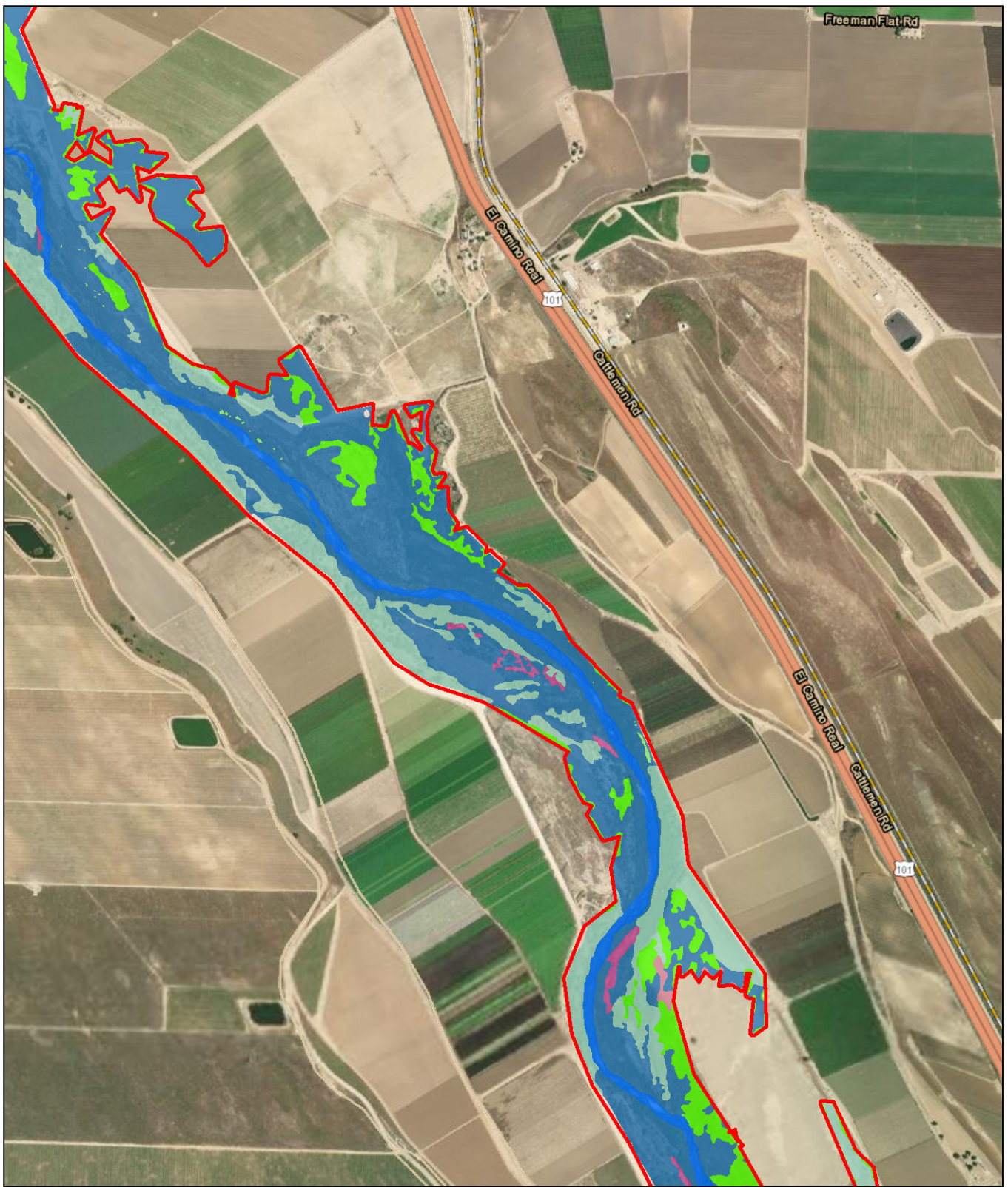
### Appendix E - Sheet 30 Land Cover Mapbook

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Feet  
1:20,000



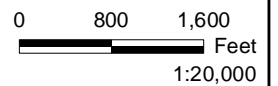
Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

\\PDC\CDR\GIS\Projects - \County of Monterey\00171 - 19 InterfacialTunnel\Figures\Doc\EIR1 - DEIR\01\_ADEIR\AppendixE\_BioStudy\Area\_LandCover.mxd User: 25119 Date: 10/27/2022



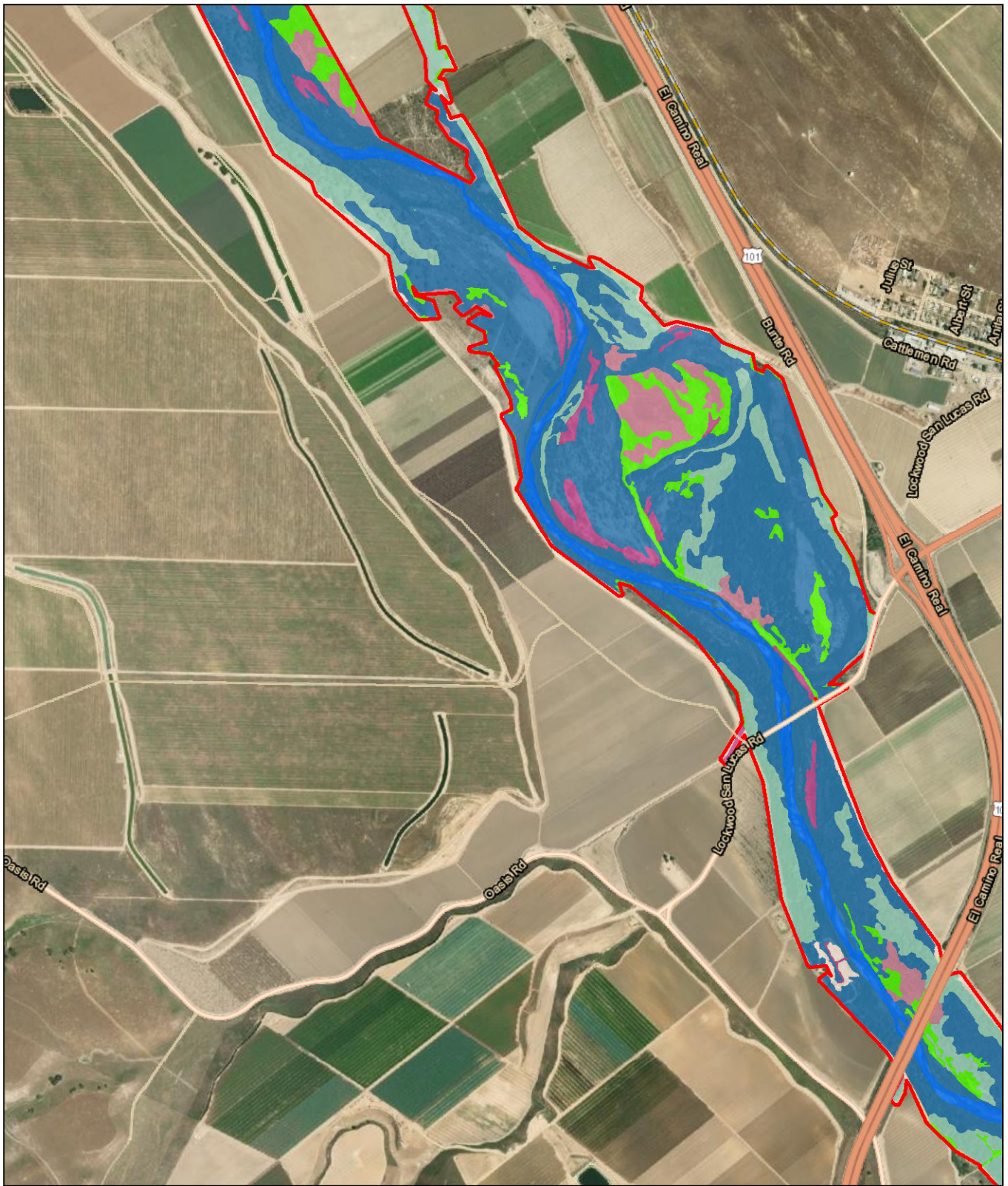
- |                            |                             |                                    |
|----------------------------|-----------------------------|------------------------------------|
| Biological Resources Study | California Annual           | Lacustrine                         |
| <b>Land Cover</b>          | Coastal Scrub               | Mixed Riparian Forest and Woodland |
| Agriculture                | Freshwater Emergent Wetland | Riverine                           |
| Barren                     | Giant Reed Thickets         |                                    |

### Appendix E - Sheet 31 Land Cover Mapbook



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

\\PDC\GIS\Projects - \County of Monterey\00171 - 19 InterfacialTunnellFigures\Doc\ERU1\_DEIR\01\_ADEIR\AppendixE\_BioStudy\Area\_LandCover.mxd User: 25119 Date: 10/27/2022



- |                            |                             |                                    |
|----------------------------|-----------------------------|------------------------------------|
| Biological Resources Study | California Annual           | Lacustrine                         |
| <b>Land Cover</b>          | Coastal Scrub               | Mixed Riparian Forest and Woodland |
| Agriculture                | Freshwater Emergent Wetland | Riverine                           |
| Barren                     | Giant Reed Thickets         |                                    |

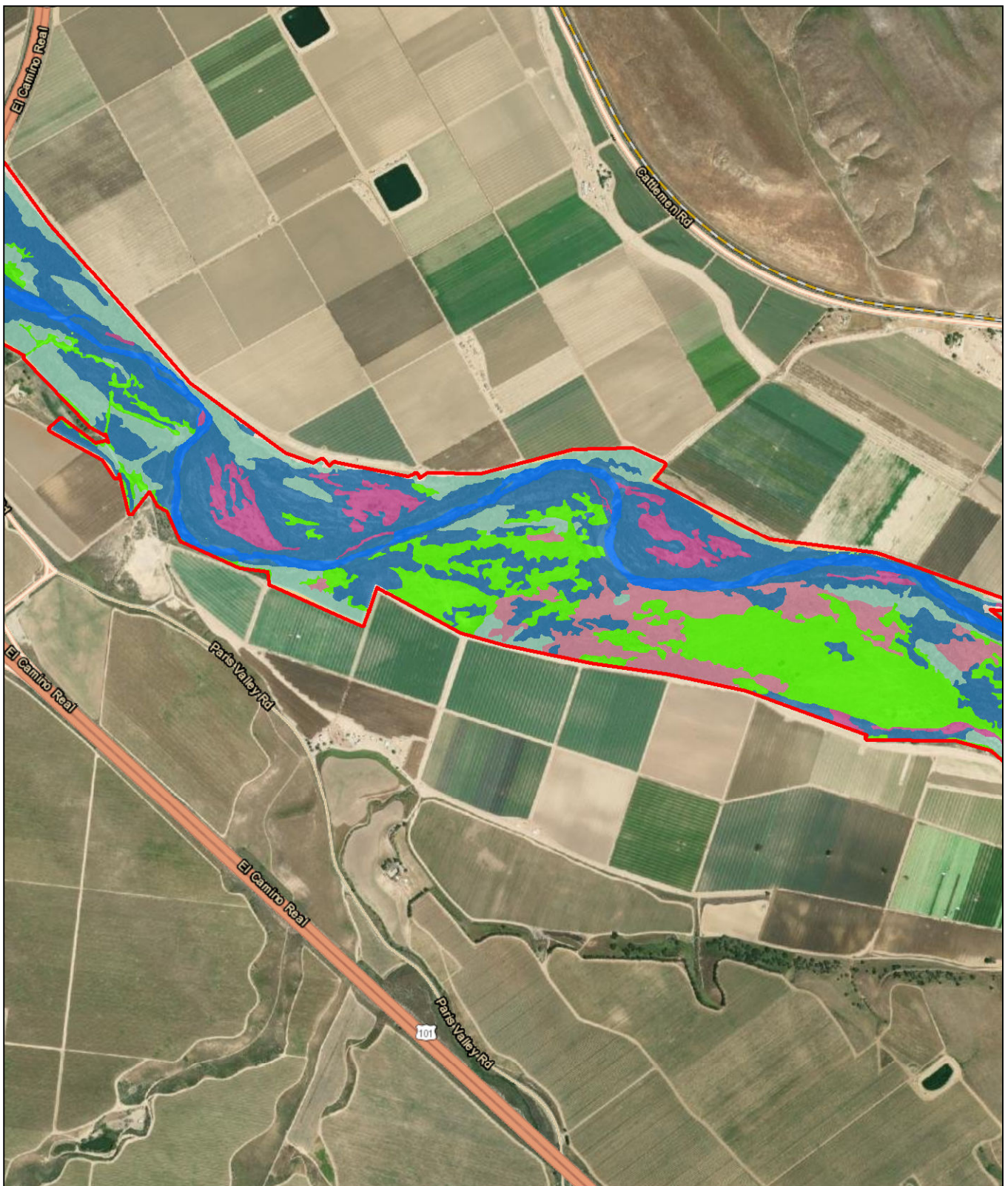
### Appendix E - Sheet 32 Land Cover Mapbook


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Feet  
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Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.


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 Biological Resources Study


**Land Cover**

-  Agriculture
-  Barren


 California Annual


 Coastal Scrub


 Developed

 Freshwater Emergent Wetland

 Giant Reed Thickets

 Lacustrine

 Mixed Riparian Forest and

 Woodland

 Riverine

**Appendix E - Sheet 33  
Land Cover Mapbook**

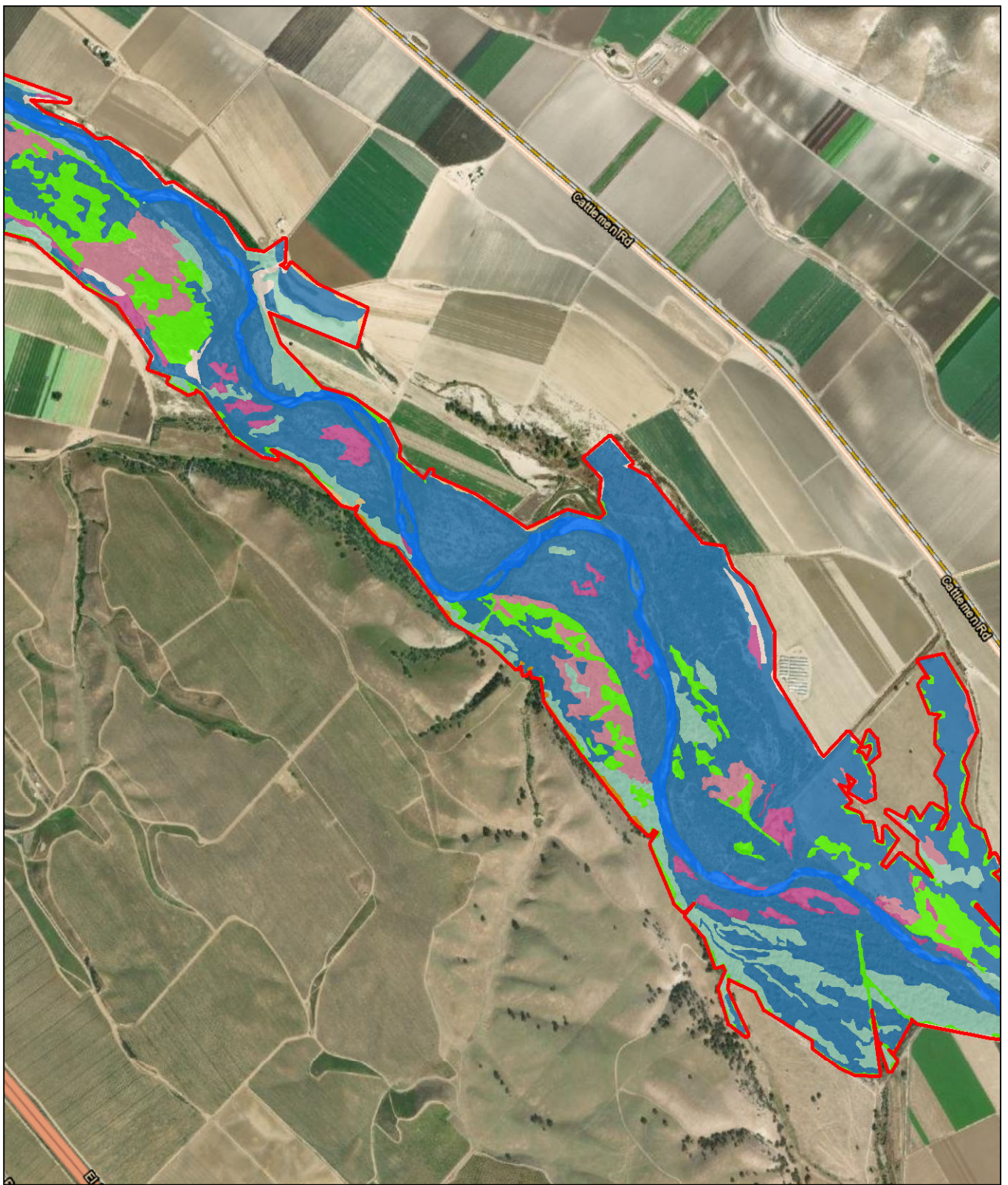
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Feet

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Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

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- |                            |                             |                                    |
|----------------------------|-----------------------------|------------------------------------|
| Biological Resources Study | Coastal Scrub               | Lacustrine                         |
| <b>Land Cover</b>          | Developed                   | Mixed Riparian Forest and Woodland |
| Agriculture                | Forest and Woodland         | Riverine                           |
| Barren                     | Freshwater Emergent Wetland | Giant Reed Thickets                |
| California Annual          |                             |                                    |

### Appendix E - Sheet 34 Land Cover Mapbook

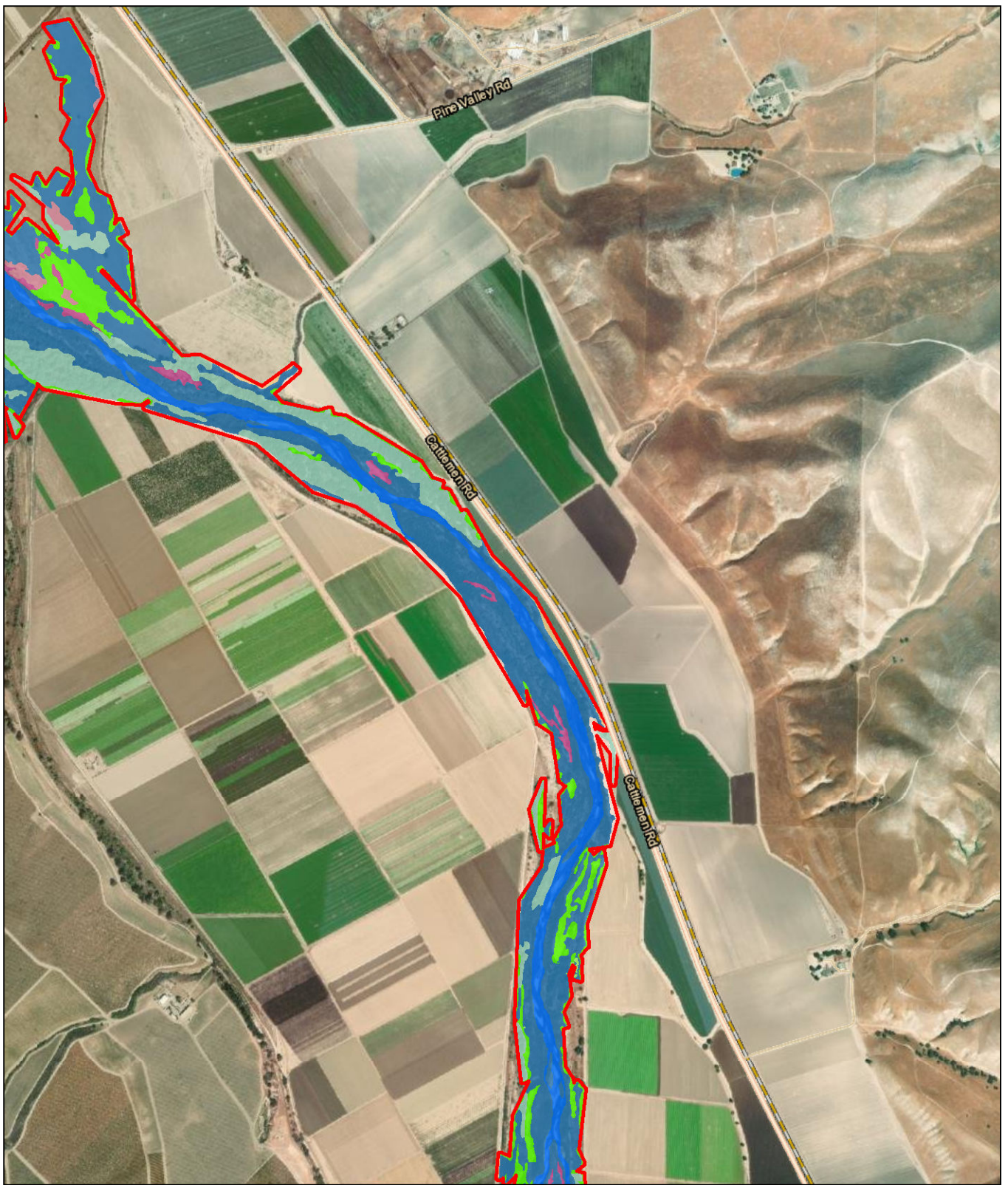
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Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.



\\PDC\CDR\GIS\Projects - \County of Monterey\00171 - 19 InterfacialTunnel\Figures\Doc\EIR - DEIR\01\_ADEIR\AppendixE\_BioStudyArea\_LandCover.mxd User: 25119 Date: 10/27/2022



- |                                 |                             |                                    |
|---------------------------------|-----------------------------|------------------------------------|
| Biological Resources Study Area | California Annual Grassland | Giant Reed Thickets                |
| <b>Land Cover</b>               | Coastal Scrub               | Lacustrine                         |
| Agriculture                     | Developed                   | Mixed Riparian Forest and Woodland |
| Barren                          | Freshwater Emergent Wetland | Riverine                           |

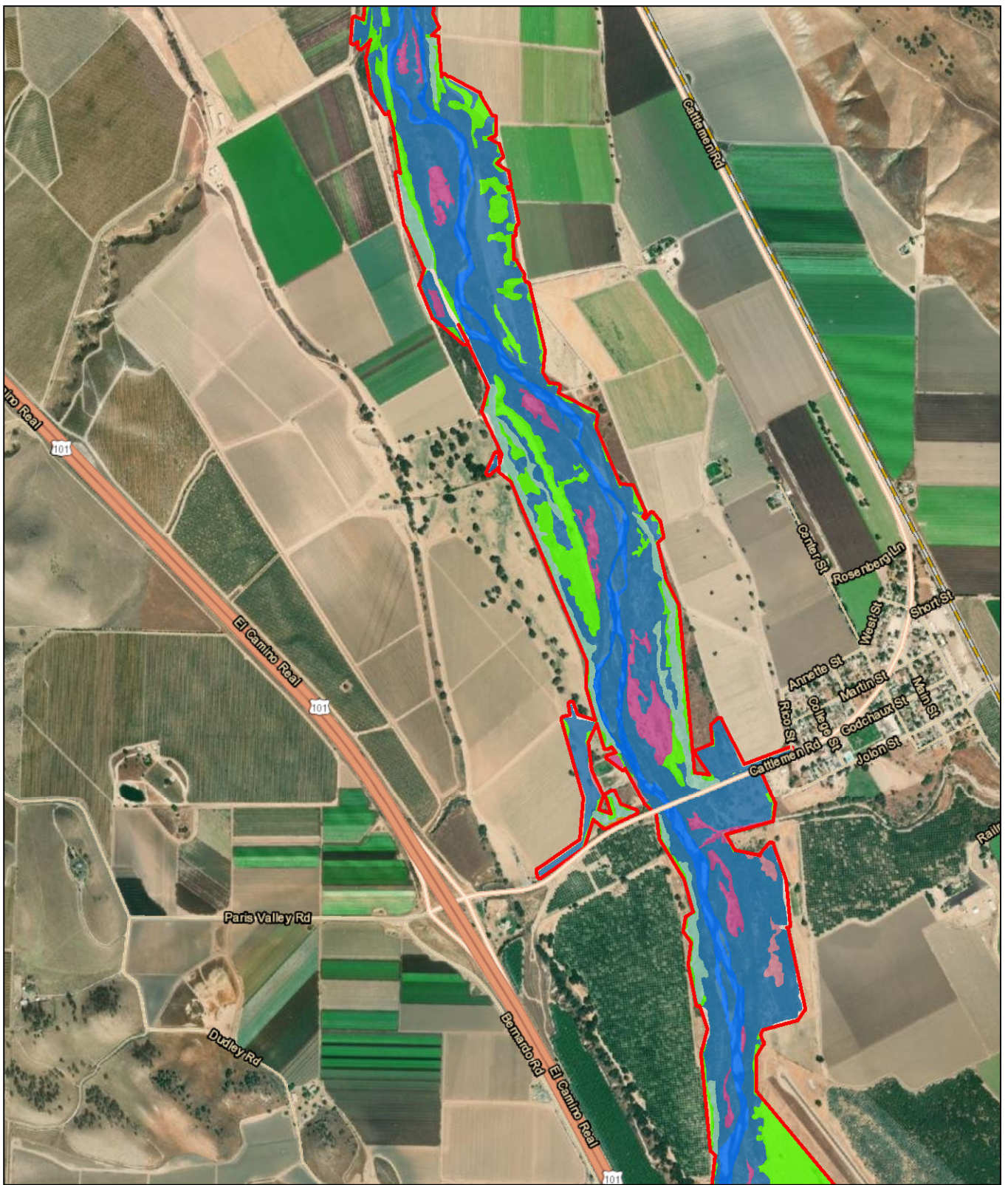
### Appendix E - Sheet 35 Land Cover Mapbook

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Feet  
1:20,000



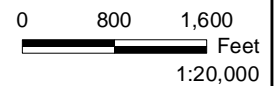
Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

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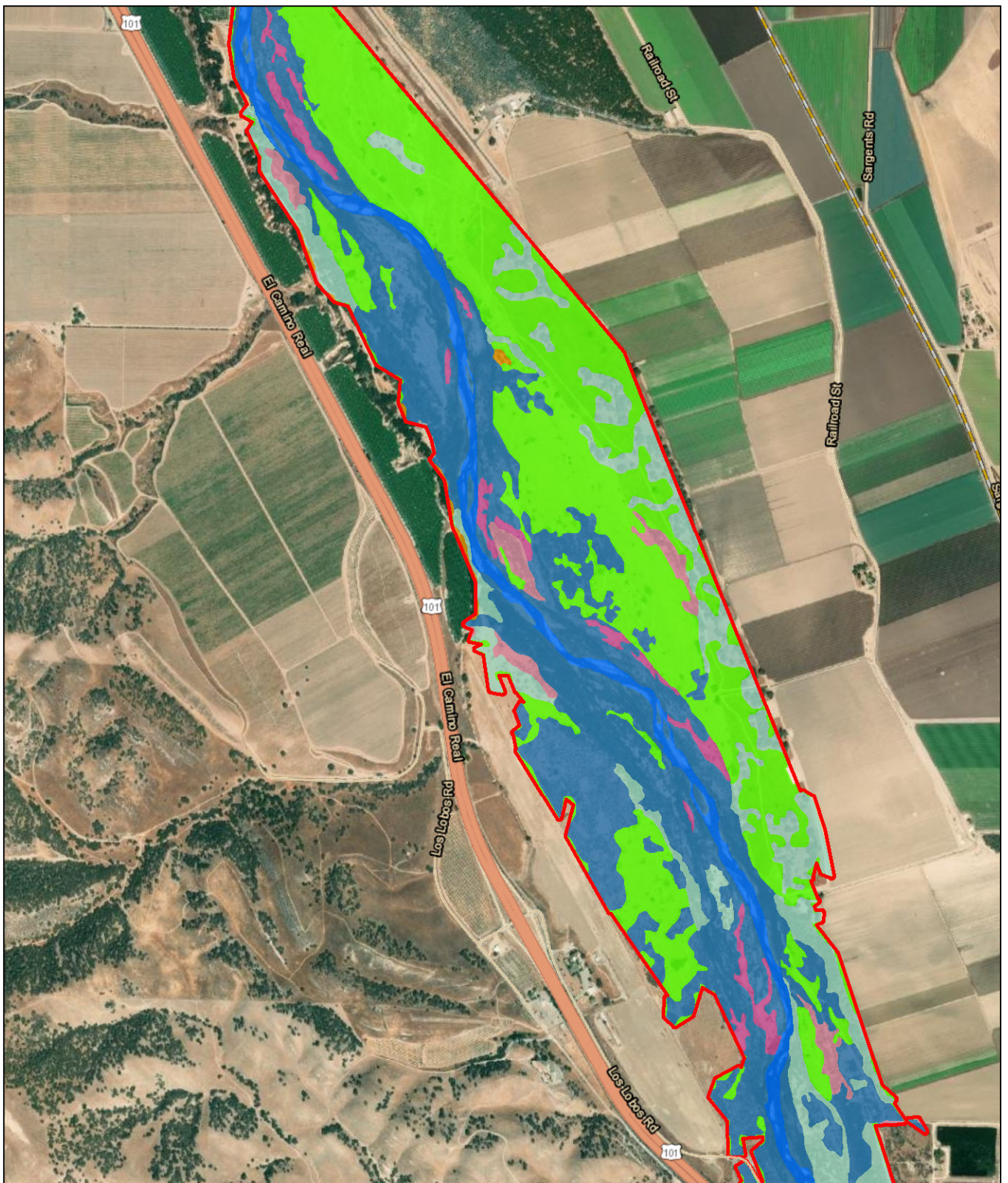


- |                            |                             |                                    |
|----------------------------|-----------------------------|------------------------------------|
| Biological Resources Study | Coastal Scrub               | Lacustrine                         |
| <b>Land Cover</b>          | Developed                   | Mixed Riparian Forest and Woodland |
| Agriculture                | Forest and Woodland         | Riverine                           |
| Barren                     | Freshwater Emergent Wetland | Giant Reed Thickets                |
| California Annual          |                             |                                    |

### Appendix E - Sheet 36 Land Cover Mapbook



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.



- |                                 |                             |                                    |
|---------------------------------|-----------------------------|------------------------------------|
| Biological Resources Study Area | California Annual Grassland | Freshwater Emergent Wetland        |
| <b>Land Cover</b>               | Coastal Scrub               | Lacustrine                         |
| Agriculture                     | Developed                   | Mixed Riparian Forest and Woodland |
| Barren                          | Forest and Woodland         | Riverine                           |

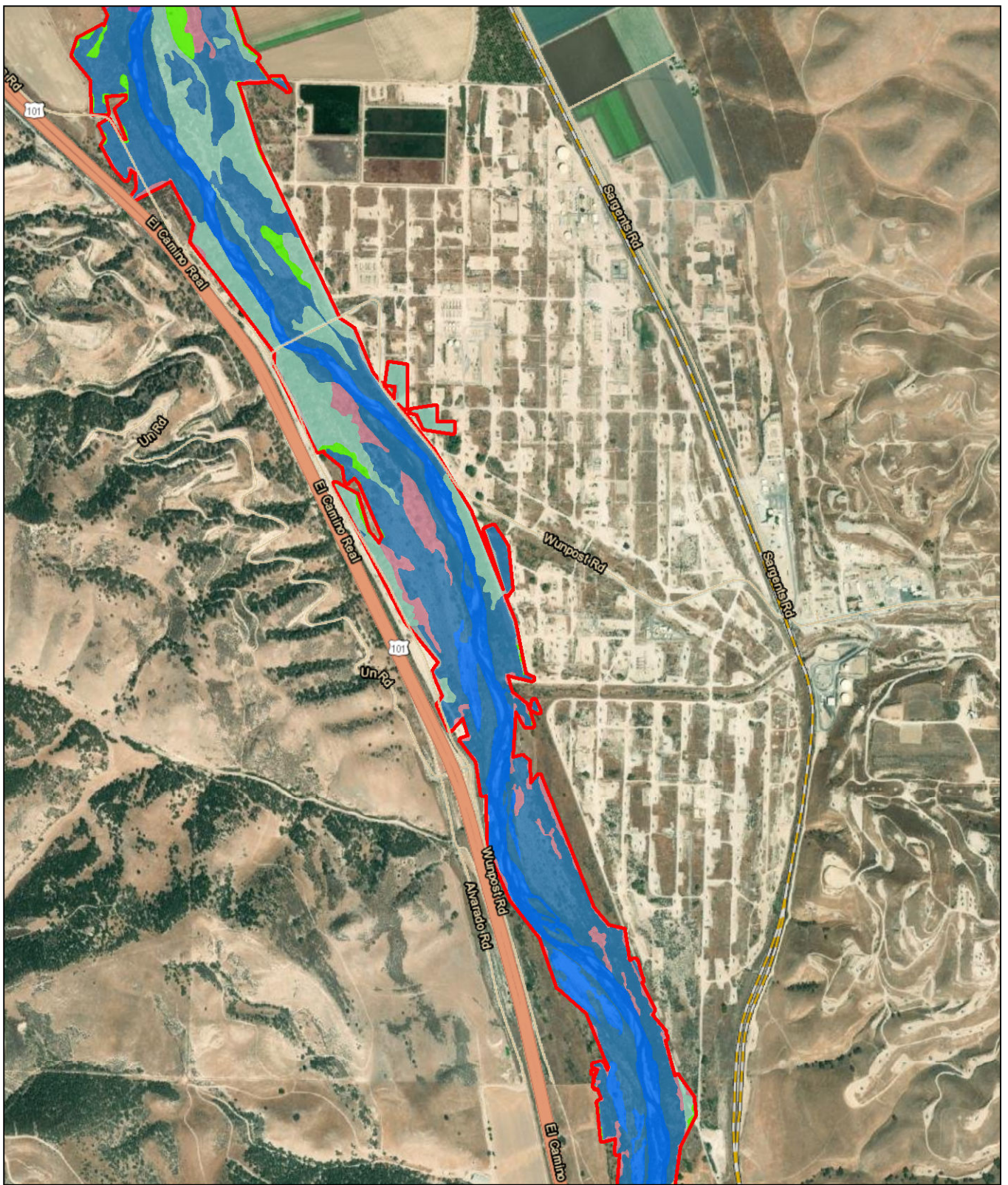
### Appendix E - Sheet 37 Land Cover Mapbook

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Feet  
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Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

\\PDC\OTR\GIS\Projects - \County of Monterey\00171 - 19 InterfacialTunnel\Figures\Doc\EIR1 - DEIR\01\_ADEIR\AppendixE\_BioStudy\Area\_LandCover.mxd User: 25119 Date: 10/27/2022



- |                                 |                             |                                    |
|---------------------------------|-----------------------------|------------------------------------|
| Biological Resources Study Area | Coastal Scrub               | Mixed Riparian Forest and Woodland |
| <b>Land Cover</b>               | Developed                   | Riverine                           |
| Agriculture                     | Freshwater Emergent Wetland | Lacustrine                         |
| California Annual Grassland     |                             |                                    |

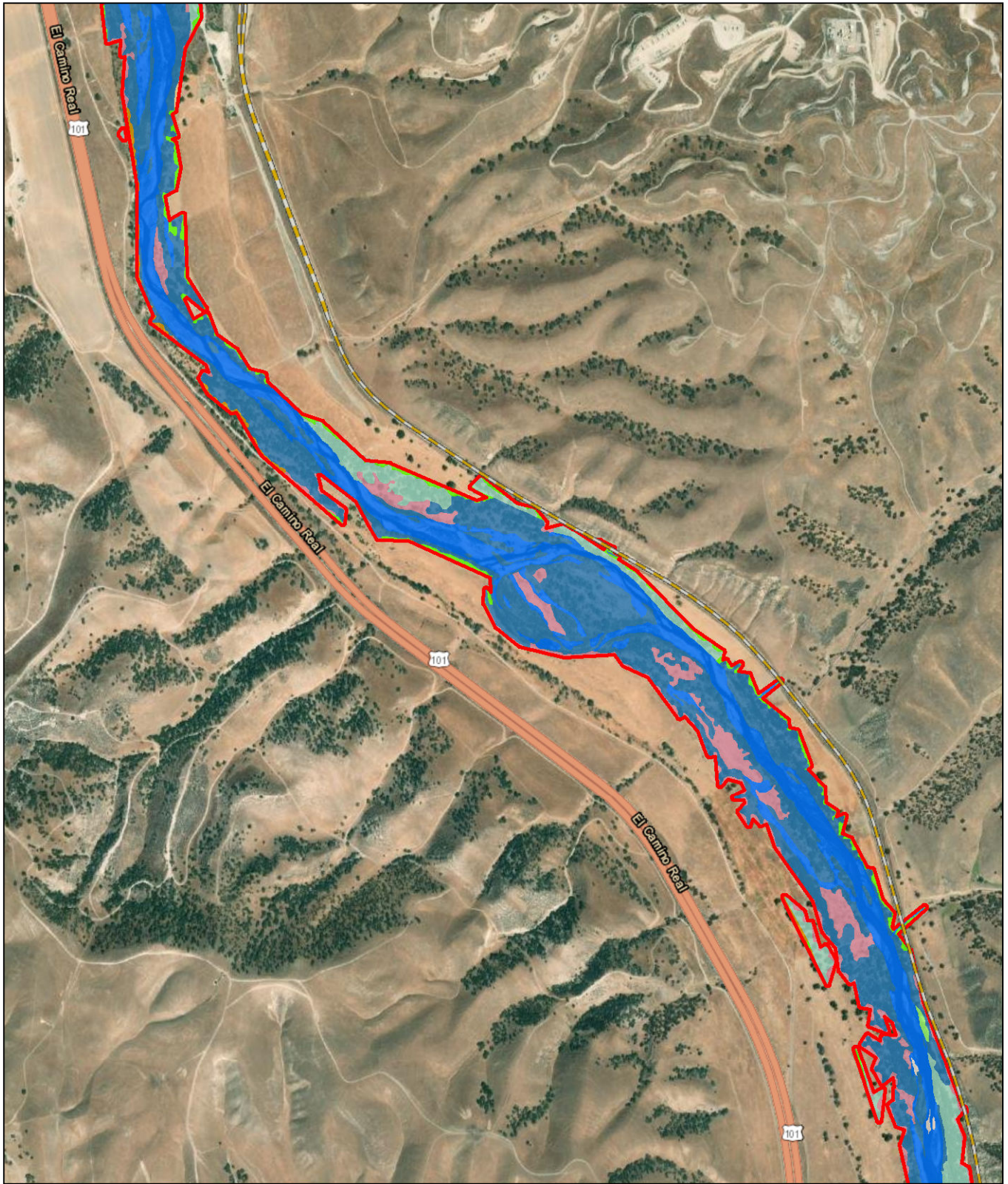
### Appendix E - Sheet 38 Land Cover Mapbook


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Feet  
1:20,000





Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.





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 Biological Resources Study

**Land Cover**

-  Agriculture
-  Barren

-  California Annual
-  Coastal Scrub
-  Developed
-  Forest and Woodland

-  Freshwater Emergent Wetland
-  Giant Reed Thickets
-  Mixed Riparian Forest and Woodland
-  Riverine

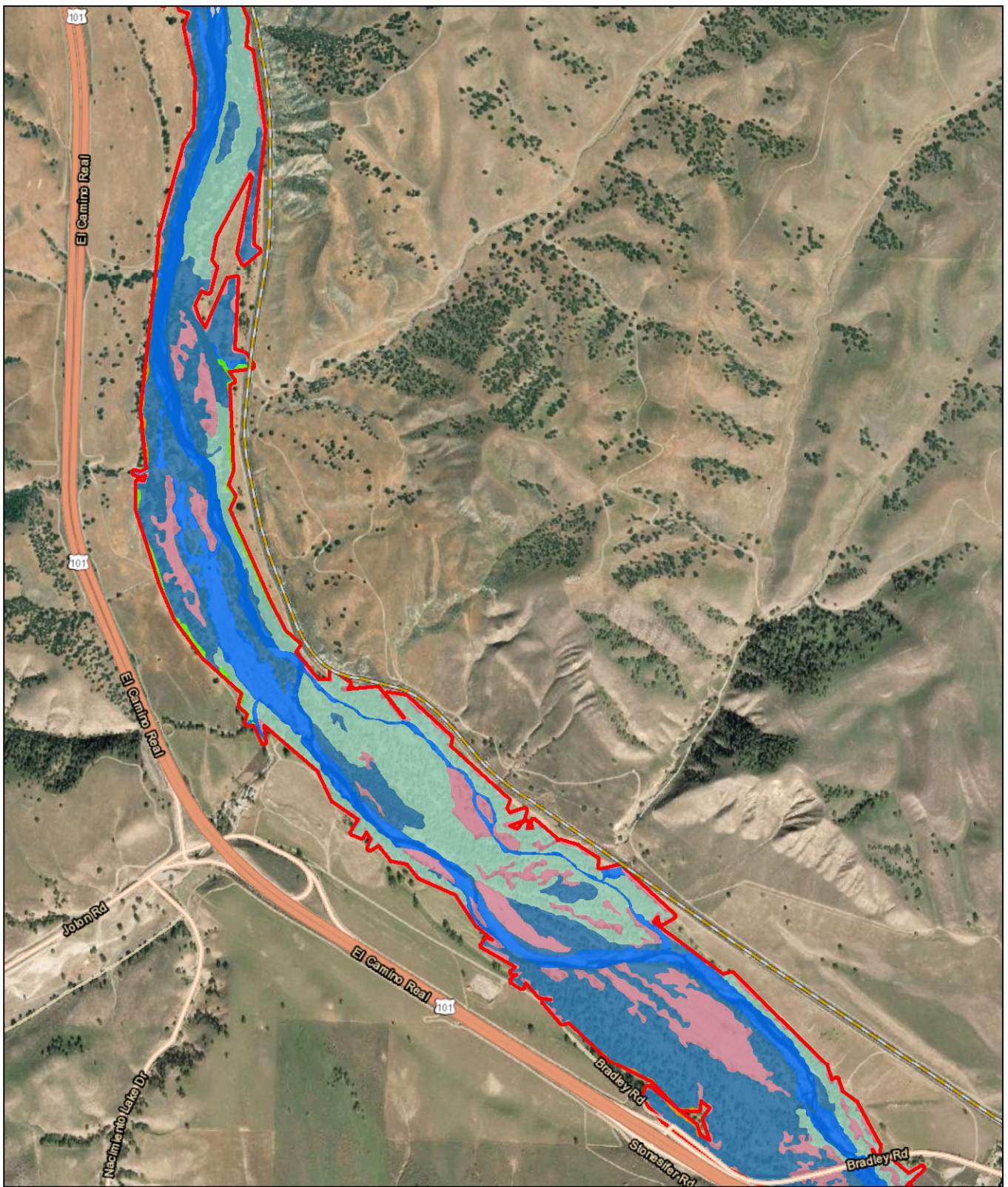
**Appendix E - Sheet 39  
Land Cover Mapbook**

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Feet  
1:20,000



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

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- |                            |                     |                                    |
|----------------------------|---------------------|------------------------------------|
| Biological Resources Study | Coastal Scrub       | Mixed Riparian Forest and Woodland |
| <b>Land Cover</b>          | Developed           | Riverine                           |
| Barren                     | Forest and Woodland | Freshwater Emergent Wetland        |
| California Annual          |                     |                                    |

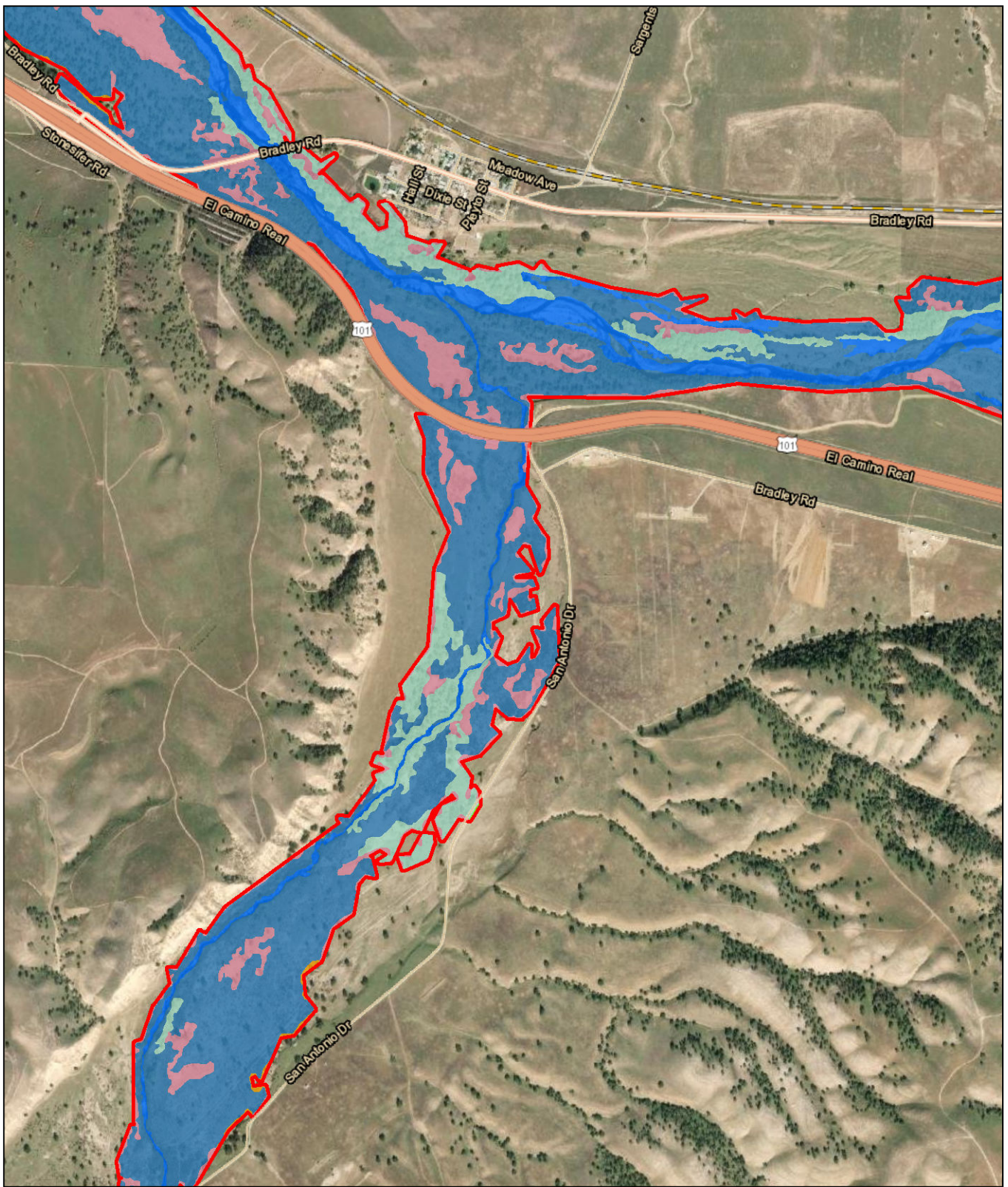
### Appendix E - Sheet 40 Land Cover Mapbook

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Feet  
1:20,000



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

\\PDC\ITRDS\GIS\Projects - \County of Monterey\00171\_19\_InterfakTranall\Figures\Doc\EIR\_1\_DEIR\01\_ADEIR\AppendixE\_BioStudy\Area\_LandCover.mxd User: 25119 Date: 10/27/2022



- |                            |                     |                                    |
|----------------------------|---------------------|------------------------------------|
| Biological Resources Study | Coastal Scrub       | Freshwater Emergent Wetland        |
| <b>Land Cover</b>          | Developed           | Mixed Riparian Forest and Woodland |
| California Annual          | Forest and Woodland | Riverine                           |

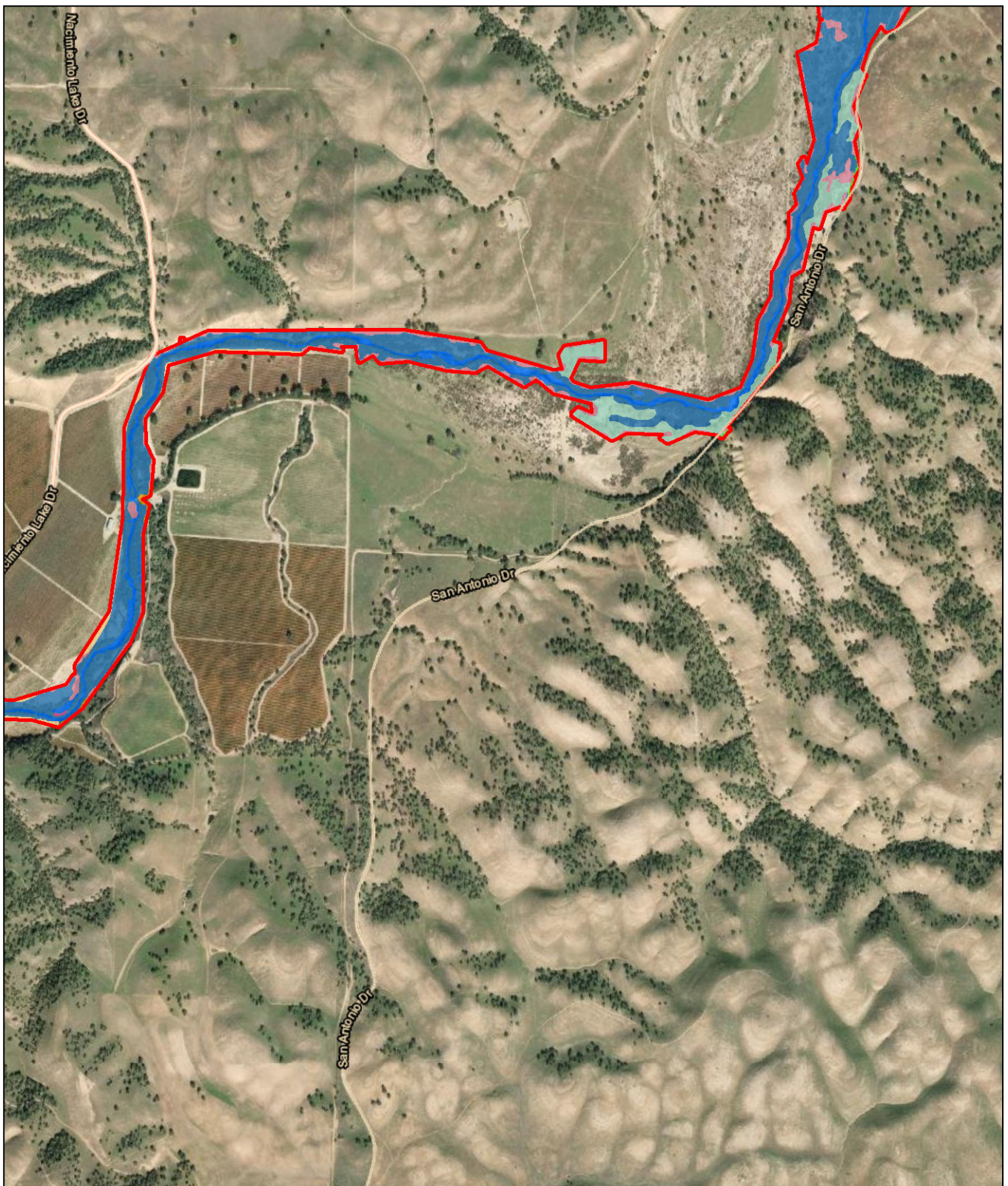
### Appendix E - Sheet 41 Land Cover Mapbook


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Feet  
1:20,000





Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.


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 Biological Resources Study


**Land Cover**


-  Agriculture
-  California Annual


 Coastal Scrub

 Developed

 Forest and Woodland

 Freshwater Emergent Wetland

 Lacustrine

 Mixed Riparian Forest and Woodland

 Riverine

**Appendix E - Sheet 42  
Land Cover Mapbook**

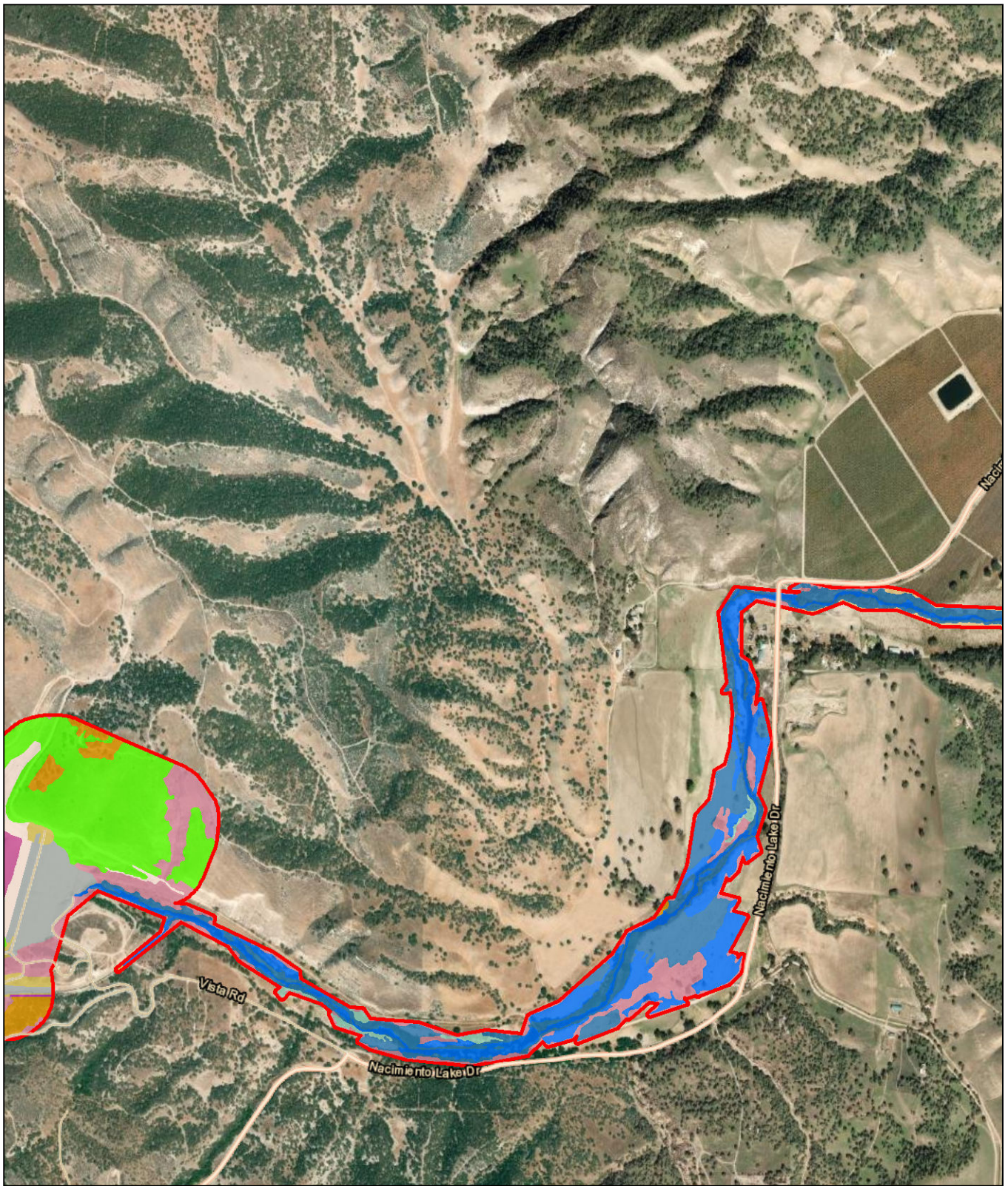
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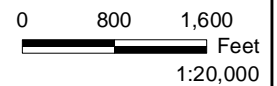
Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.





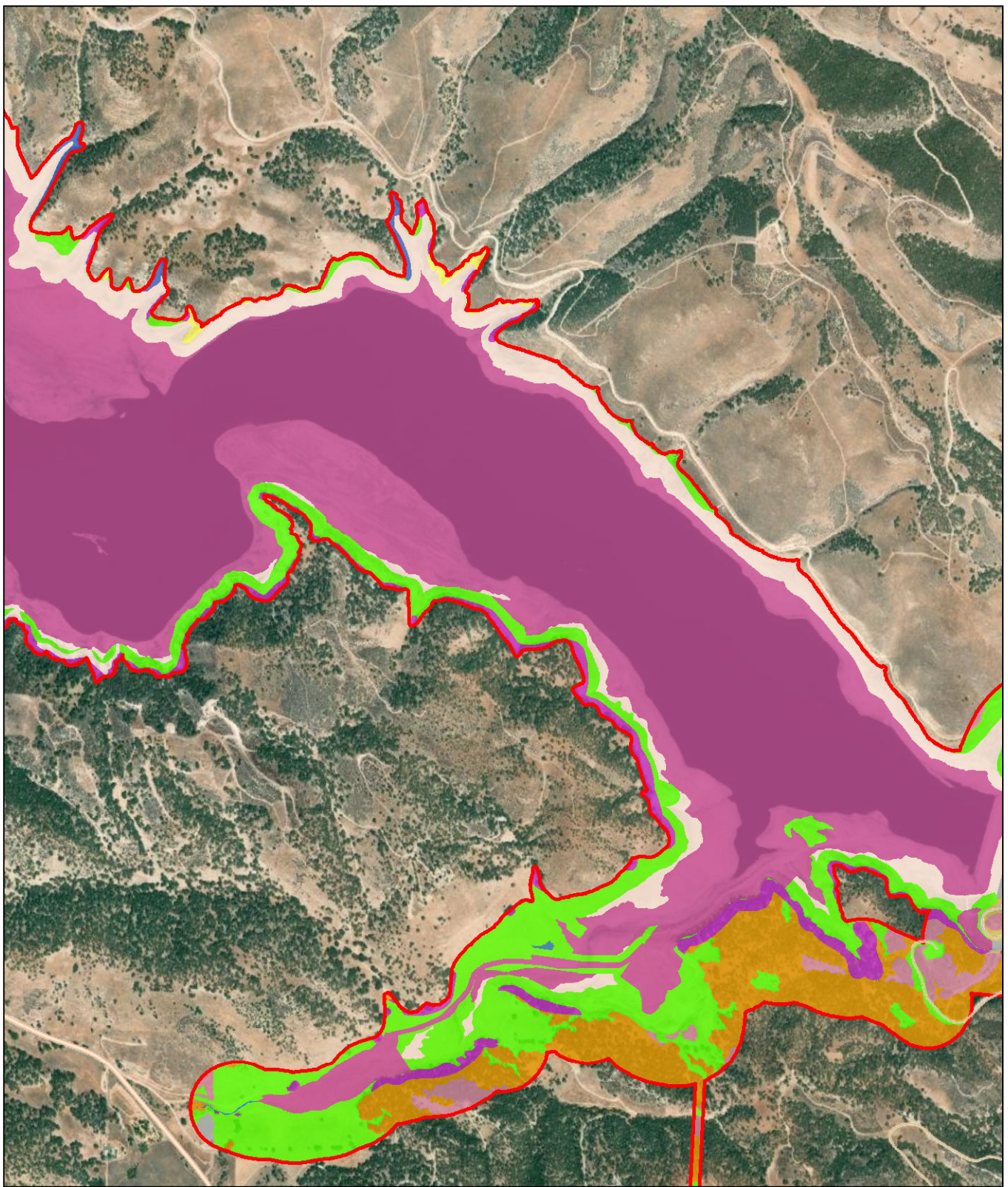
- |                                 |                             |                                    |
|---------------------------------|-----------------------------|------------------------------------|
| Biological Resources Study Area | California Annual Grassland | Lacustrine                         |
| <b>Land Cover</b>               | Coastal Scrub               | Mixed Riparian Forest and Woodland |
| Agriculture                     | Developed                   | Riverine                           |
| Barren                          | Forest and Woodland         | Freshwater Emergent Wetland        |
| Blue Oak Woodland               | Ruderal                     |                                    |

### Appendix E - Sheet 43 Land Cover Mapbook



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

\\PDC\IT\GIS\Projects - \County of Monterey\00171\_19\_InterfakTrunallEjuras\Doc\EIR1\_DEIR\01\_ADEIR\AppendixE\_BioStudyArea\_LandCover.mxd User: 25119 Date: 10/27/2022



- |                                 |                             |                             |
|---------------------------------|-----------------------------|-----------------------------|
| Biological Resources Study Area | California Annual Grassland | Freshwater Emergent Wetland |
| <b>Land Cover</b>               | California Buckwheat Scrub  | Lacustrine                  |
| Barren                          | Coastal Scrub               | Riverine                    |
| Blue Oak/Scrub Oak Woodland     | Developed                   | Ruderal                     |
| Blue Oak Woodland               | Forest and Woodland         |                             |

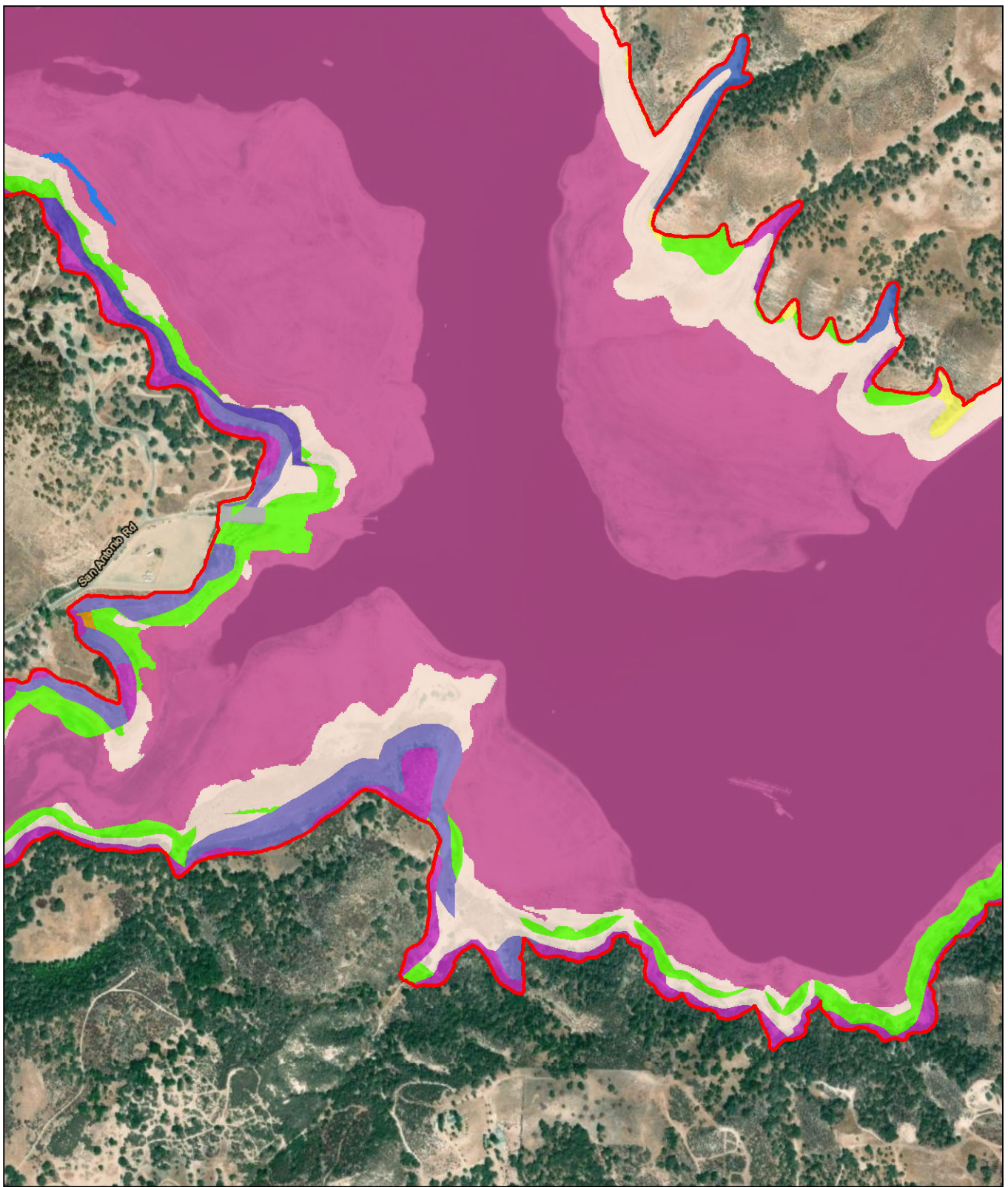
### Appendix E - Sheet 44 Land Cover Mapbook

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Feet  
1:20,000



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

\\PDC\GIS\Projects - \County of Monterey\00171 - 19 InterfacialTunnel\Figures\Doc\ERU1\_DEIR\01\_ADEIR\AppendixE\_BioStudy\Area\_LandCover.mxd User: 25119 Date: 10/27/2022



- |                             |                            |                     |
|-----------------------------|----------------------------|---------------------|
| Biological Resources Study  | California Annual          | Forest and Woodland |
| <b>Land Cover</b>           | California Buckwheat Scrub | Lacustrine          |
| Barren                      | Coastal Scrub              | Mulefat Thickets    |
| Blue Oak/Scrub Oak Woodland | Coyote Brush Scrub         | Riverine            |
| Blue Oak Woodland           | Developed                  |                     |

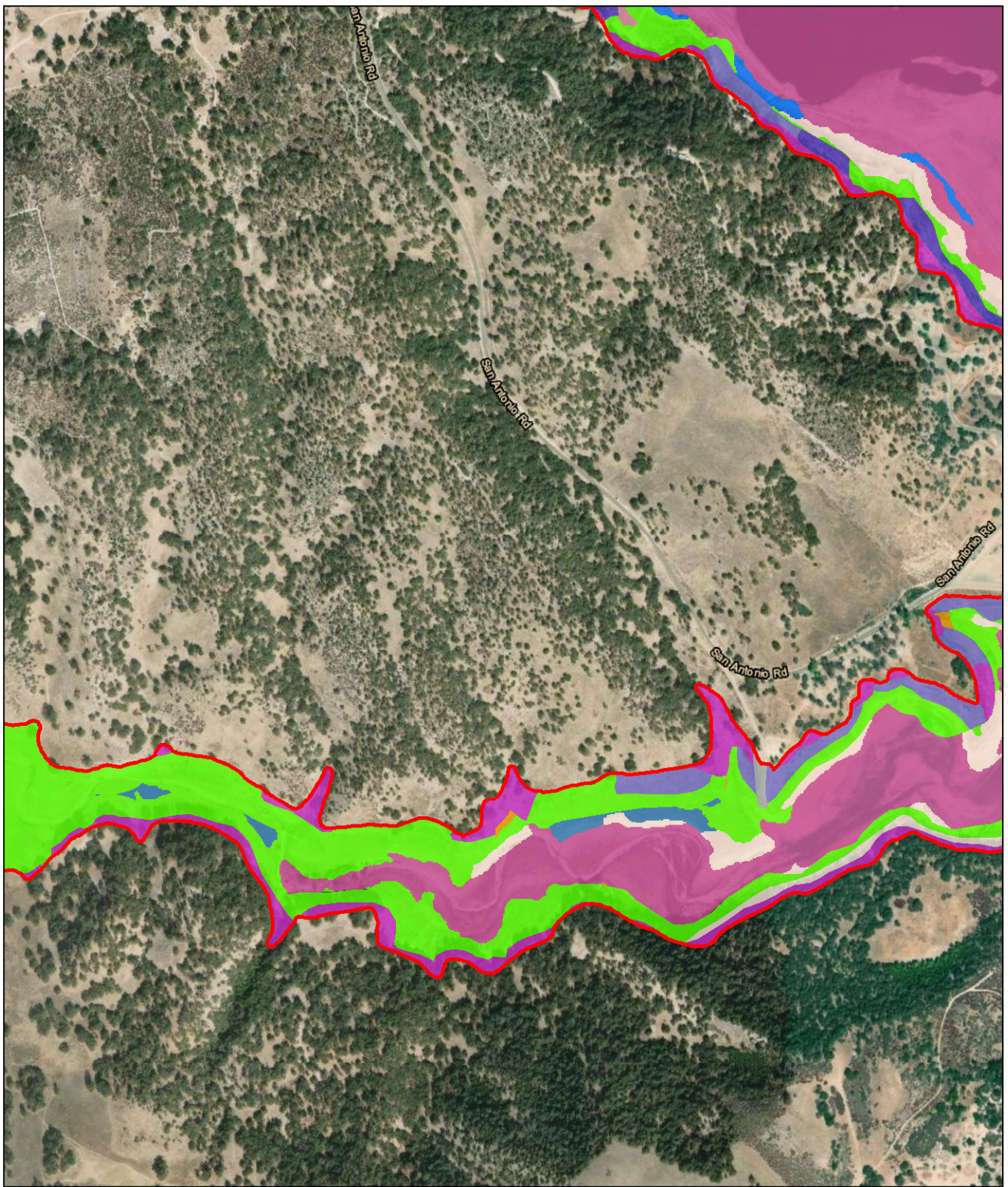
### Appendix E - Sheet 45 Land Cover Mapbook

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Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

\\PDC\GIS\Projects\1\County of Monterey\00171\_19\_InterfakTunnel\Figures\Doc\EIR\_1\_DEIR\01\_ADEIR\AppendixE\_BioStudyArea\_LandCover.mxd User: 25119 Date: 10/27/2022



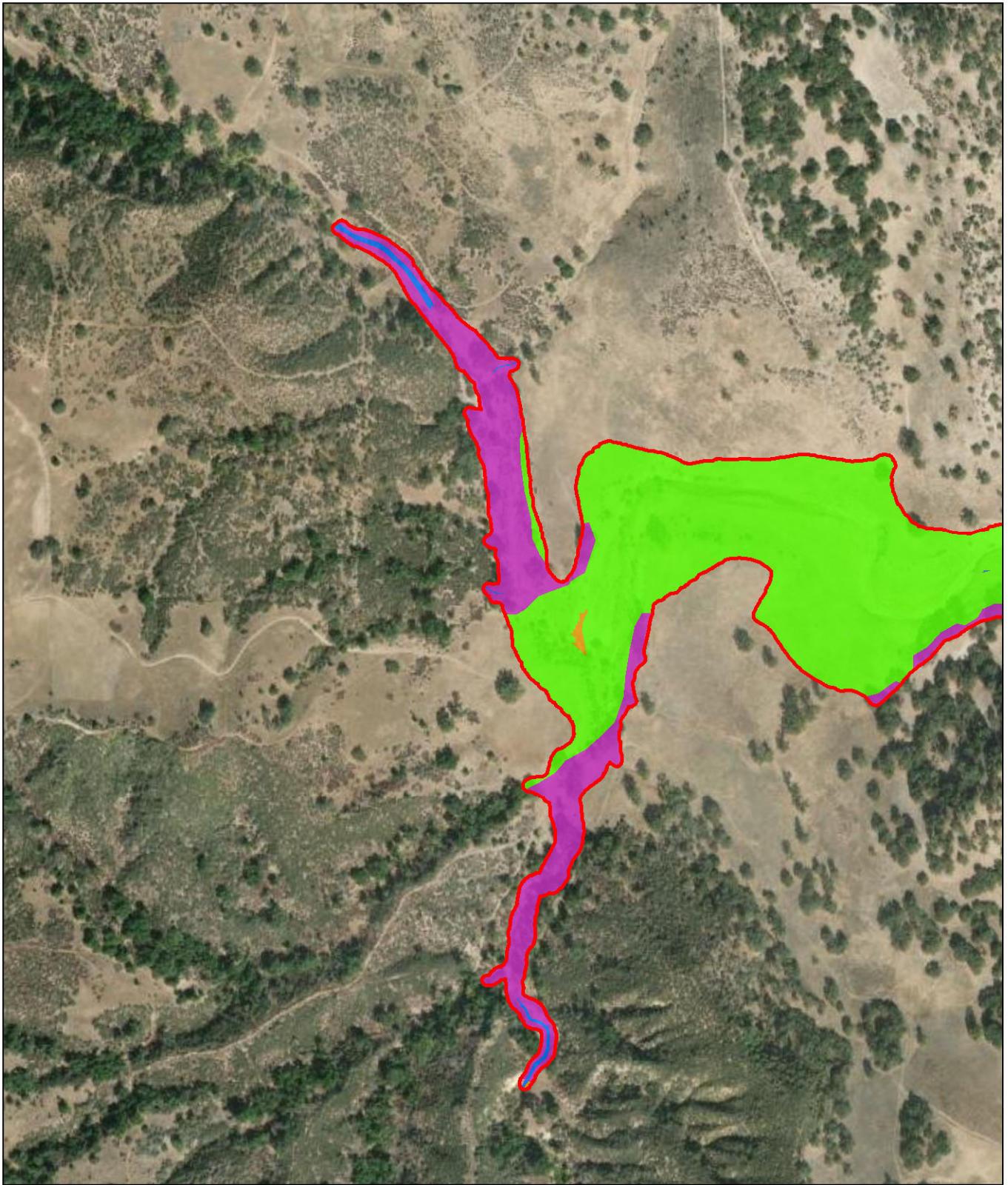
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|---------------------------------|-----------------------------|-----------------------------|
| Biological Resources Study Area | California Annual Grassland | Forest and Woodland         |
| <b>Land Cover</b>               | Coastal Scrub               | Freshwater Emergent Wetland |
| Barren                          | Coyote Brush Scrub          | Lacustrine                  |
| Blue Oak Woodland               | Developed                   | Mulefat Thickets            |
|                                 |                             | Riverine                    |








### Appendix E - Sheet 46 Land Cover Mapbook

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Feet  
1:11,040



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.



- |   |   |   |
|---|---|---|
|  Biological Resources Study Area |  California Annual Grassland |  Freshwater Emergent Wetland |
| <b>Land Cover</b>   |  Coastal Scrub               |  Riverine                    |
|  Blue Oak Woodland               |  Forest and Woodland         |   |

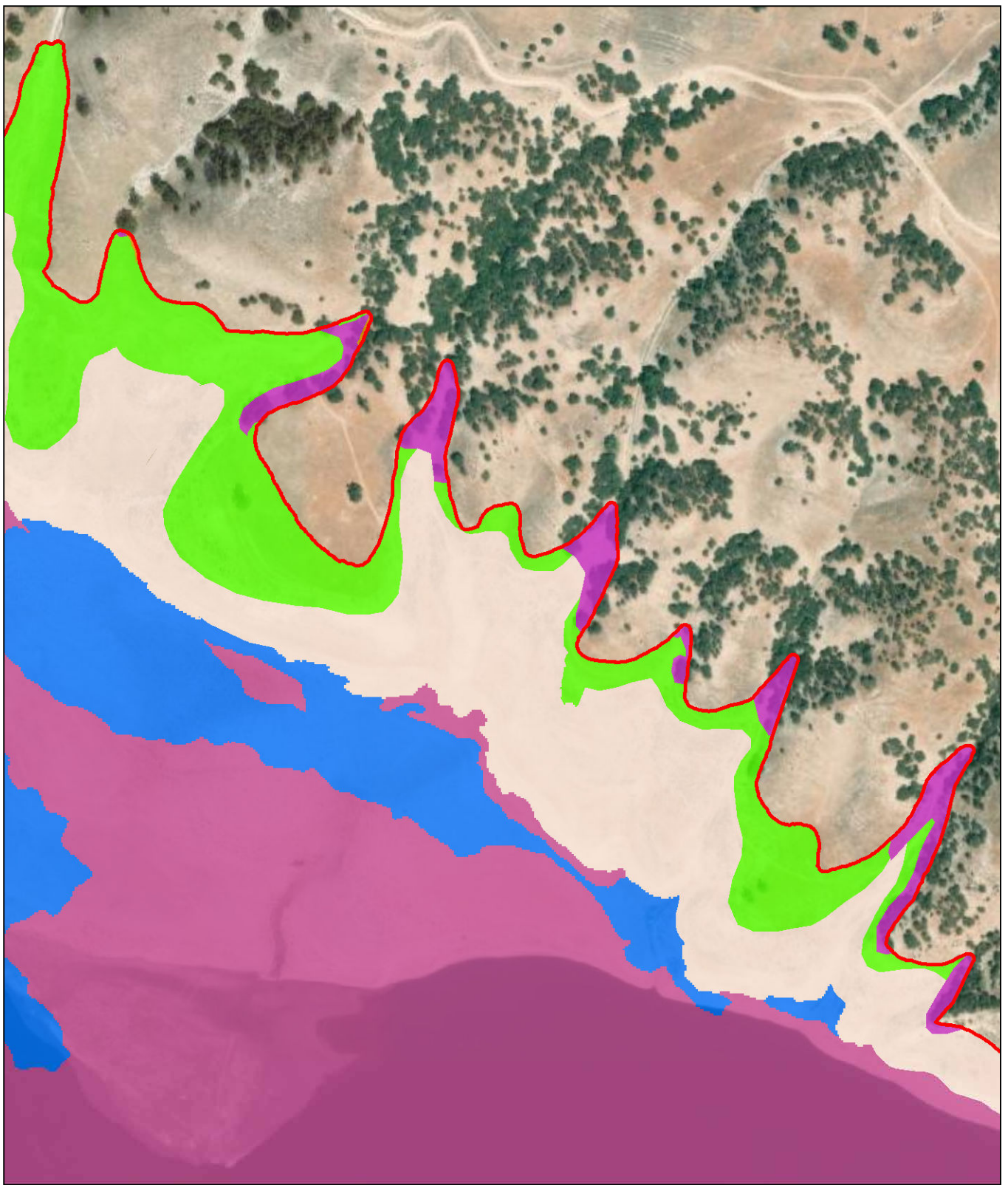
**Appendix E - Sheet 47**  
**Land Cover Mapbook**




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Feet  
1:7,010



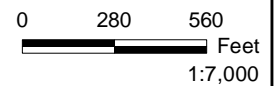
Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

\\PDC\IT\GIS\Projects - \County of Monterey\00171 - 19 InterfacialTunnel\Figures\Doc\ERL1\_DEIR\01\_ADEIR\AppendixE\_BioStudyArea\_LandCover.mxd User: 25119 Date: 10/27/2022

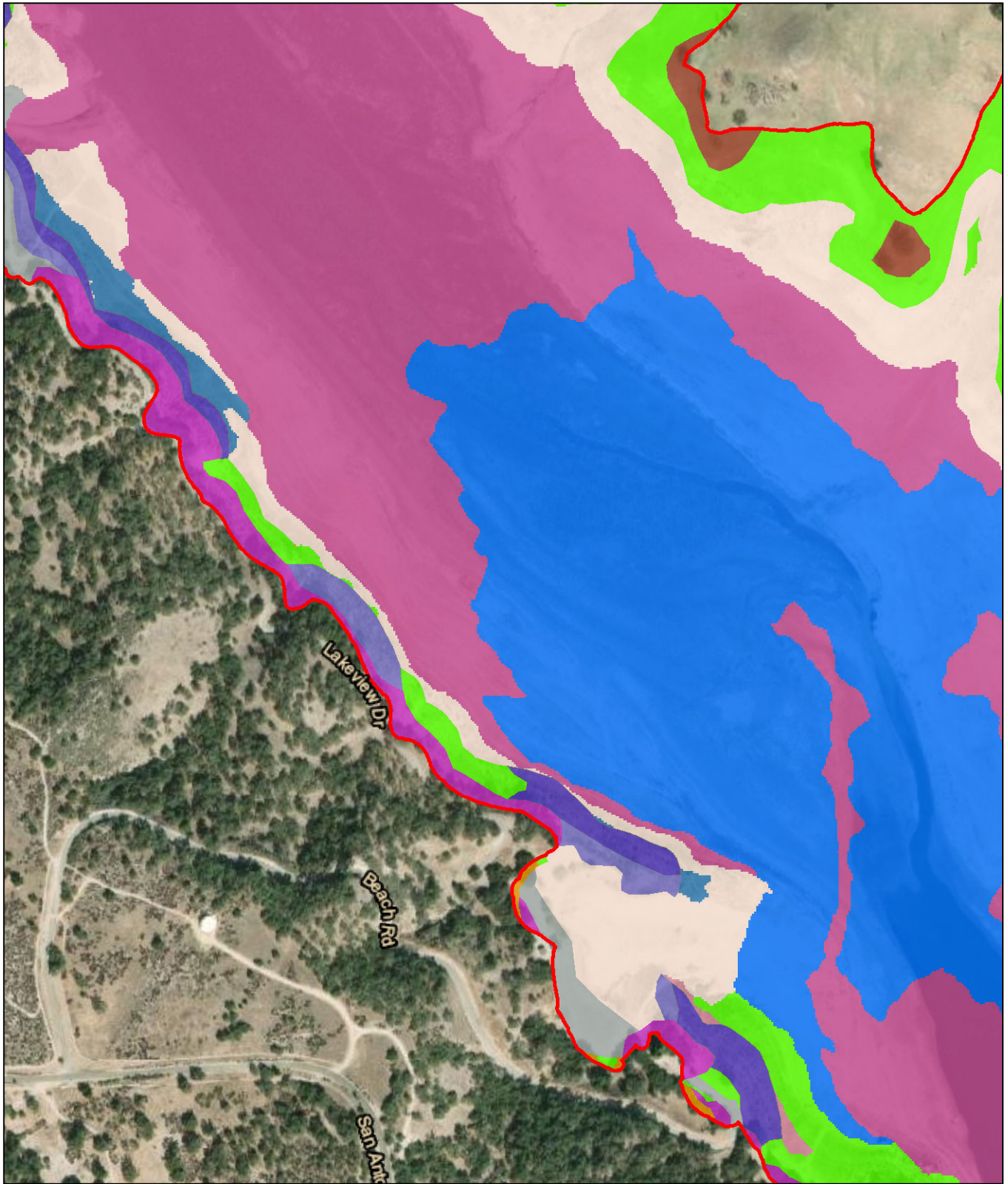


- |   |   |  |
|---|---|--|
|  Biological Resources Study Area |  Blue Oak Woodland           |  Lacustrine |
| <b>Land Cover</b>   |  California Annual Grassland |  Riverine   |
|  Barren                          |  Forest and Woodland         |  |

### Appendix E - Sheet 48 Land Cover Mapbook

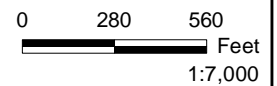


Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.



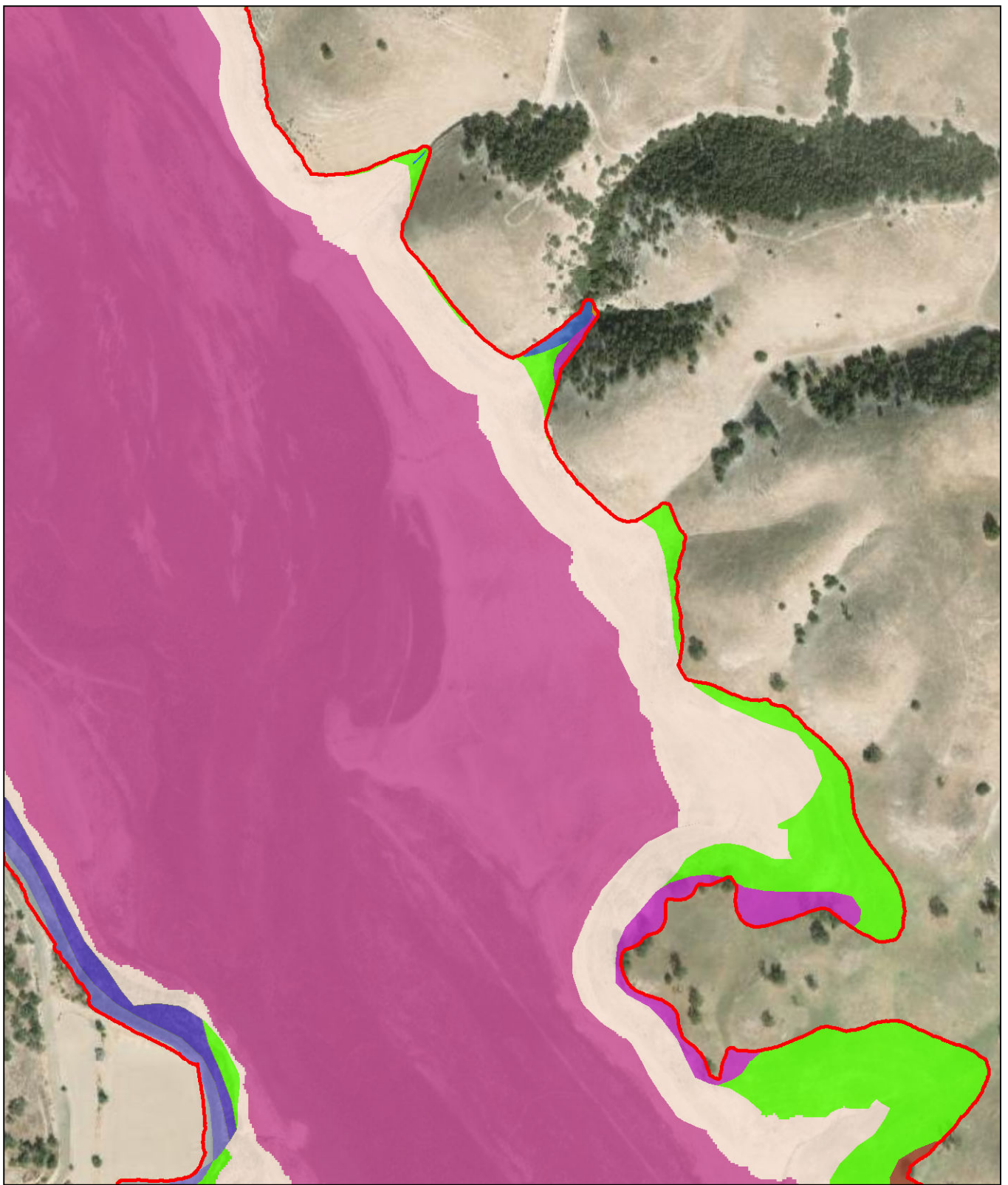
- |                                 |                             |                     |
|---------------------------------|-----------------------------|---------------------|
| Biological Resources Study Area | Coastal Scrub               | Lacustrine          |
| <b>Land Cover</b>               | Coyote Brush Scrub          | Mulefat Thickets    |
| Barren                          | Developed                   | Riverine            |
| Blue Oak Woodland               | Forest and Woodland         | Valley Oak Woodland |
| California Annual Grassland     | Freshwater Emergent Wetland |                     |

**Appendix E - Sheet 49  
Land Cover Mapbook**



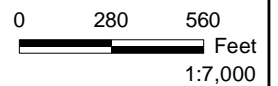
Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

\\PDC\GIS\Projects\1\County of Monterey\00171\_19\_InterfakTrunall\Figures\Doc\ER\11\_DEIR\01\_ADEIR\AppendixE\_BioStudyArea\_LandCover.mxd User: 25119 Date: 10/27/2022



- |                                 |                             |                     |
|---------------------------------|-----------------------------|---------------------|
| Biological Resources Study Area | Lacustrine                  | Forest and Woodland |
| <b>Land Cover</b>               | California Annual Grassland | Blue Oak Woodland   |
| Barren                          | Coyote Brush Scrub          | Mulefat Thickets    |
| Blue Oak/Scrub Oak Woodland     | Developed                   | Riverine            |
|                                 |                             | Valley Oak Woodland |

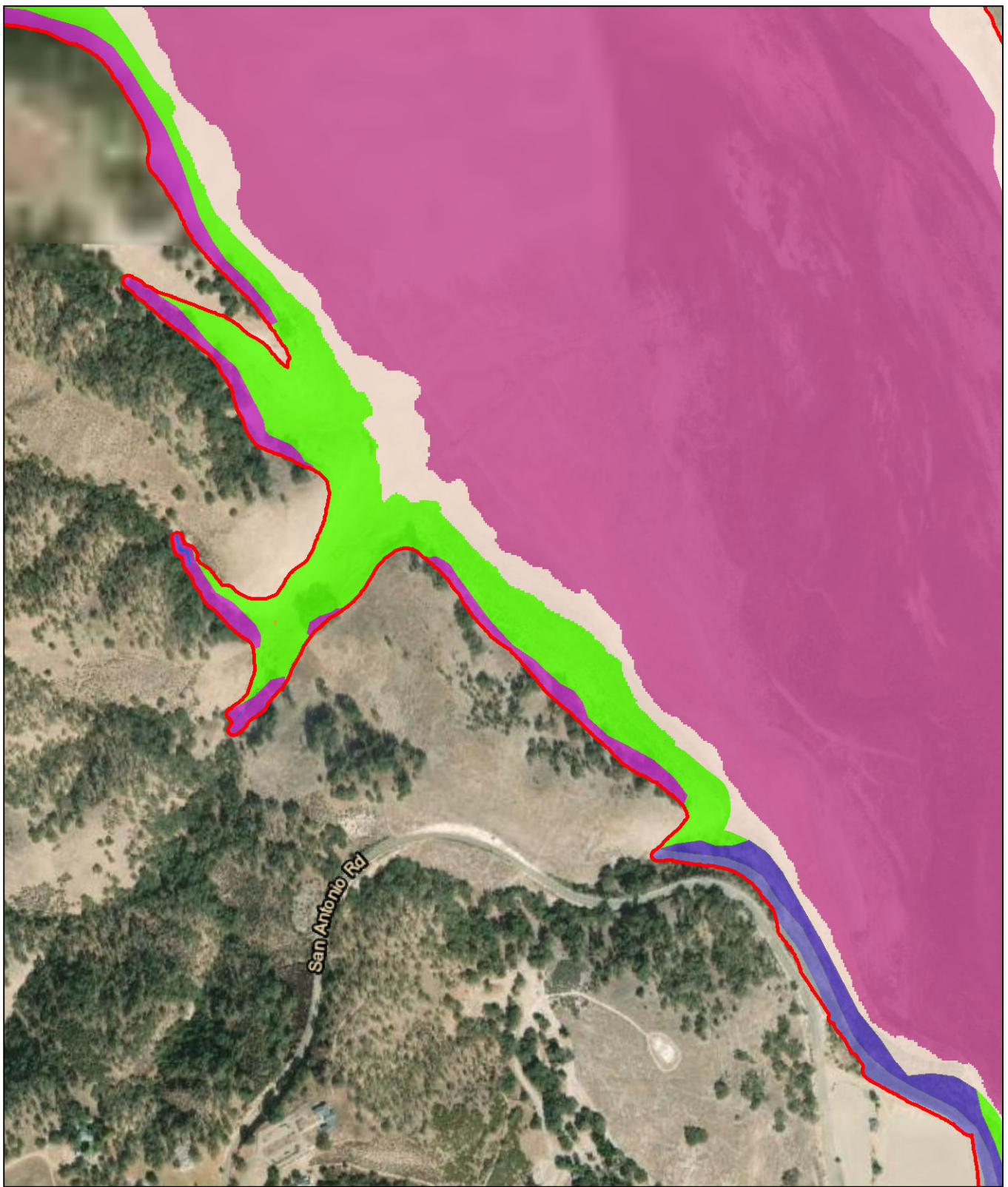
**Appendix E - Sheet 50  
Land Cover Mapbook**



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.



\\PDC\GIS\Projects - \County of Monterey\00171 - 19 InterfacialTunnel\Figures\Doc\EIR - DEIR\01\_ADEIR\AppendixE\_BioStudyArea\_LandCover.mxd User: 25119 Date: 10/27/2022



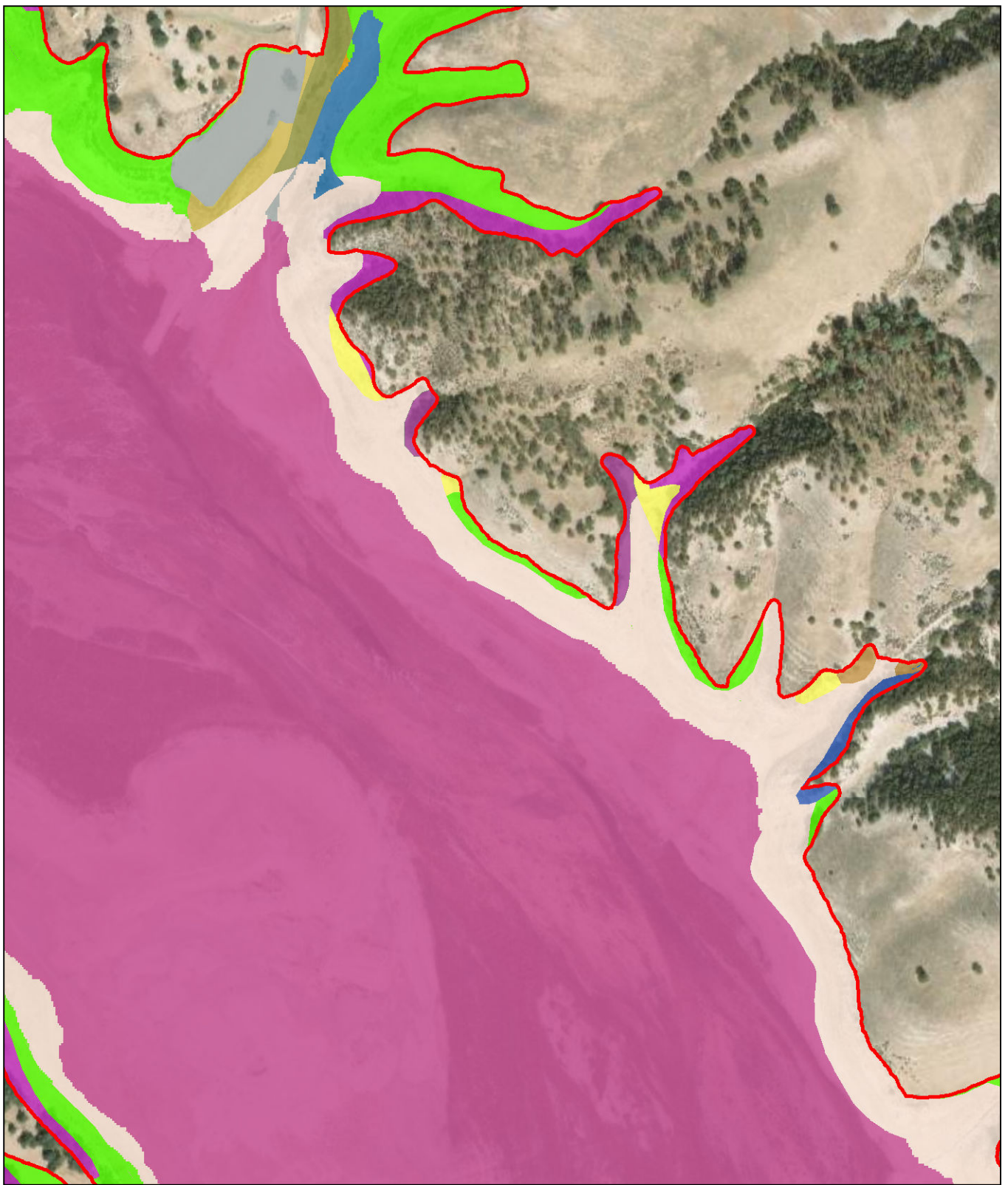
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|---------------------------------|-----------------------------|------------------|
| Biological Resources Study Area | California Annual Grassland | Lacustrine       |
| <b>Land Cover</b>               | Coyote Brush Scrub          | Mulefat Thickets |
| Barren                          | Developed                   | Riverine         |
| Blue Oak Woodland               | Forest and Woodland         |                  |

### Appendix E - Sheet 51 Land Cover Mapbook

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Feet  
1:7,000

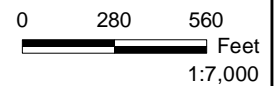


Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.



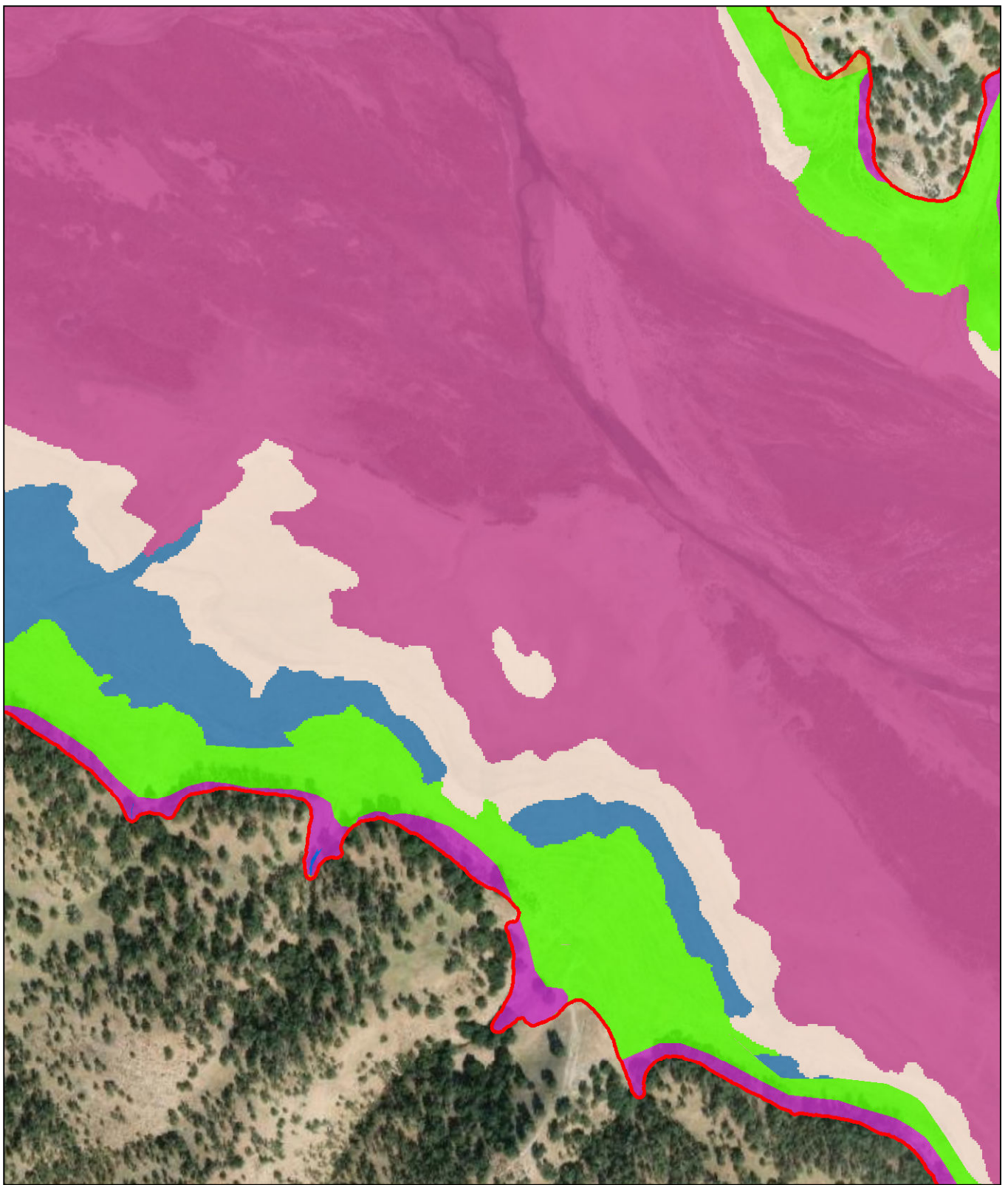
- |                                 |                             |                               |
|---------------------------------|-----------------------------|-------------------------------|
| Biological Resources Study Area | California Annual Grassland | Lacustrine                    |
| <b>Land Cover</b>               | California Buckwheat Scrub  | Nuttall's Scrub Oak Scrubland |
| Arroyo Willow/Mulefat Thickets  | Coastal Scrub               | Riverine                      |
| Barren                          | Developed                   | Ruderal                       |
| Blue Oak/Scrub Oak Woodland     | Forest and Woodland         | Valley Oak/Blue Oak Woodland  |
| Blue Oak Woodland               | Freshwater Emergent Wetland |                               |










### Appendix E - Sheet 52 Land Cover Mapbook



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

\\PDC\GIS\Projects - \County of Monterey\00171 - 19 Interlake Tunnel\Figures\Doc\ERL - DEIR\01\_ADEIR\Appendix E - BioStudyArea\_LandCover.mxd User: 25119 Date: 10/27/2022



- |   |   |   |
|---|---|---|
|  Biological Resources Study Area |  Blue Oak Woodland           |  Freshwater Emergent Wetland |
| <b>Land Cover</b>   |  California Annual Grassland |  Lacustrine                  |
|  Barren                          |  Forest and Woodland         |  Riverine                    |
|   |  Ruderal                     |   |

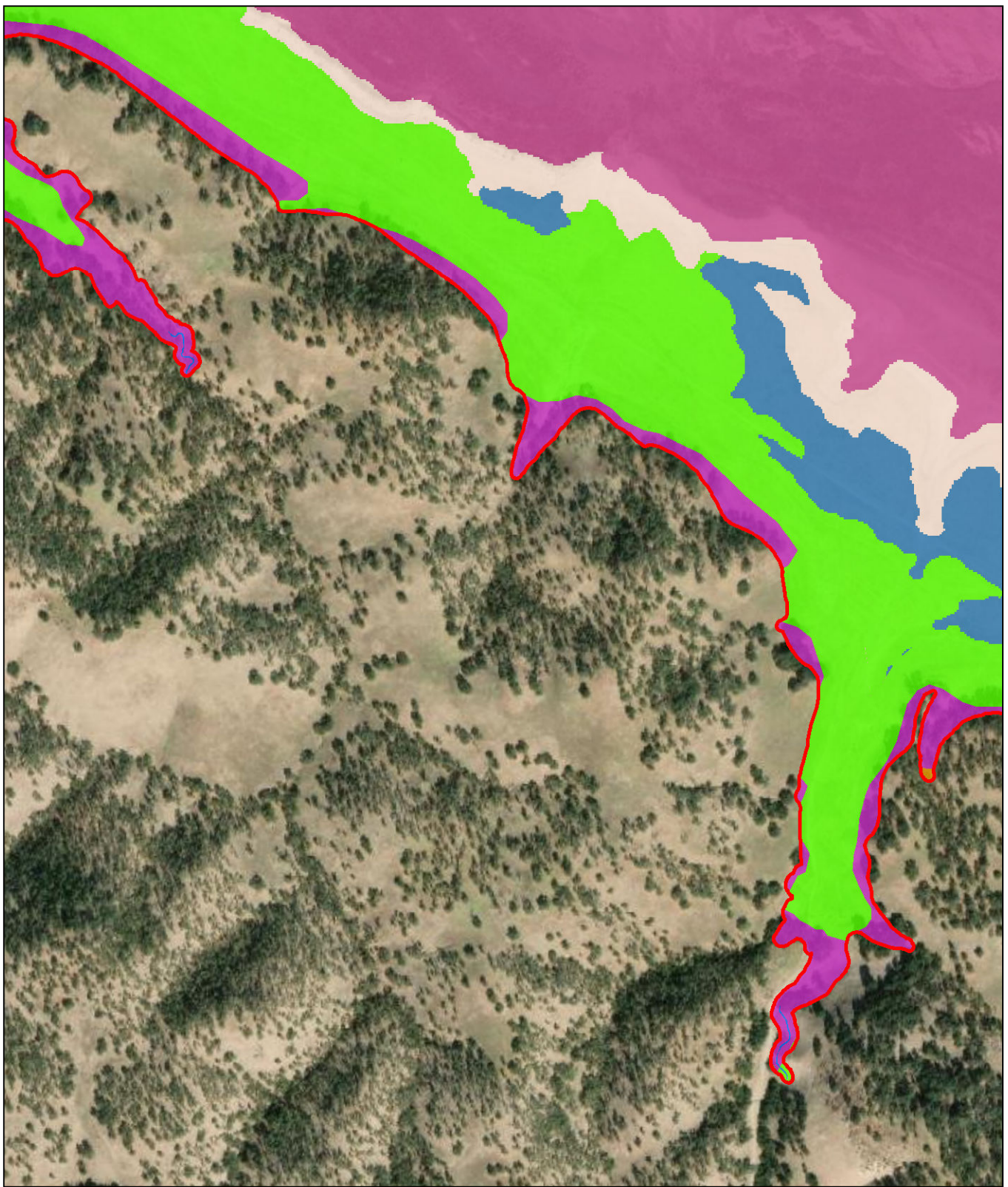
### Appendix E - Sheet 53 Land Cover Mapbook


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Feet  
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Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.


\\PDC\GIS\Projects - \County of Monterey\00171 - 19 InterfacialTunnel\Figures\Doc\ERU1 - DEIR\01\_ADEIR\AppendixE - BioStudy\Area\_LandCover.mxd User: 25119 Date: 10/27/2022




 Biological Resources Study


**Land Cover**


 Barren


 Blue Oak Woodland

 California Annual

 Coastal Scrub

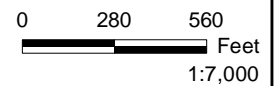
 Forest and Woodland

 Freshwater Emergent Wetland

 Lacustrine

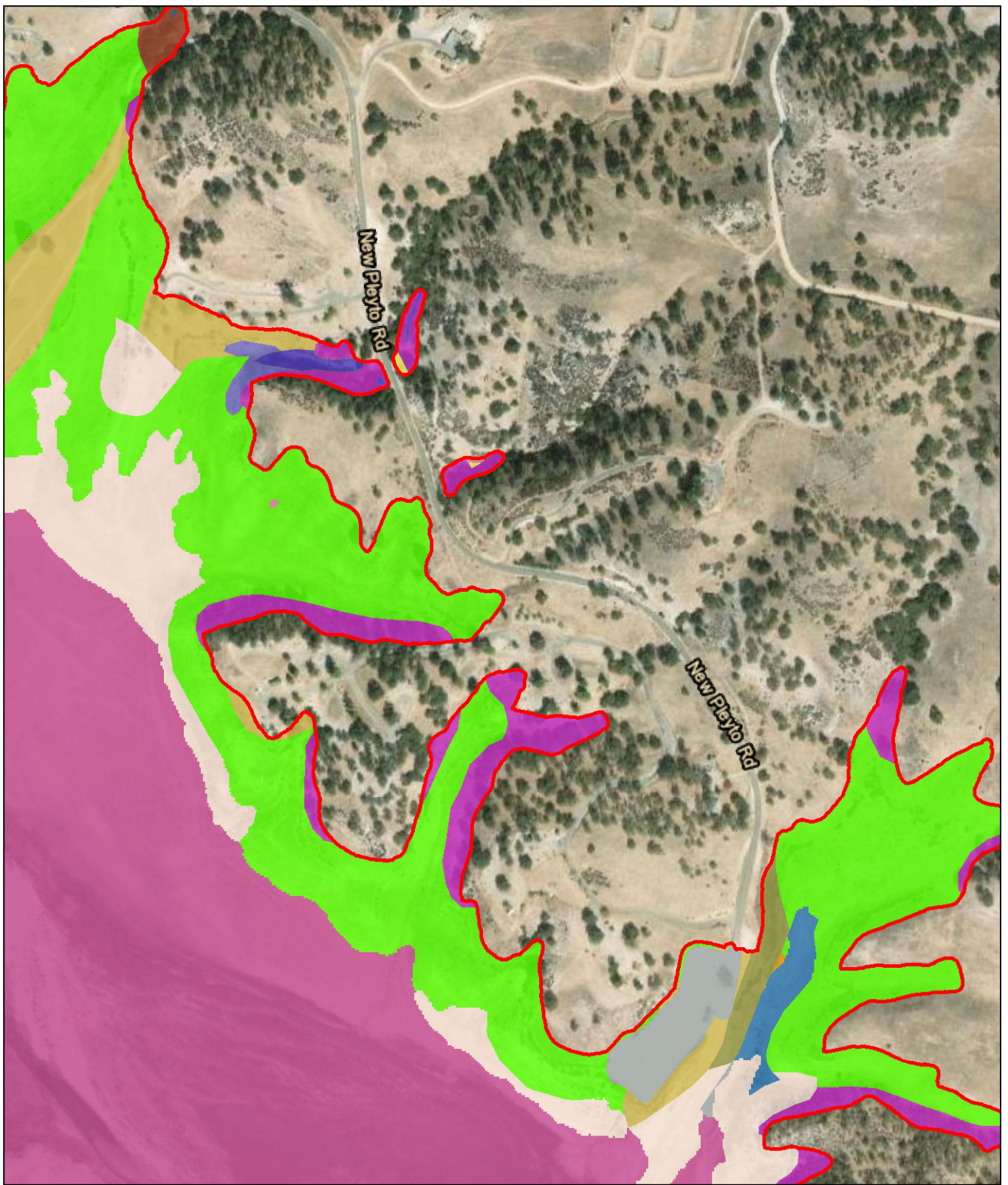
 Riverine

**Appendix E - Sheet 54  
Land Cover Mapbook**



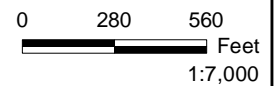
Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

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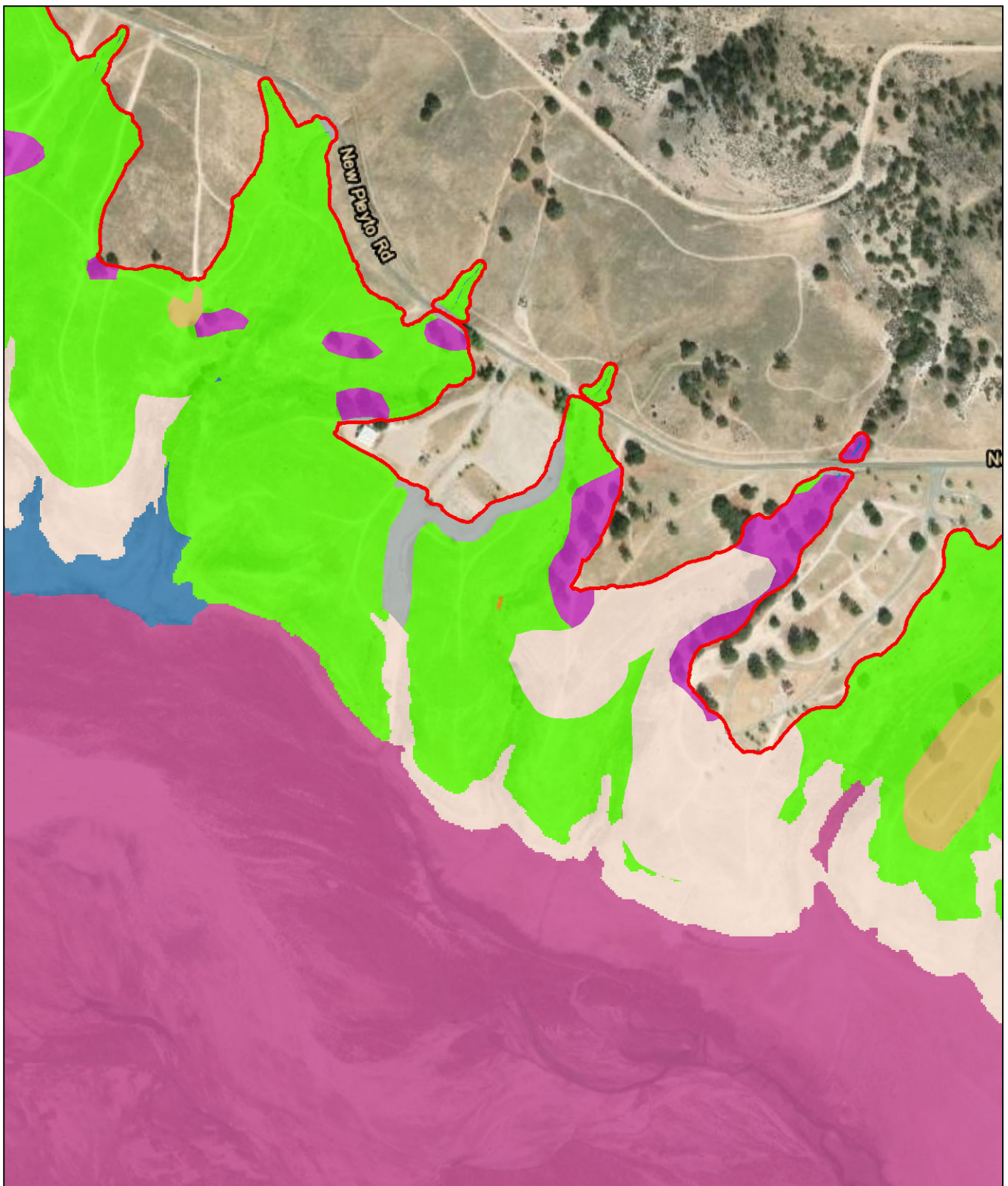
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|--------------------------------|-----------------------------|---------------------|
| Biological Resources Study     | California Buckwheat Scrub  | Lacustrine          |
| <b>Land Cover</b>              | Coastal Scrub               | Mulefat Thickets    |
| Arroyo Willow/Mulefat Thickets | Coyote Brush Scrub          | Riverine            |
| Barren                         | Developed                   | Ruderal             |
| Blue Oak Woodland              | Forest and Woodland         | Valley Oak Woodland |
| California Annual              | Freshwater Emergent Wetland |                     |

### Appendix E - Sheet 55 Land Cover Mapbook



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

\\PDC\GIS\Projects\_1\County of Monterey\00171\_19 InterfakTunnel\Figures\Doc\ERL1\_DEIR\01\_ADEIR\AppendixE\_BioStudyArea\_LandCover.mxd User: 25119 Date: 10/27/2022



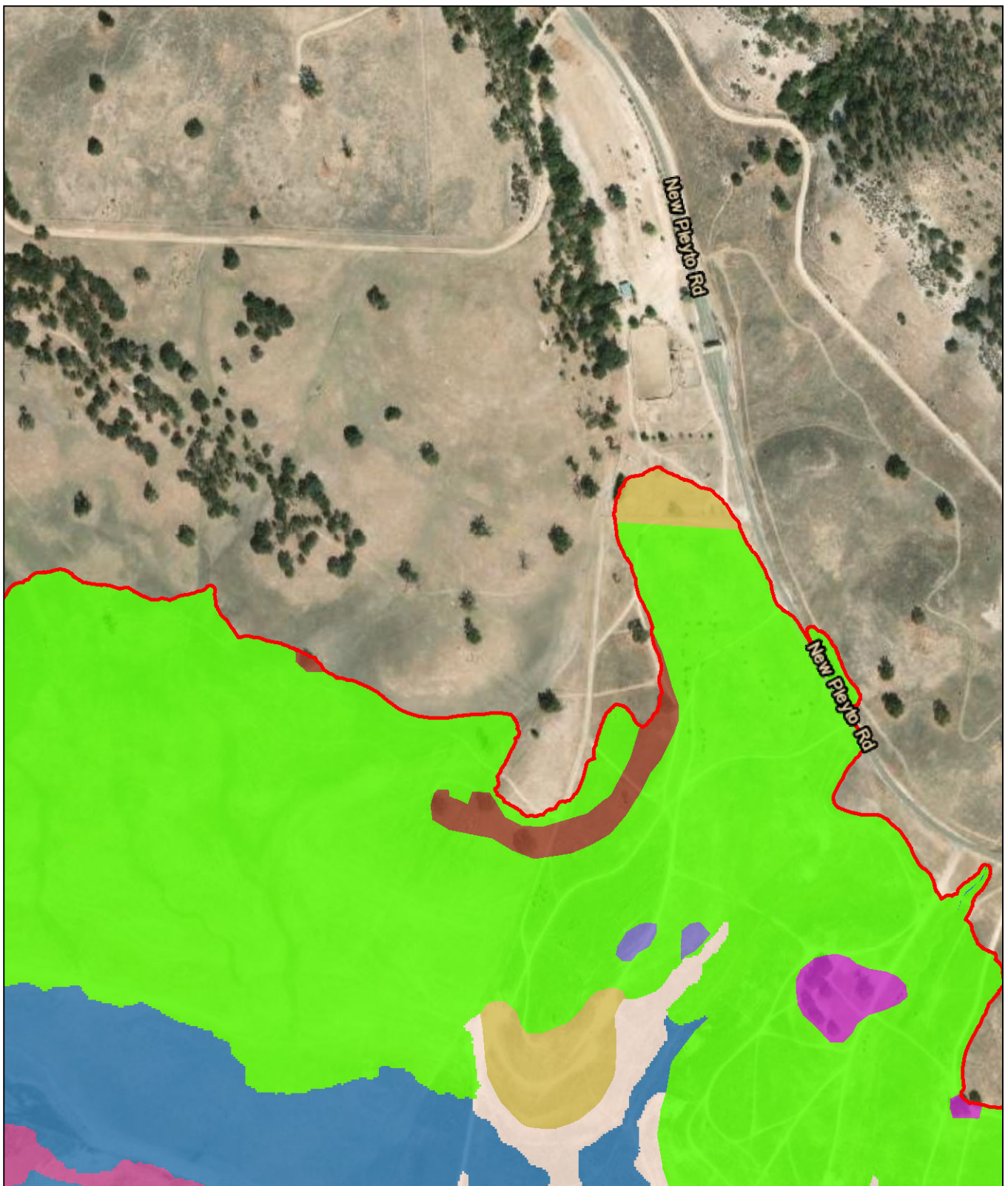
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|---------------------------------|-----------------------------|------------|
| Biological Resources Study Area | California Annual Grassland | Lacustrine |
| <b>Land Cover</b>               | Developed                   | Riverine   |
| Barren                          | Forest and Woodland         | Ruderal    |
| Blue Oak Woodland               | Freshwater Emergent Wetland |            |

### Appendix E - Sheet 56 Land Cover Mapbook

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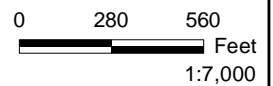


Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.



- |                                 |                             |                     |
|---------------------------------|-----------------------------|---------------------|
| Biological Resources Study Area | California Annual Grassland | Lacustrine          |
| <b>Land Cover</b>               | Coyote Brush Scrub          | Riverine            |
| Barren                          | Developed                   | Ruderal             |
| Blue Oak Woodland               | Freshwater Emergent Wetland | Valley Oak Woodland |

**Appendix E - Sheet 57**  
**Land Cover Mapbook**



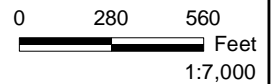
Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

\\PDC\GIS\Projects\County of Monterey\00171\_19\_InterstateTunnel\Figures\Doc\ERL1\_DEIR\01\_ADEIR\AppendixE\_BioStudyArea\_LandCover.mxd User: 25119 Date: 10/27/2022



- |                                 |                             |                             |
|---------------------------------|-----------------------------|-----------------------------|
| Biological Resources Study Area | Blue Oak Woodland           | Forest and Woodland         |
| <b>Land Cover</b>               | California Annual Grassland | Freshwater Emergent Wetland |
| Barren                          | Coastal Scrub               | Lacustrine                  |
|                                 |                             | Riverine                    |

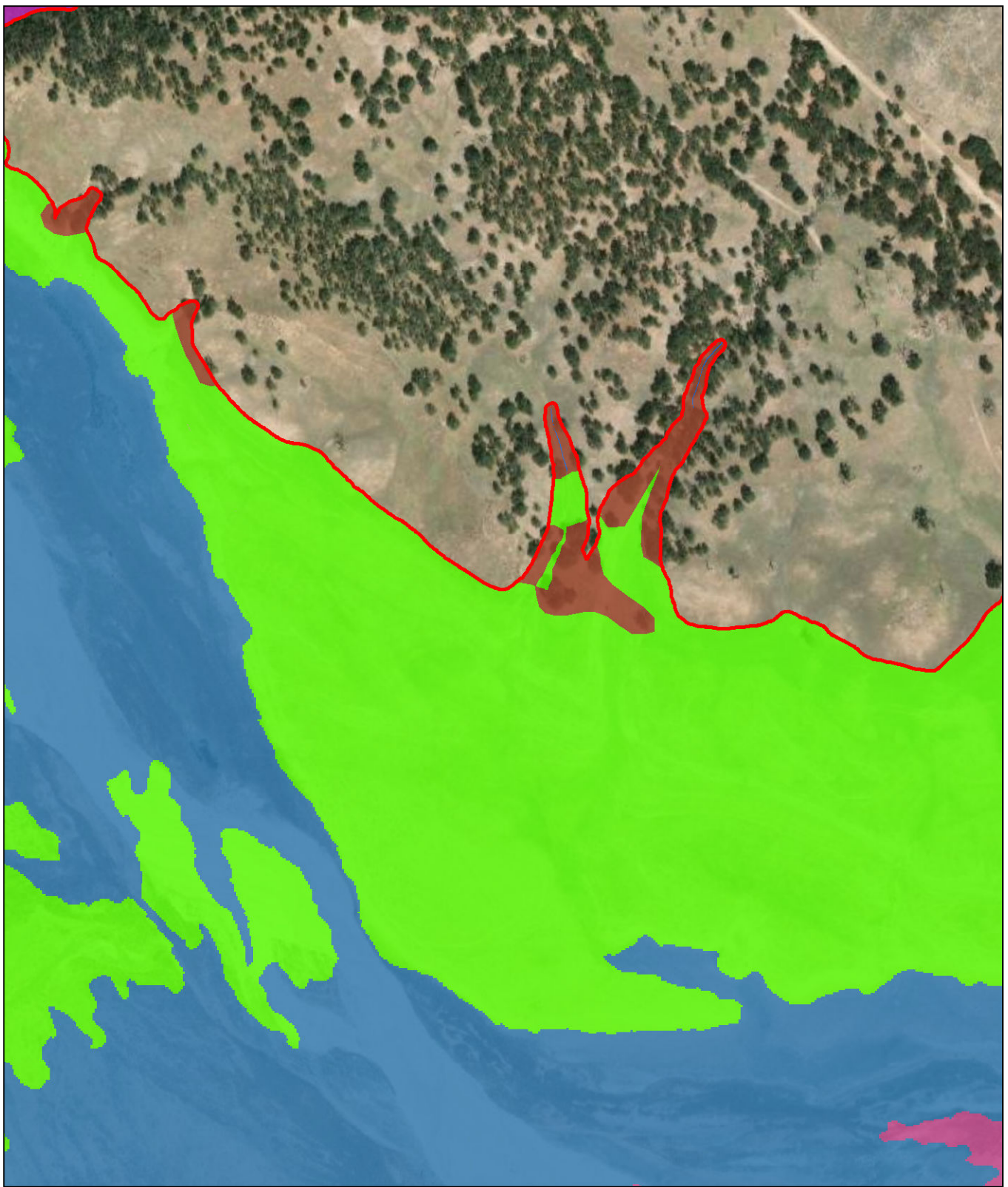
### Appendix E - Sheet 58 Land Cover Mapbook



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

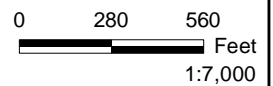


\\PDC\ITROSG\GIS\Projects - \County of Monterey\00171 - 19 InterlakeTunnel\Figures\Doc\EIR1 - DEIR\01\_ADEIR\AppendixE\_BioStudy\Area\_LandCover.mxd User: 25119 Date: 10/27/2022



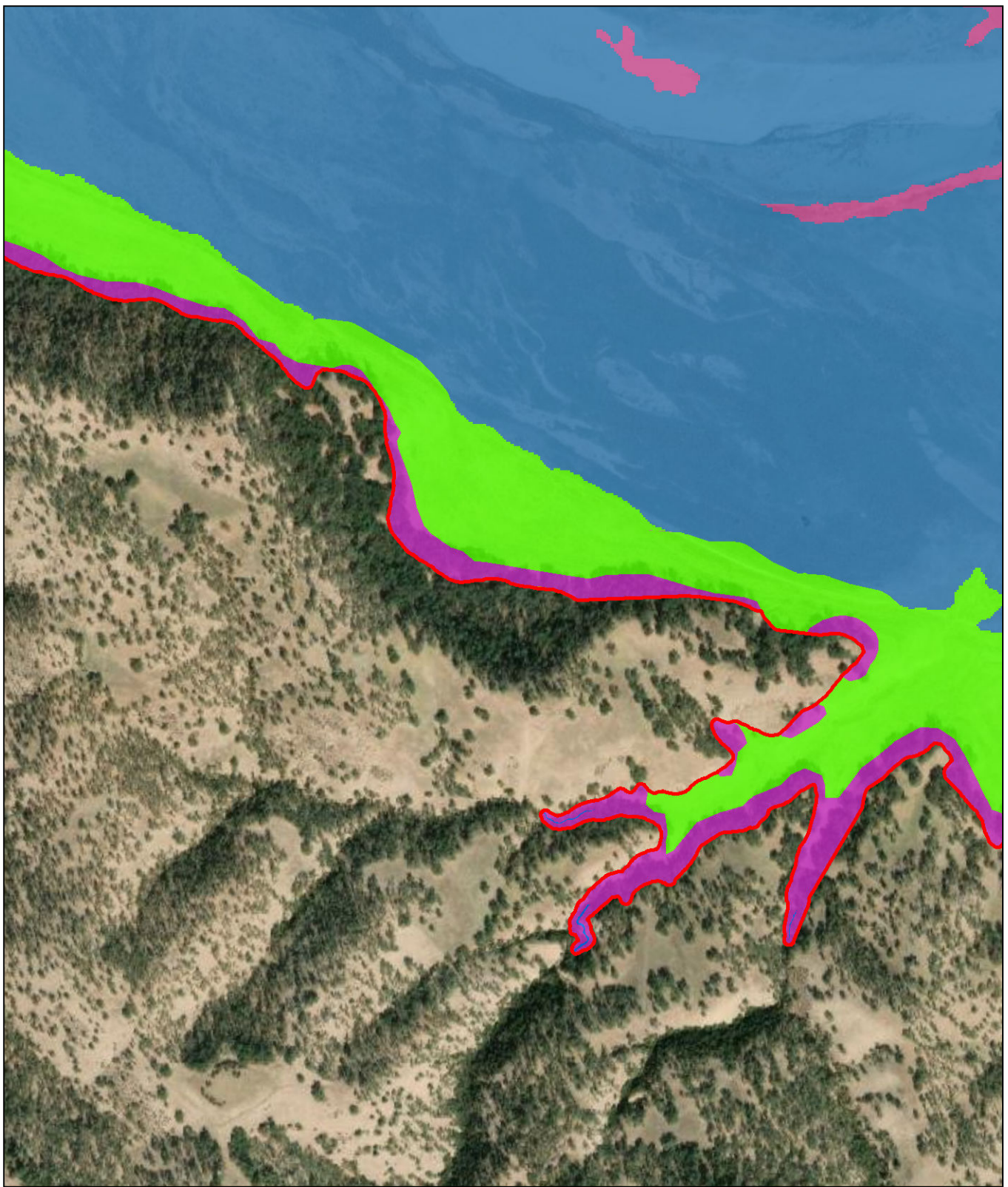
- |                            |                             |                     |
|----------------------------|-----------------------------|---------------------|
| Biological Resources Study | California Annual           | Lacustrine          |
| <b>Land Cover</b>          | Forest and Woodland         | Riverine            |
| Blue Oak Woodland          | Freshwater Emergent Wetland | Valley Oak Woodland |








**Appendix E - Sheet 59**  
**Land Cover Mapbook**



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

\\PDC\IT\GIS\Projects - \County of Monterey\00171 - 19 InterlakeTunnel\Figures\Doc\ERL1\_DEIR\01\_ADEIR\AppendixE\_BioStudy\Area\_LandCover.mxd User: 25119 Date: 10/27/2022



- |  |   |  |
|--|---|--|
|  Biological Resources Study |  California Annual           |  Lacustrine |
| <b>Land Cover</b>  |  Forest and Woodland         |  Riverine   |
|  Blue Oak Woodland          |  Freshwater Emergent Wetland |  |

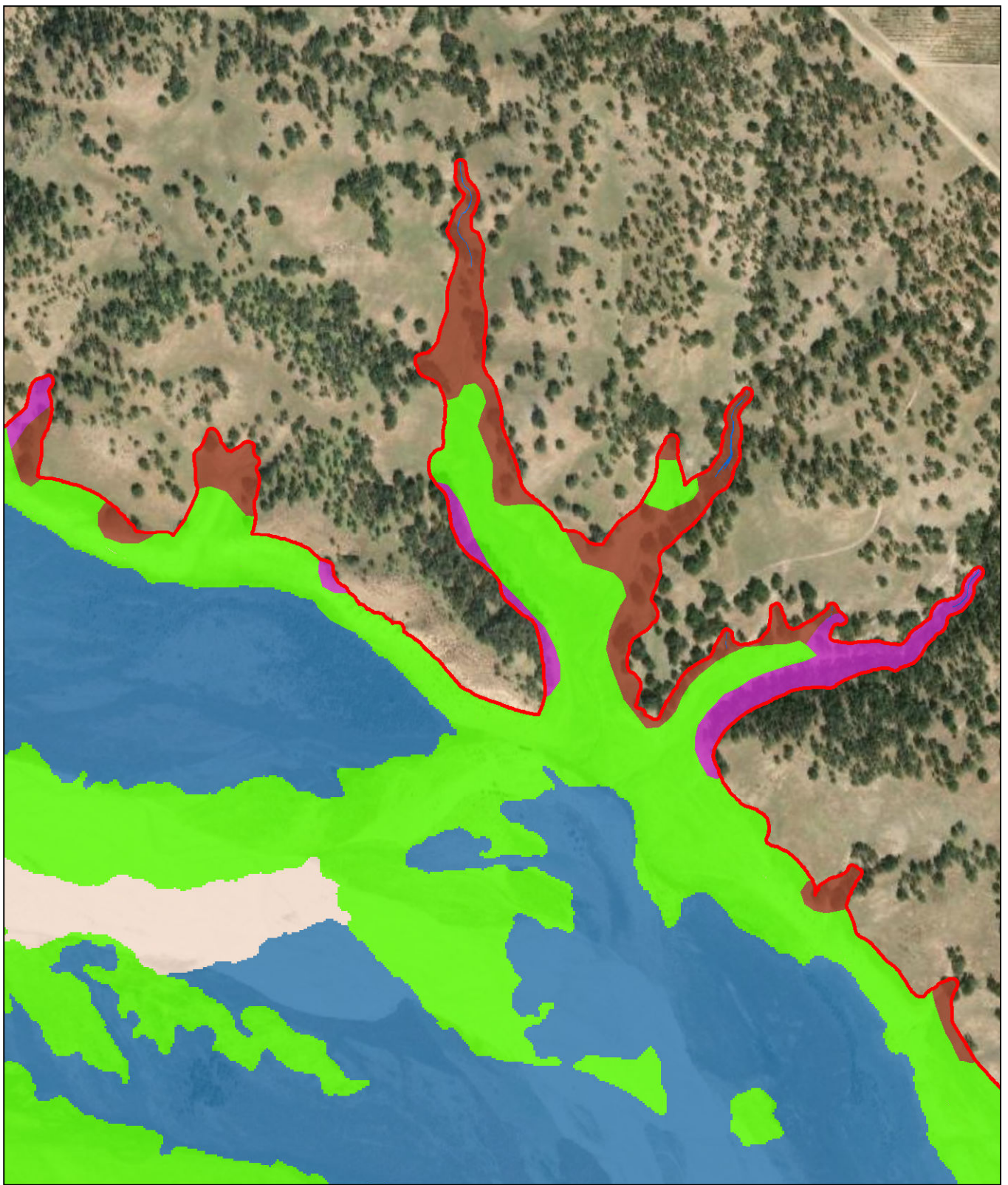
### Appendix E - Sheet 60 Land Cover Mapbook









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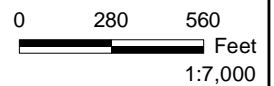
Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

\\PDC\GIS\Projects\County of Monterey\00171\_19\_InterstateTunnel\Figures\Doc\ERL1\_DEIR\01\_ADEIR\AppendixE\_BioStudyArea\_LandCover.mxd User: 25119 Date: 10/27/2022



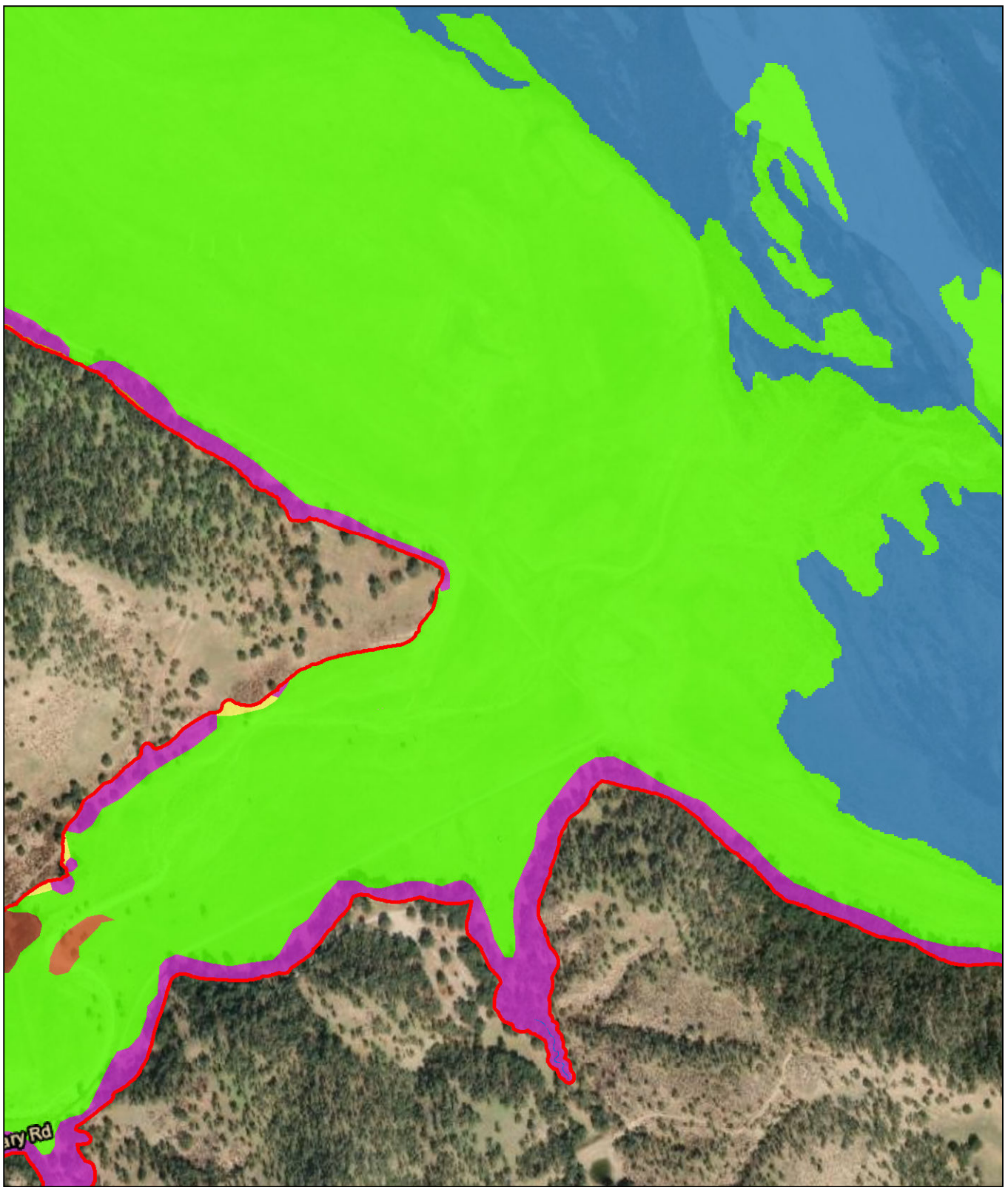
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|---|---|---|
|  Biological Resources Study Area |  Blue Oak Woodland           |  Freshwater Emergent Wetland |
| <b>Land Cover</b>   |  California Annual Grassland |  Riverine                    |
|  Barren                          |  Forest and Woodland         |  Valley Oak Woodland         |

### Appendix E - Sheet 61 Land Cover Mapbook



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

\\PDC\GIS\Projects - \County of Monterey\00171 - InterlakeTunnel\Figures\Doc\ER\1 - DEIR\01\_ADEIR\AppendixE\_BioStudy\Area\_LandCover.mxd User: 25119 Date: 10/27/2022



- |                            |                            |                             |
|----------------------------|----------------------------|-----------------------------|
| Biological Resources Study | California Annual          | Freshwater Emergent Wetland |
| <b>Land Cover</b>          | California Buckwheat Scrub | Red Willow Thickets         |
| Blue Oak Woodland          | Forest and Woodland        | Riverine                    |
|                            | Valley Oak Woodland        |                             |

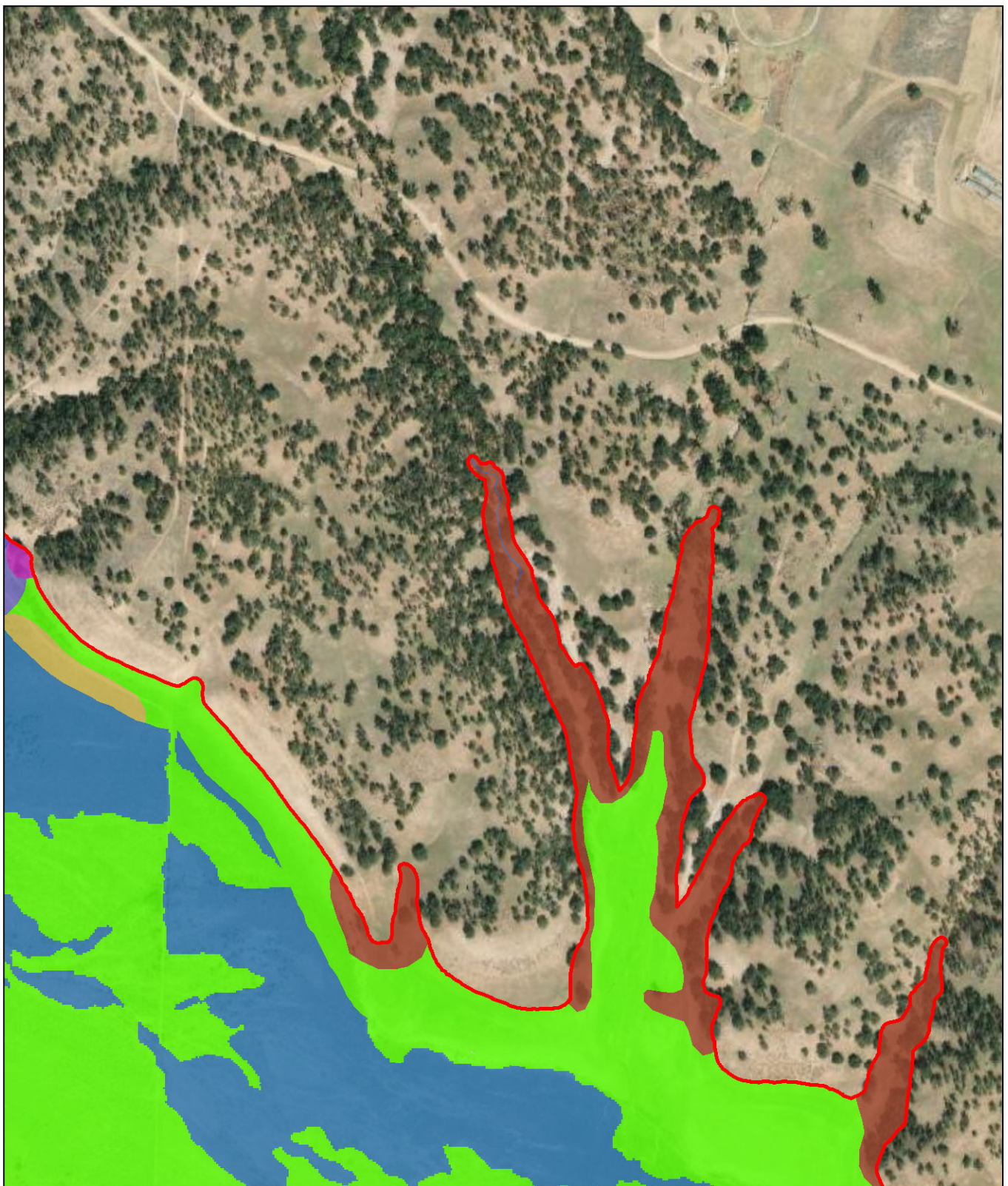
### Appendix E - Sheet 62 Land Cover Mapbook











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Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

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- |   |   |   |
|---|---|---|
|  Biological Resources Study Area |  Coyote Brush Scrub          |  Riverine            |
| <b>Land Cover</b>   |  Forest and Woodland         |  Ruderal             |
|  Blue Oak Woodland               |  Freshwater Emergent Wetland |  Valley Oak Woodland |
|  California Annual Grassland     |  Mulefat Thickets            |   |

### Appendix E - Sheet 63 Land Cover Mapbook

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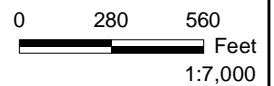
Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

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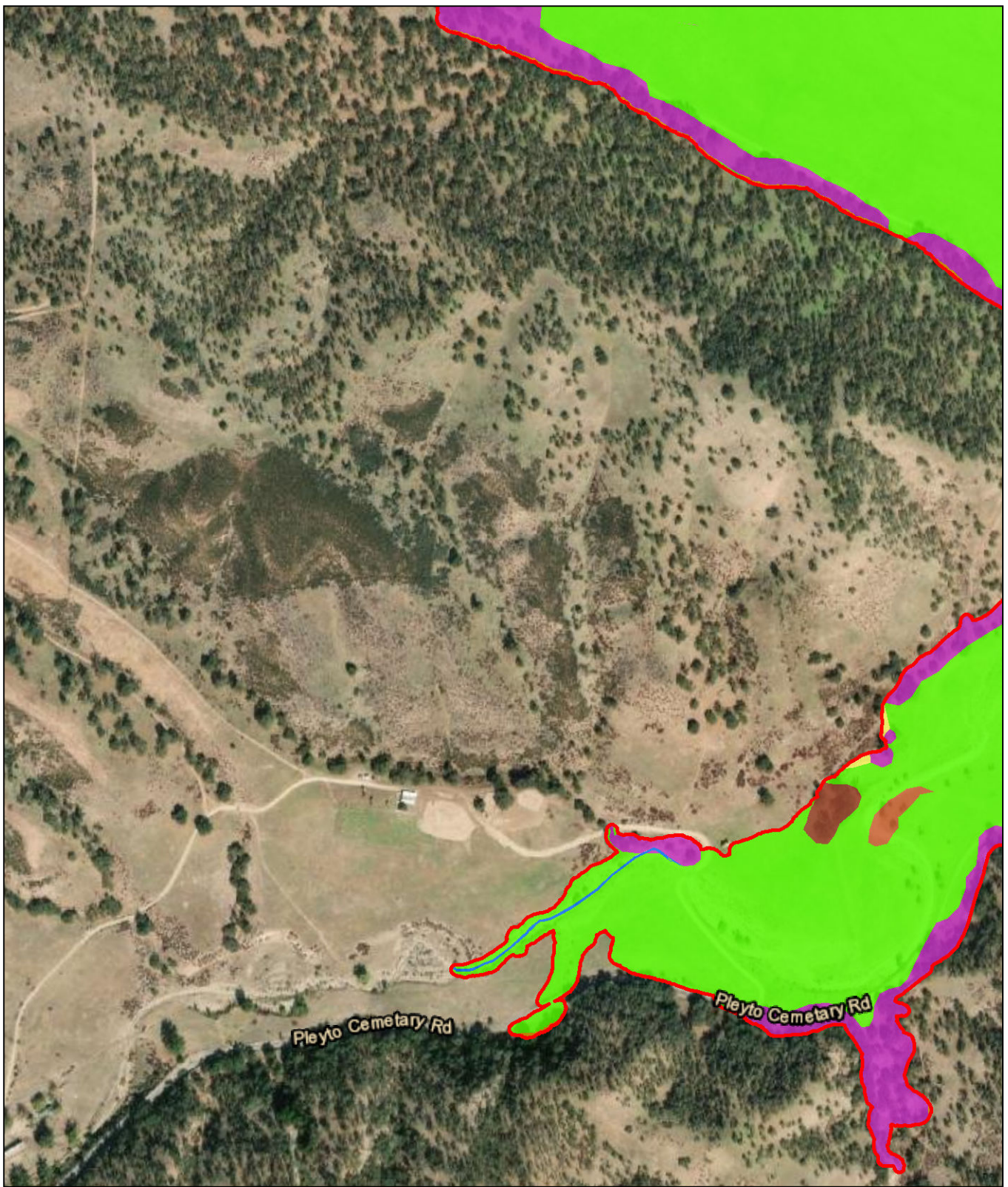


- |                                 |                             |                             |
|---------------------------------|-----------------------------|-----------------------------|
| Biological Resources Study Area | Blue Oak Woodland           | Freshwater Emergent Wetland |
| <b>Land Cover</b>               | California Annual Grassland | Perennial Needlegrass       |
| Barren                          | Forest and Woodland         | Valley Oak Woodland         |

### Appendix E - Sheet 64 Land Cover Mapbook

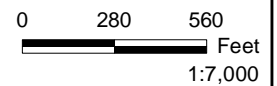


Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.



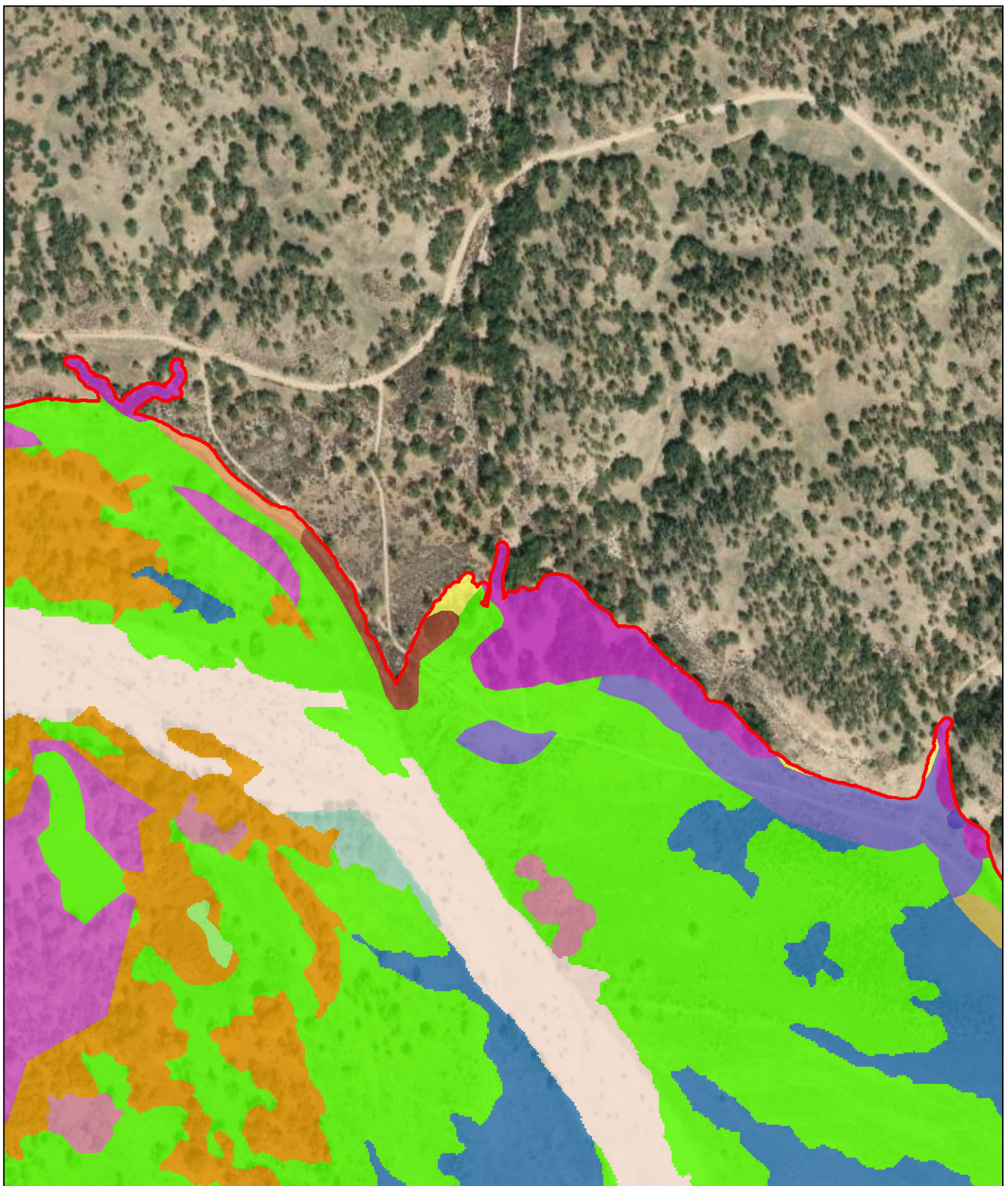
- |                                 |                             |                     |
|---------------------------------|-----------------------------|---------------------|
| Biological Resources Study Area | California Annual Grassland | Red Willow Thickets |
| <b>Land Cover</b>               | California Buckwheat Scrub  | Riverine            |
| Blue Oak Woodland               | Forest and Woodland         | Valley Oak Woodland |


















**Appendix E - Sheet 65  
Land Cover Mapbook**



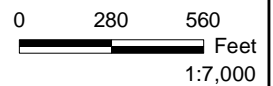
Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

\\PDC\GIS\Projects\1\County of Monterey\00171\_19\_InterfakTunnel\Figures\Doc\EIR1\_DEIR\01\_ADEIR\AppendixE\_BioStudyArea\_LandCover.mxd User: 25119 Date: 10/27/2022



- |   |   |  |
|---|---|--|
|  Biological Resources Study Area |  Coyote Brush Scrub                      |  Mixed Riparian Forest and Woodland             |
| <b>Land Cover</b>   |  Forest and Woodland                     |  Mulefat Thickets                               |
|  Barren                          |  Fremont Cottonwood/Arroyo Willow Forest |  Riverine                                       |
|  Blue Oak Woodland               |  Freshwater Emergent Wetland             |  Ruderal  |
|  California Annual Grassland     |  Giant Reed Thickets                     |  Valley Oak Woodland                            |
|  California Buckwheat Scrub      |   |  Valley Oak Woodland/California Buckwheat Scrub |
|  Coastal Scrub                   |   |  |

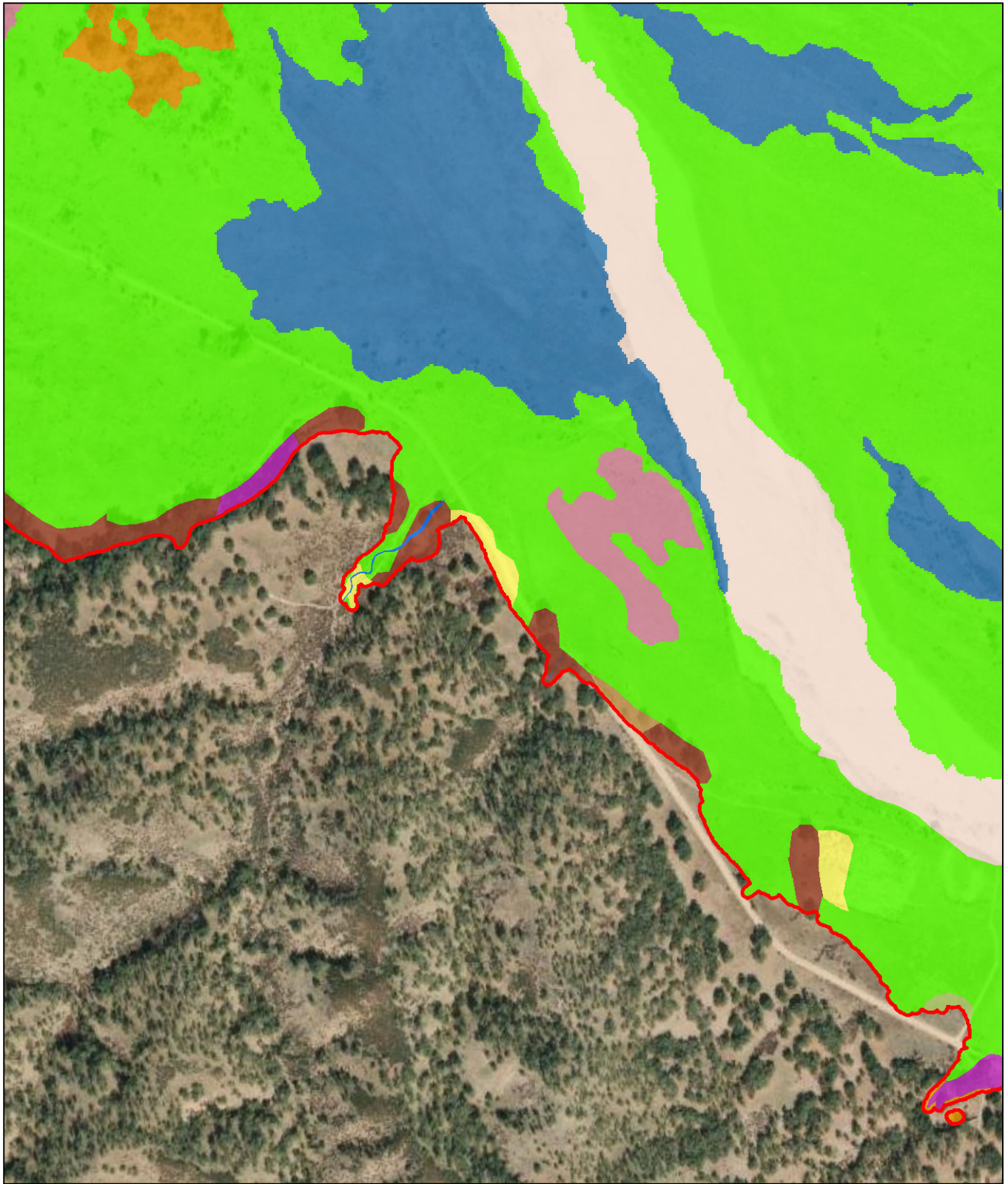
### Appendix E - Sheet 66 Land Cover Mapbook




Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.



\\PDC\GIS\Projects\County of Monterey\00171\_19 InterlakeTrunnellEjuras\Doc\EIR\_1\_DEIR\01\_ADEIR\AppendixE\_BioStudy\Area\_LandCover.mxd User: 25119 Date: 10/27/2022





 Biological Resources Study


**Land Cover**


 Barren


 Blue Oak Woodland


 California Annual

 California Buckwheat Scrub

 Coastal Scrub


 Forest and Woodland

 Freshwater Emergent Wetland

 Nuttall's Scrub Oak Scrubland

 Perennial Needlegrass

 Riverine

 Valley Oak Woodland

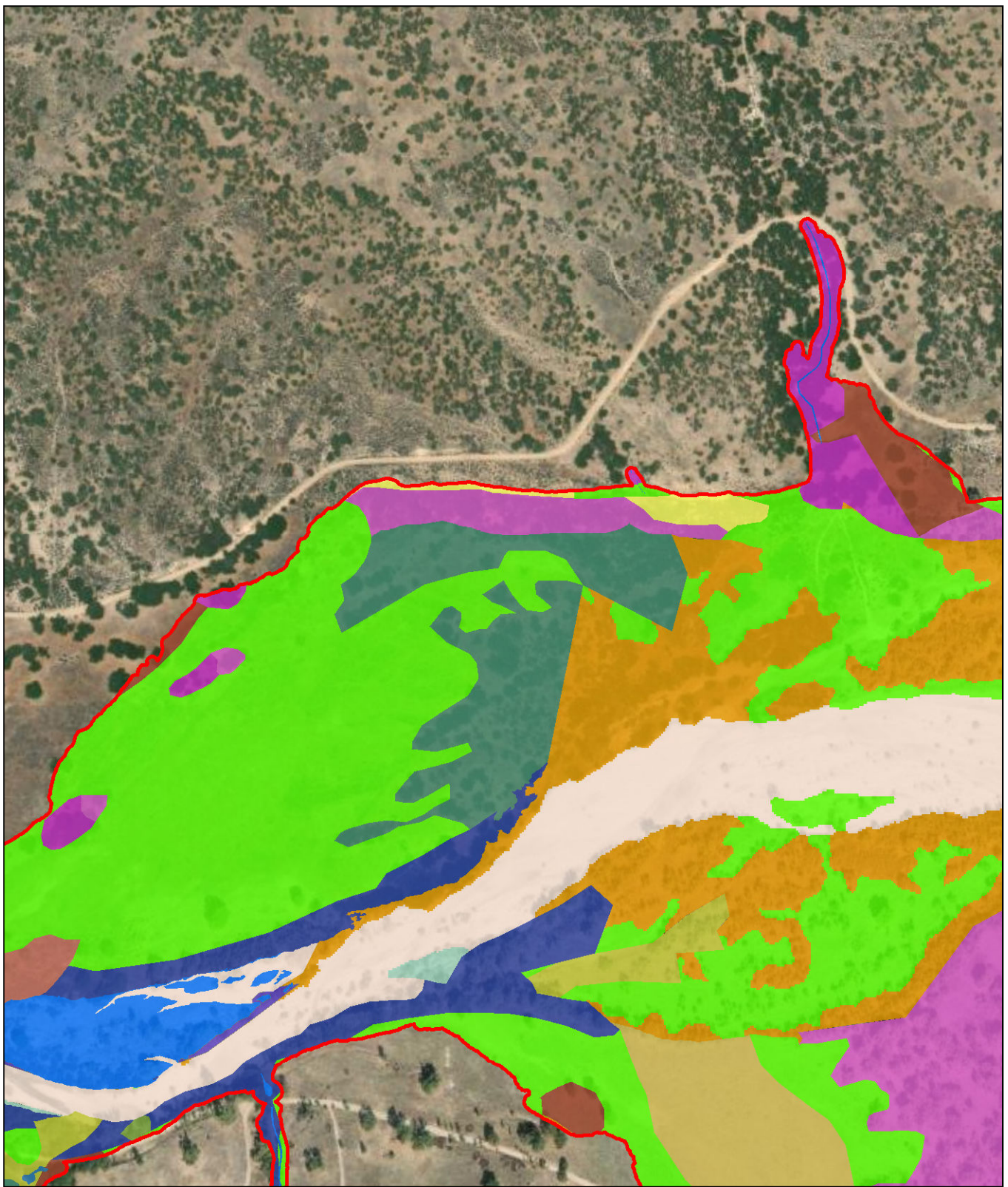
**Appendix E - Sheet 67  
Land Cover Mapbook**


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
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 Biological Resources Study Area






**Land Cover**

-  Arroyo Willow Thickets
-  Barren
-  Blue Oak Woodland
-  California Annual Grassland
-  California Buckeye Groves
-  California Buckwheat Scrub

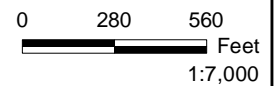
 Forest and Woodland

-  Fremont Cottonwood Forest
-  Fremont Cottonwood/Arroyo Willow Forest
-  Freshwater Emergent Wetland
-  Giant Reed Thickets
-  Mixed Riparian Forest and Woodland

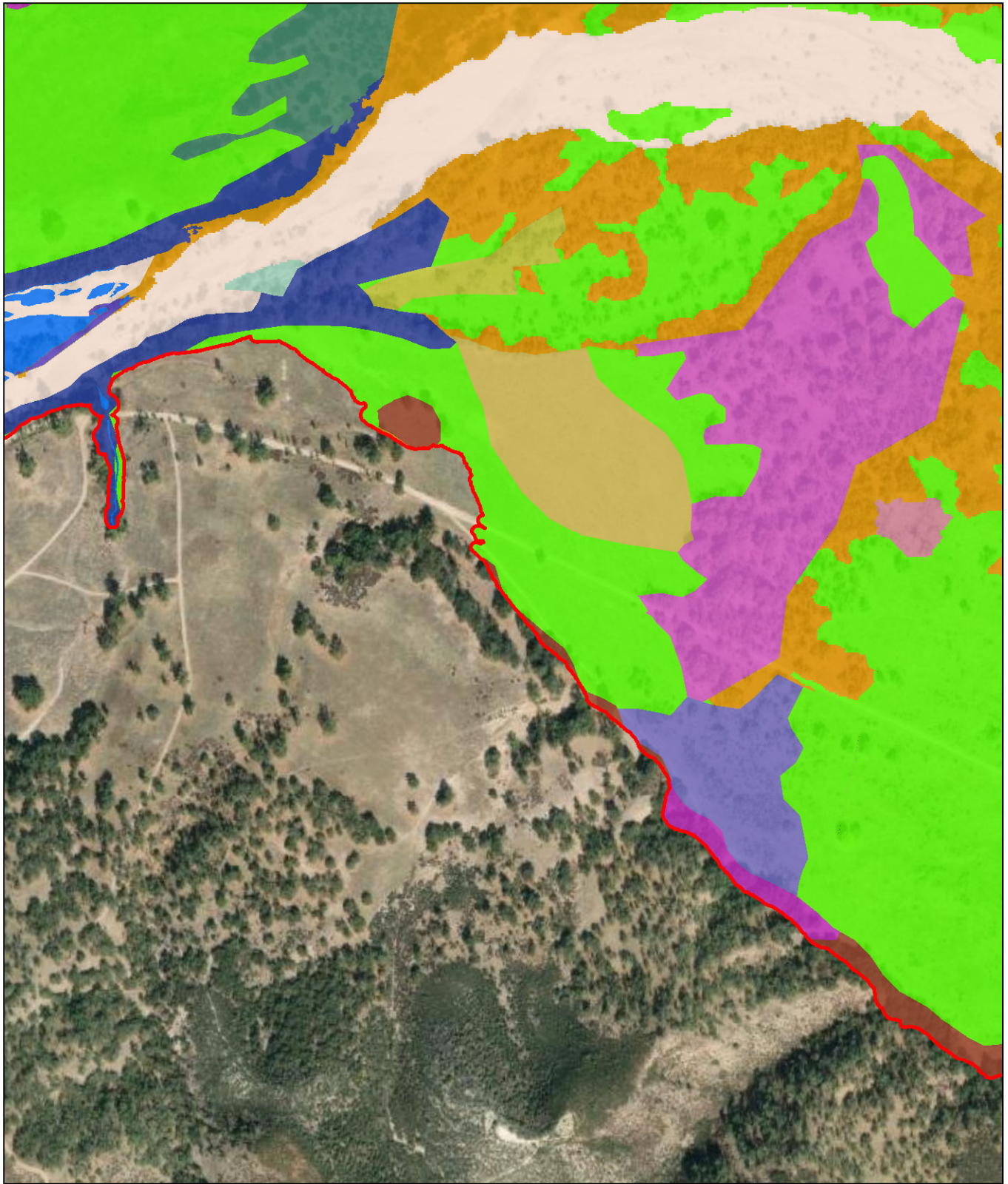
 Mulefat Thickets

-  Riverine
-  Ruderal
-  Shining Willow Thickets
-  Valley Oak Woodland
-  Valley Oak Woodland/Fremont Cottonwood Forest

**Appendix E - Sheet 68  
Land Cover Mapbook**



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.



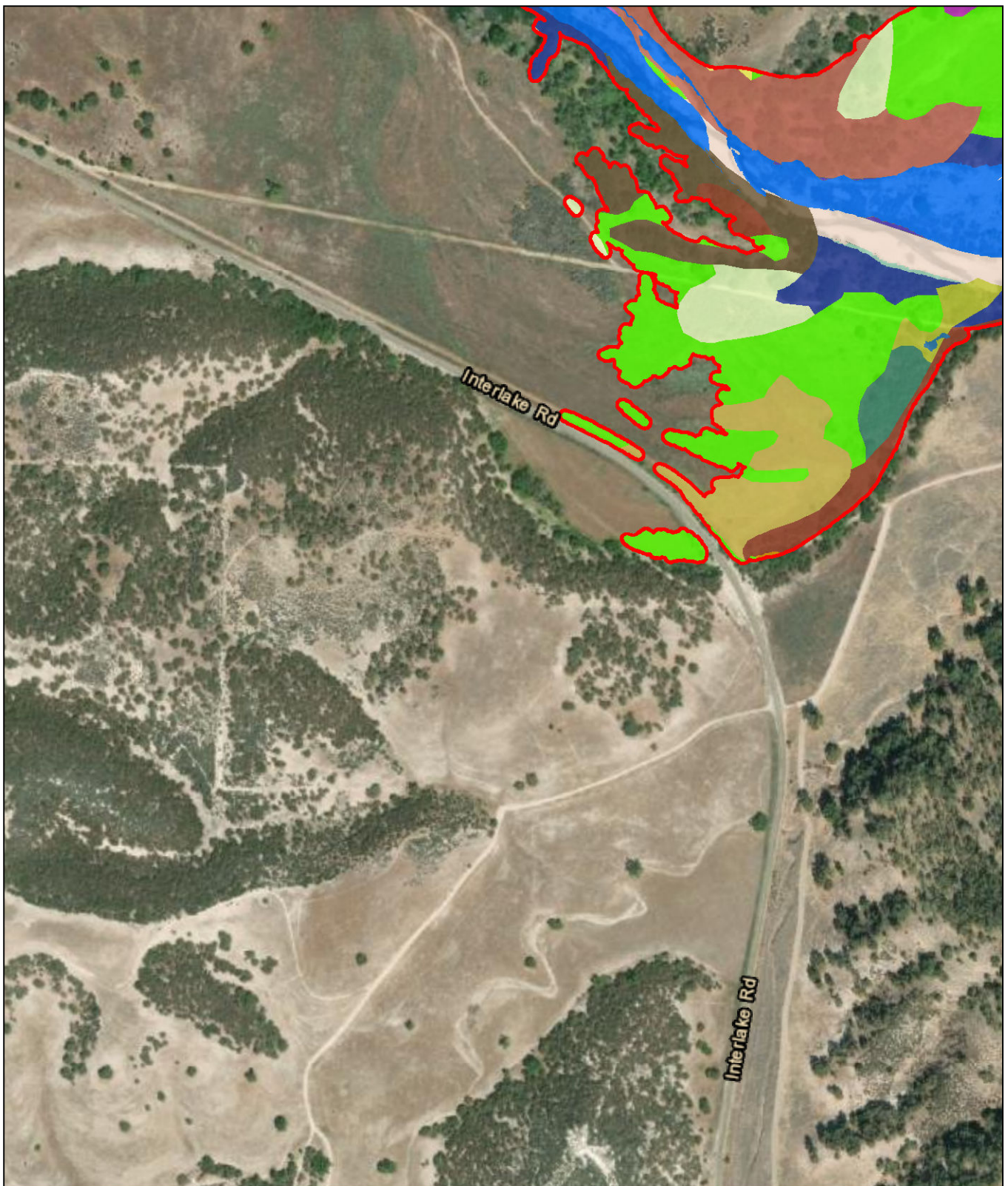
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|---------------------------------|---|------------------------------------|
| Biological Resources Study Area | Coyote Brush Scrub                      | Mixed Riparian Forest and Woodland |
| <b>Land Cover</b>               | Forest and Woodland                     | Mulefat Thickets                   |
| Arroyo Willow Thickets          | Fremont Cottonwood Forest               | Riverine                           |
| Barren                          | Fremont Cottonwood/Arroyo Willow Forest | Ruderal                            |
| Blue Oak Woodland               | Freshwater Emergent Wetland             | Shining Willow Thickets            |
| California Annual Grassland     |   | Valley Oak Woodland                |
| Coastal Scrub                   |   |                                    |

### Appendix E - Sheet 69 Land Cover Mapbook

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Feet  
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Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.



  Biological Resources Study Area

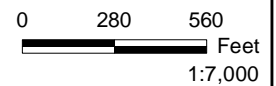
**Land Cover**

- Arroyo Willow Thickets
- Barren
- Black Cottonwood Forest
- Blue Oak Woodland
- California Annual Grassland
- California Buckwheat Scrub

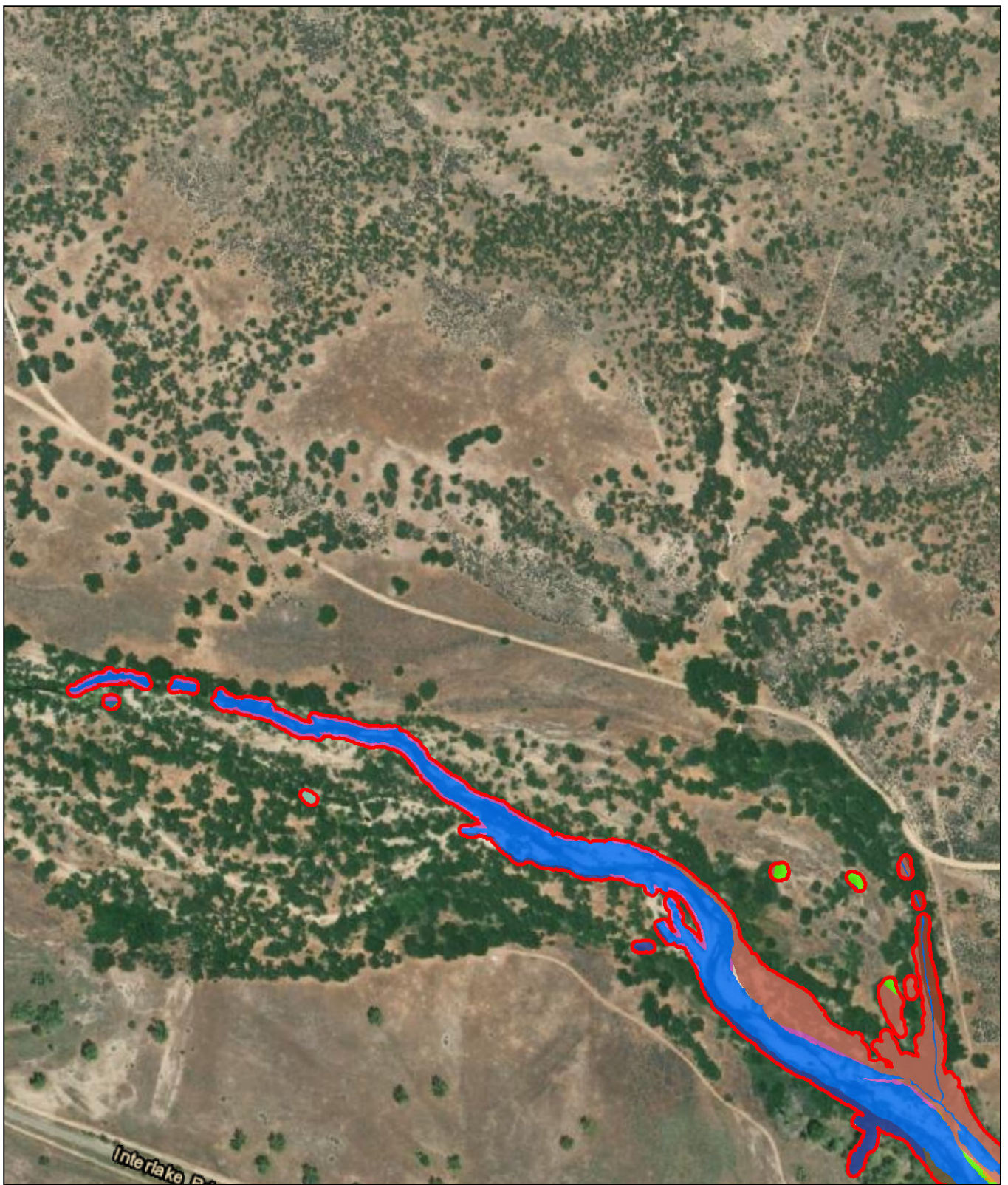
- Forest and Woodland
- Fremont Cottonwood Forest
- Fremont Cottonwood/Arroyo Willow Forest
- Freshwater Emergent Wetland
- Giant Reed Thickets
- Mixed Riparian Forest and Woodland

- Mulefat Thickets
- Riverine
- Ruderal
- Sandbar Willow Thickets
- Shining Willow Thickets
- Valley Oak Woodland
- Valley Oak Woodland/Fremont Cottonwood Forest

**Appendix E - Sheet 70  
Land Cover Mapbook**

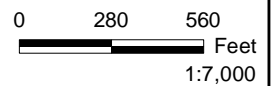


Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.



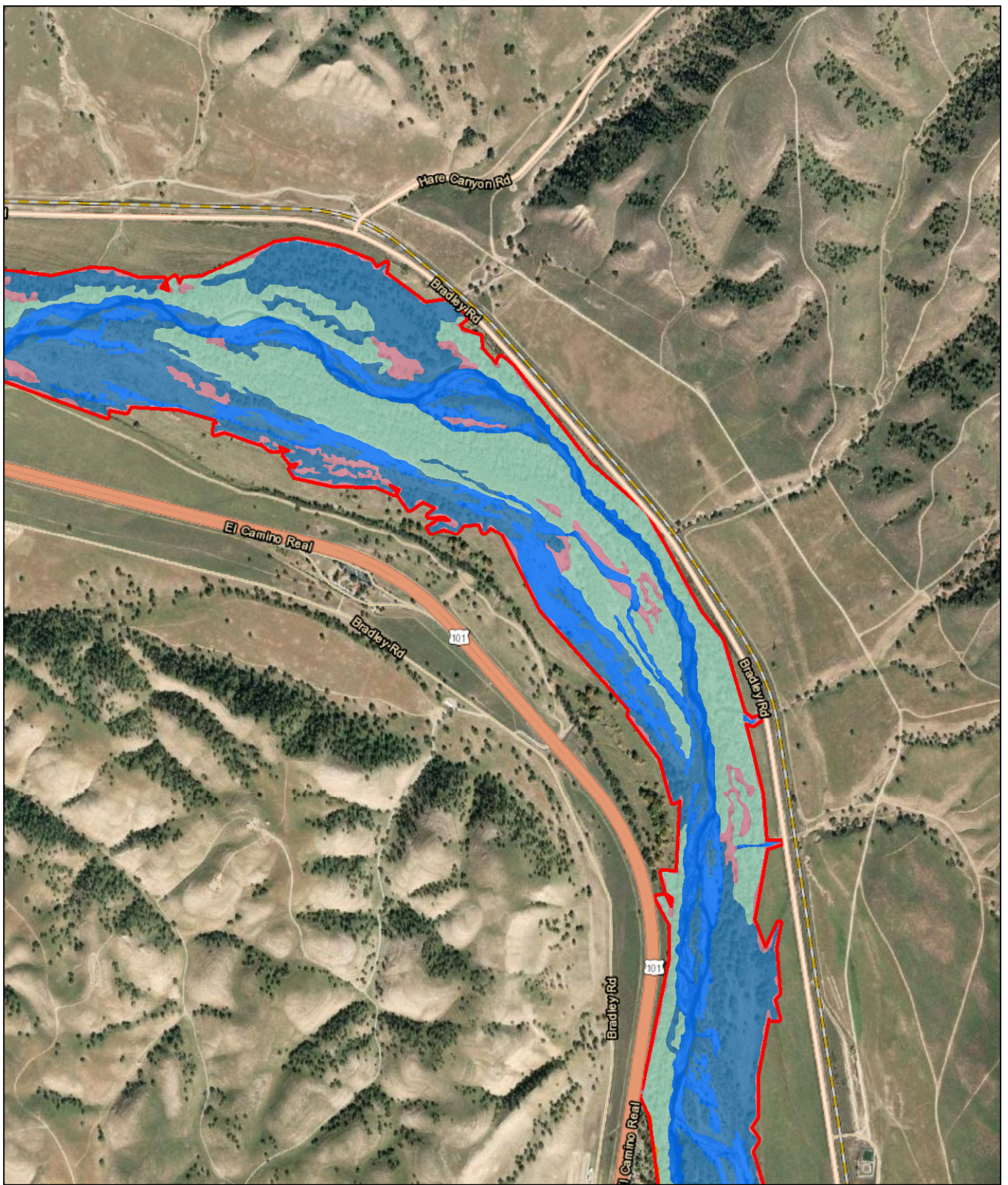
- |                                 |   |   |
|---------------------------------|---|---|
| Biological Resources Study Area | Fremont Cottonwood Forest               | Riverine                                      |
| <b>Land Cover</b>               | Fremont Cottonwood/Arroyo Willow Forest | Sandbar Willow Thickets                       |
| Barren                          | Freshwater Emergent Wetland             | Valley Oak Woodland                           |
| Black Cottonwood Forest         | Mixed Riparian Forest and Woodland      | Valley Oak Woodland/Fremont Cottonwood Forest |
| California Annual Grassland     |   |   |
| Forest and Woodland             |   |   |

### Appendix E - Sheet 71 Land Cover Mapbook



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

\\PDC\GIS\Projects - County of Monterey\00171\_19\_InterstateTunnel\Figures\Doc\EIR\_1 - DEIR\01\_ADEIR\AppendixE\_BioStudy\Area\_LandCover.mxd User: 25119 Date: 10/27/2022



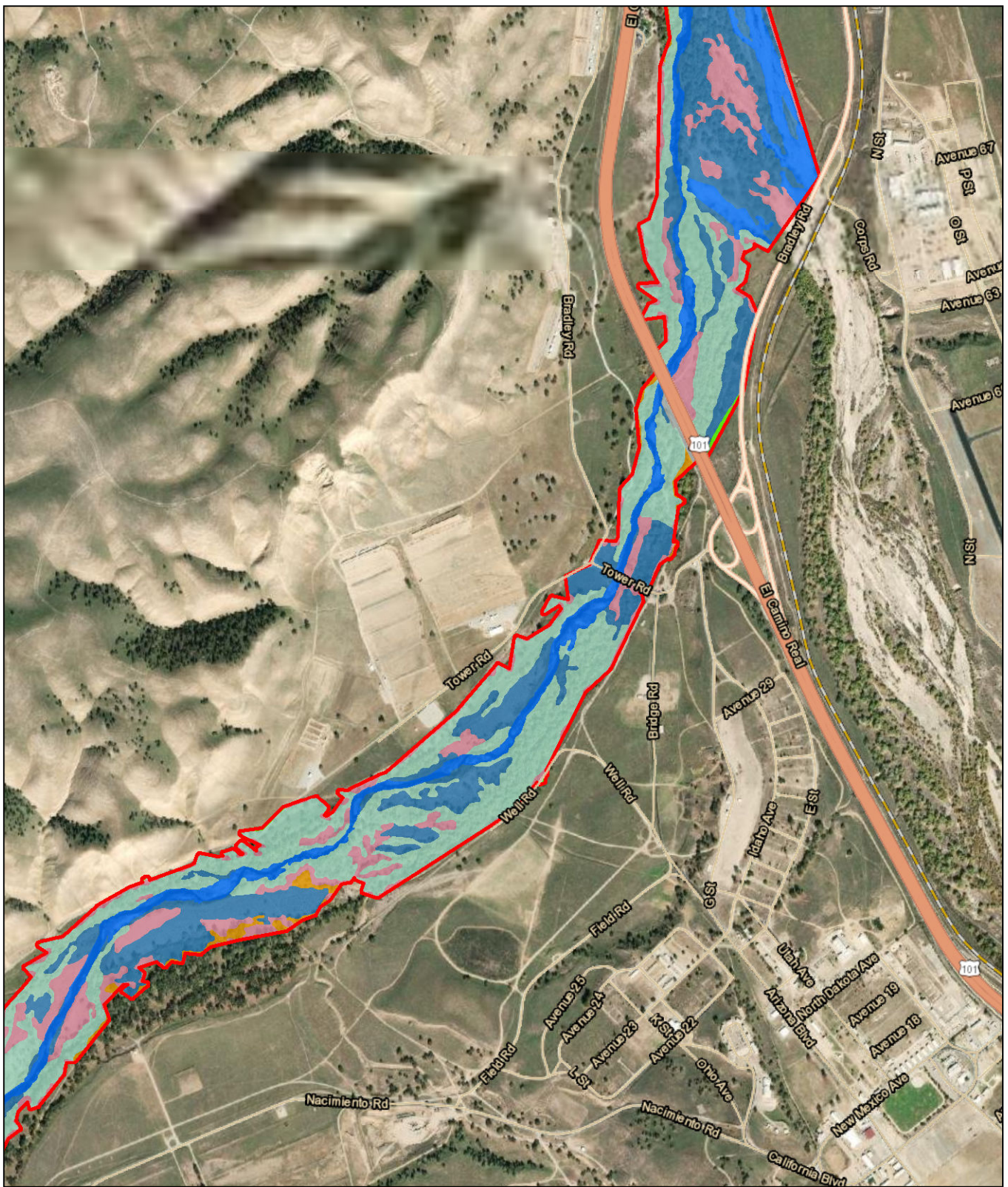
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|---------------------------------|---------------------|------------------------------------|
| Biological Resources Study Area | Coastal Scrub       | Freshwater Emergent Wetland        |
| <b>Land Cover</b>               | Developed           | Mixed Riparian Forest and Woodland |
| California Annual Grassland     | Forest and Woodland | Riverine                           |

### Appendix E - Sheet 72 Land Cover Mapbook

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Feet  
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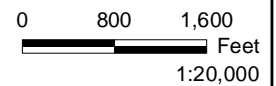


Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

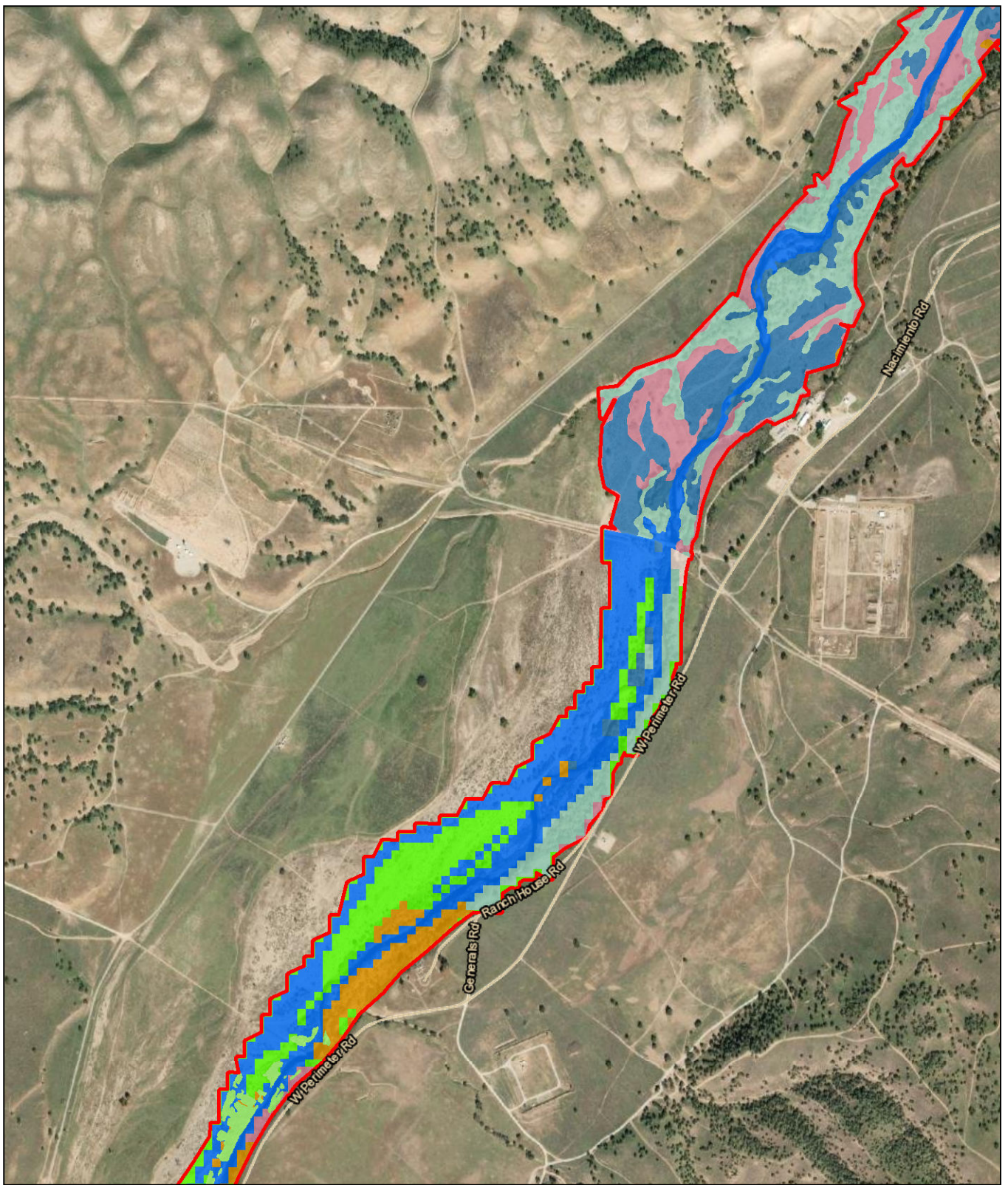


- |                            |                     |                                    |
|----------------------------|---------------------|------------------------------------|
| Biological Resources Study | Coastal Scrub       | Freshwater Emergent Wetland        |
| <b>Land Cover</b>          | Developed           | Mixed Riparian Forest and Woodland |
| California Annual          | Forest and Woodland | Riverine                           |

### Appendix E - Sheet 73 Land Cover Mapbook

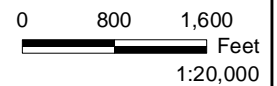


Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.



- |                            |                     |                                    |
|----------------------------|---------------------|------------------------------------|
| Biological Resources Study | Coastal Scrub       | Giant Reed Thickets                |
| <b>Land Cover</b>          | Developed           | Mixed Riparian Forest and Woodland |
| Barren                     | Forest and Woodland | Freshwater Emergent Wetland        |
| California Annual          | Riverine            |                                    |

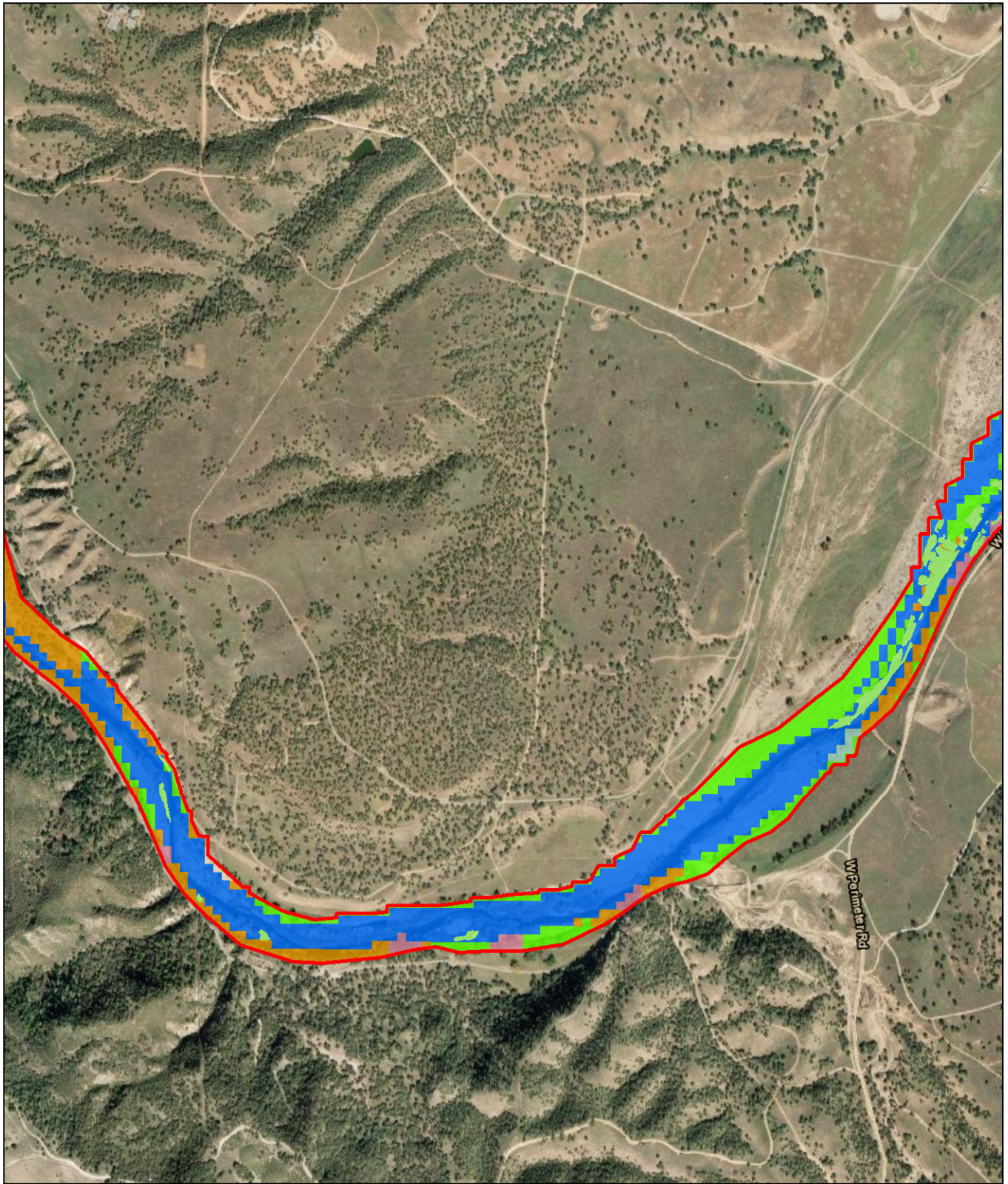
### Appendix E - Sheet 74 Land Cover Mapbook



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.



\\PDC\GIS\Projects\1\County of Monterey\00171\_19\_InterfakTunnel\Figures\Doc\ERL1\_DEIR\01\_ADEIR\AppendixE\_BioStudyArea\_LandCover.mxd User: 25119 Date: 10/27/2022



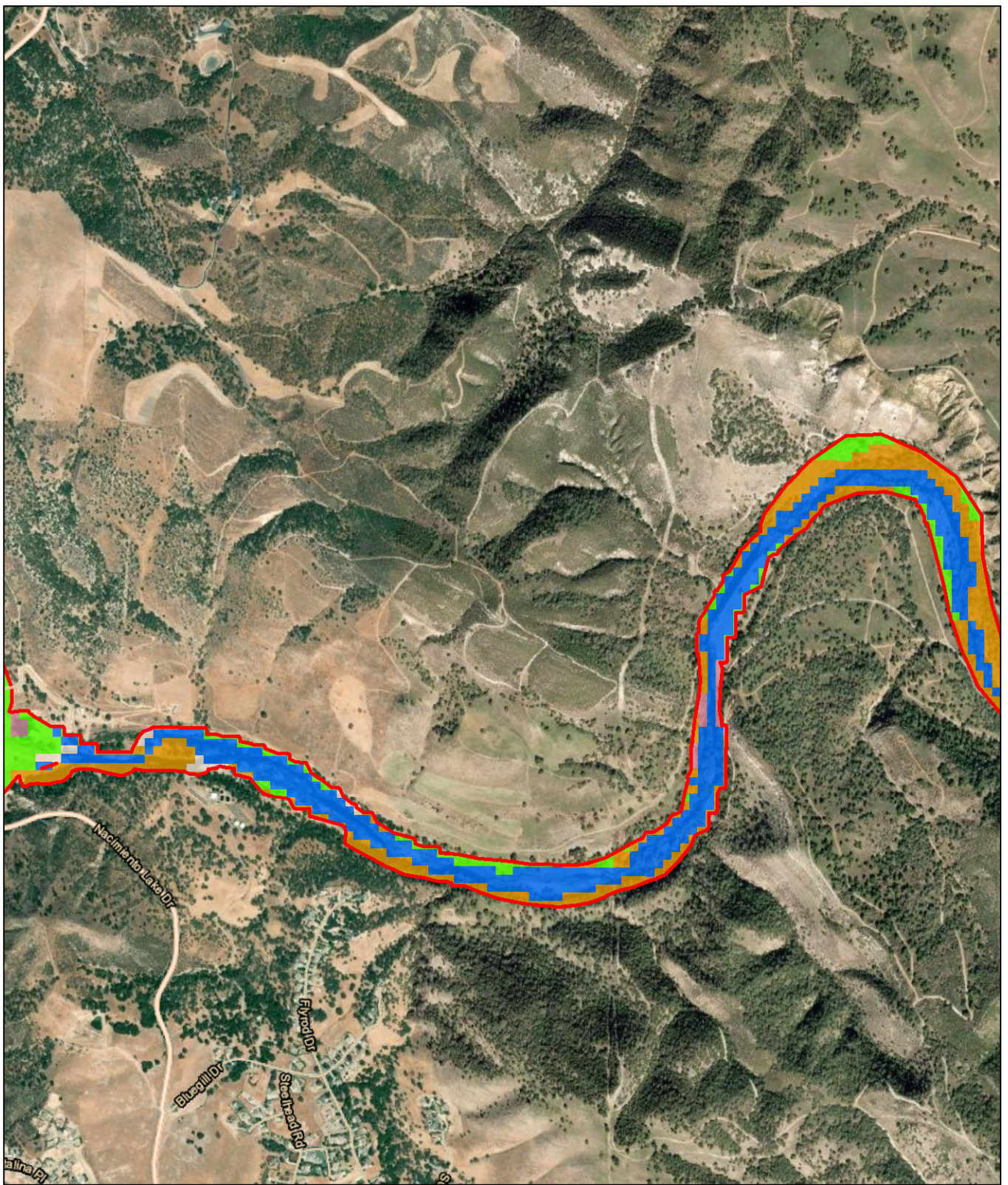
- |                                 |                             |                                    |
|---------------------------------|-----------------------------|------------------------------------|
| Biological Resources Study Area | California Annual Grassland | Giant Reed Thickets                |
| <b>Land Cover</b>               | Coastal Scrub               | Mixed Riparian Forest and Woodland |
| Barren                          | Forest and Woodland         | Riverine                           |

### Appendix E - Sheet 75 Land Cover Mapbook

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Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.



- |                                 |                             |                     |
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| Biological Resources Study Area | California Annual Grassland | Giant Reed Thickets |
| Coastal Scrub                   | Riverine                    |                     |
| Barren                          | Forest and Woodland         |                     |

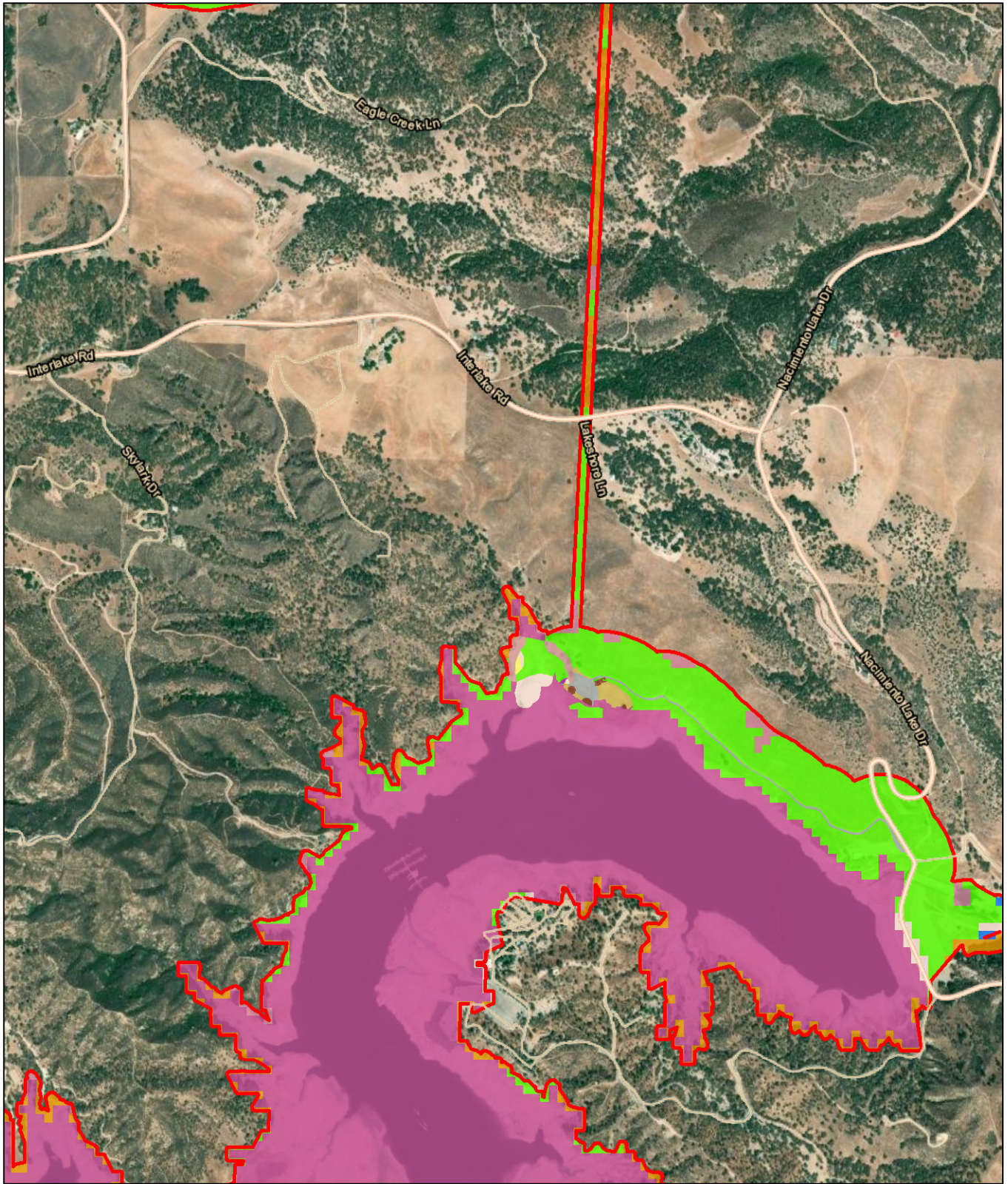
### Appendix E - Sheet 76 Land Cover Mapbook

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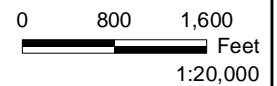
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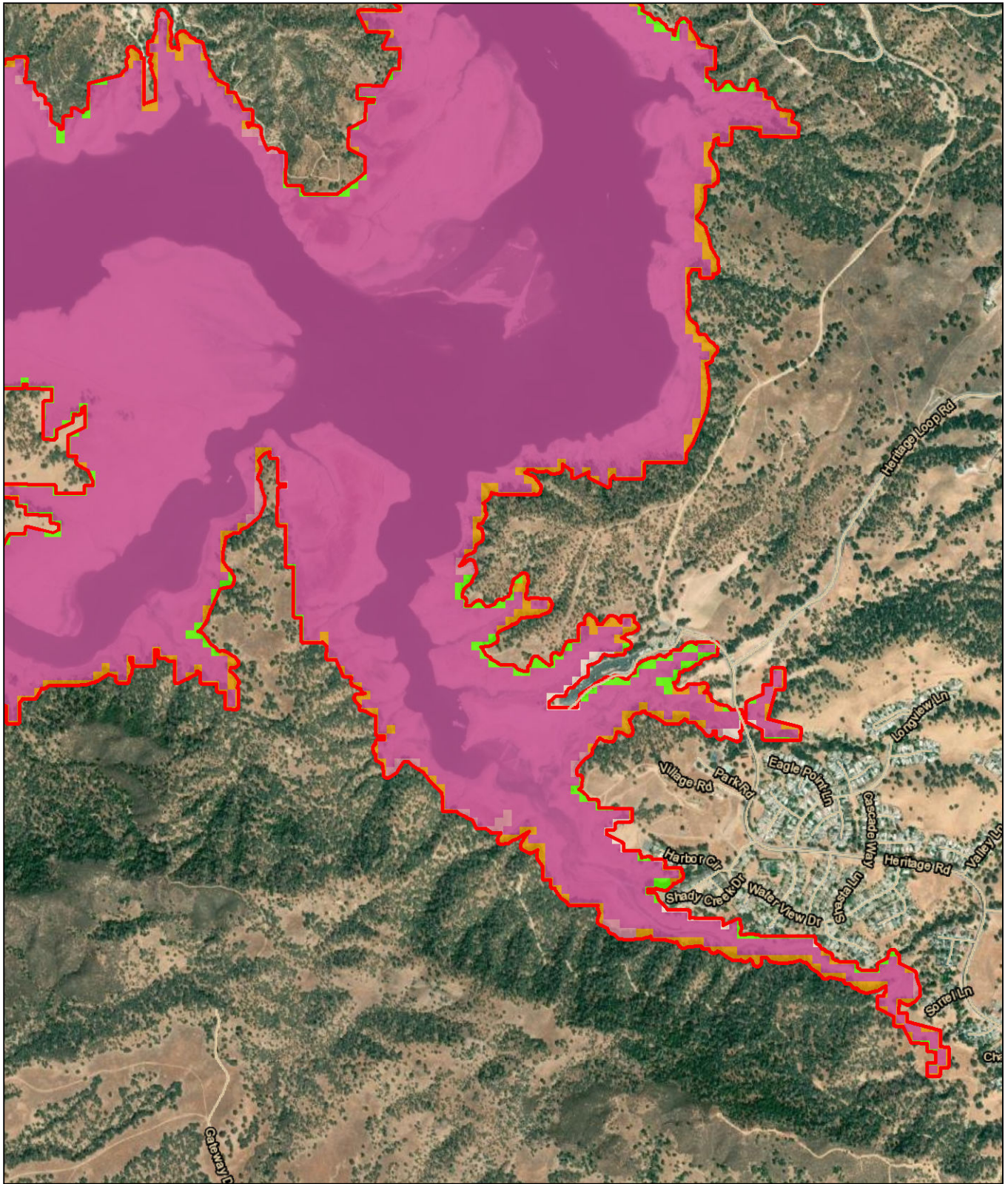
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|---------------------------------|----------------------------|---------------------|
| Biological Resources Study Area | California Buckwheat Scrub | Lacustrine          |
| <b>Land Cover</b>               | Coast Live Oak Woodland    | Riverine            |
| Barren                          | Coastal Scrub              | Ruderal             |
| Blue Oak Woodland               | Developed                  | Scrub Oak Chaparral |
| California Annual Grassland     | Forest and Woodland        | Valley Oak Woodland |

### Appendix E - Sheet 77 Land Cover Mapbook



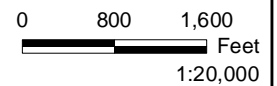
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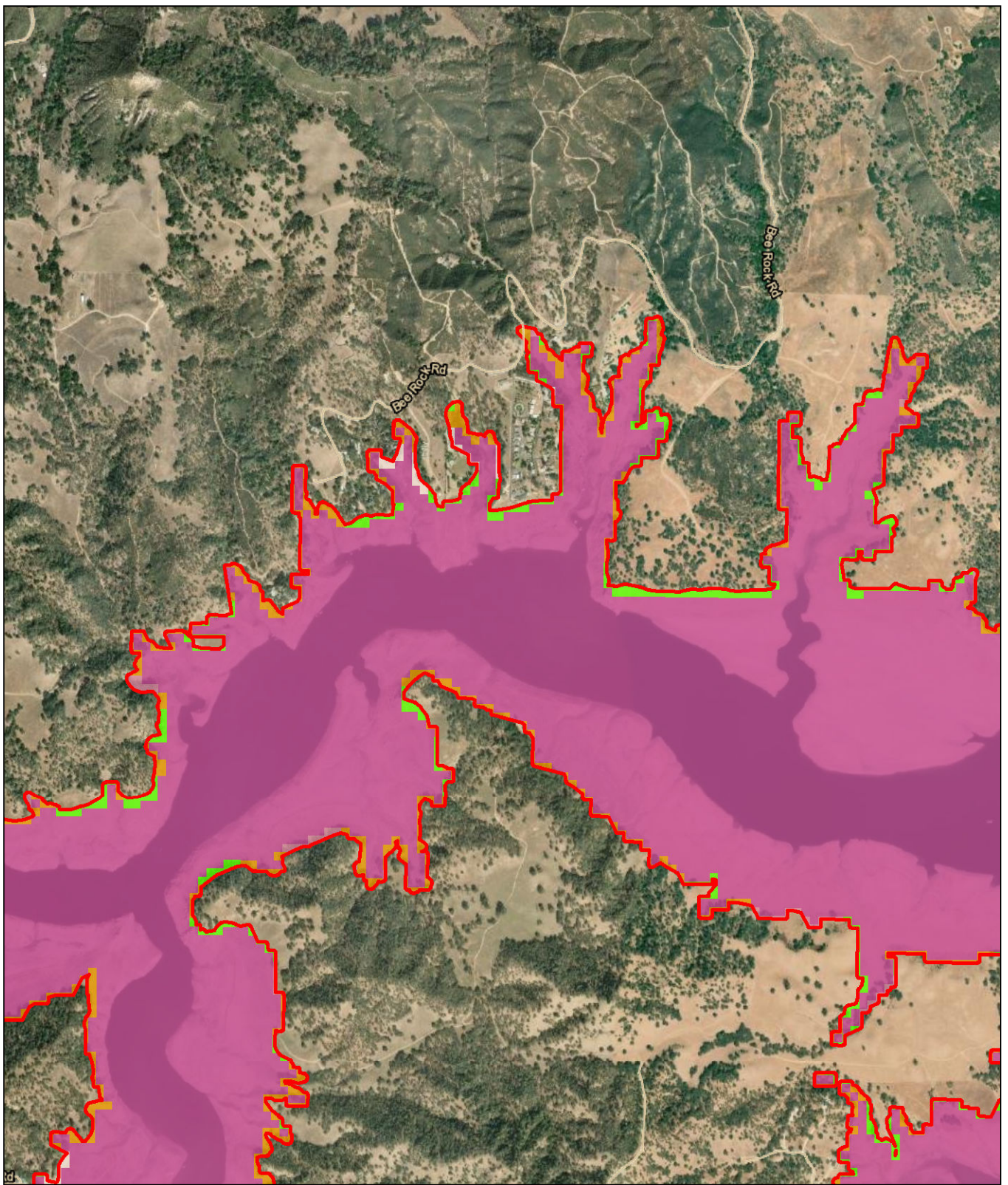
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| Biological Resources Study Area | Barren              | Coastal Scrub |
| California Annual Grassland     | Forest and Woodland | Lacustrine    |

### Appendix E - Sheet 78 Land Cover Mapbook



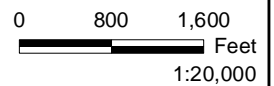
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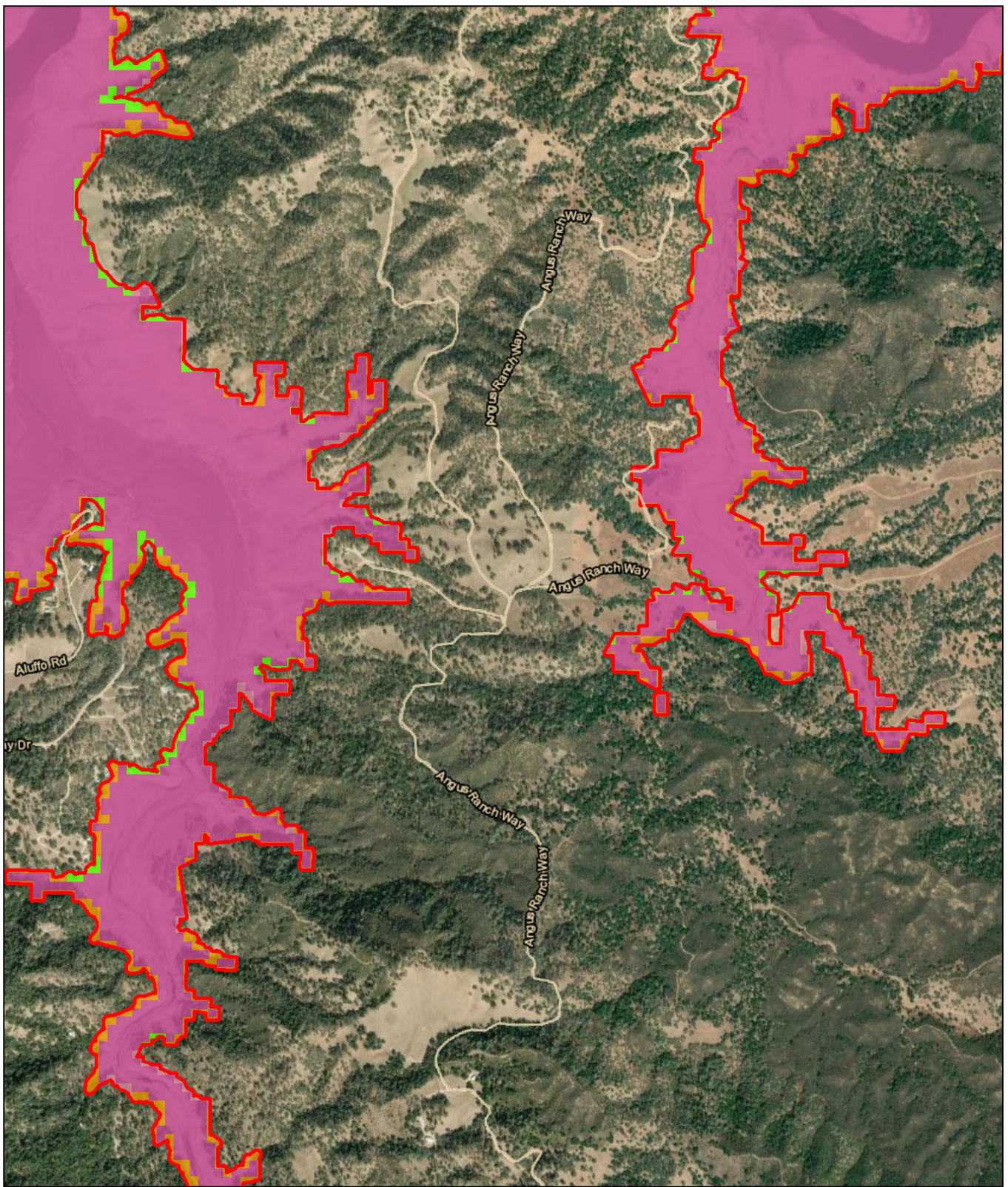
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| Biological Resources Study Area | Barren              | Coastal Scrub |
| California Annual Grassland     | Forest and Woodland | Lacustrine    |

**Appendix E - Sheet 79**  
**Land Cover Mapbook**



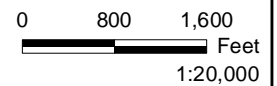
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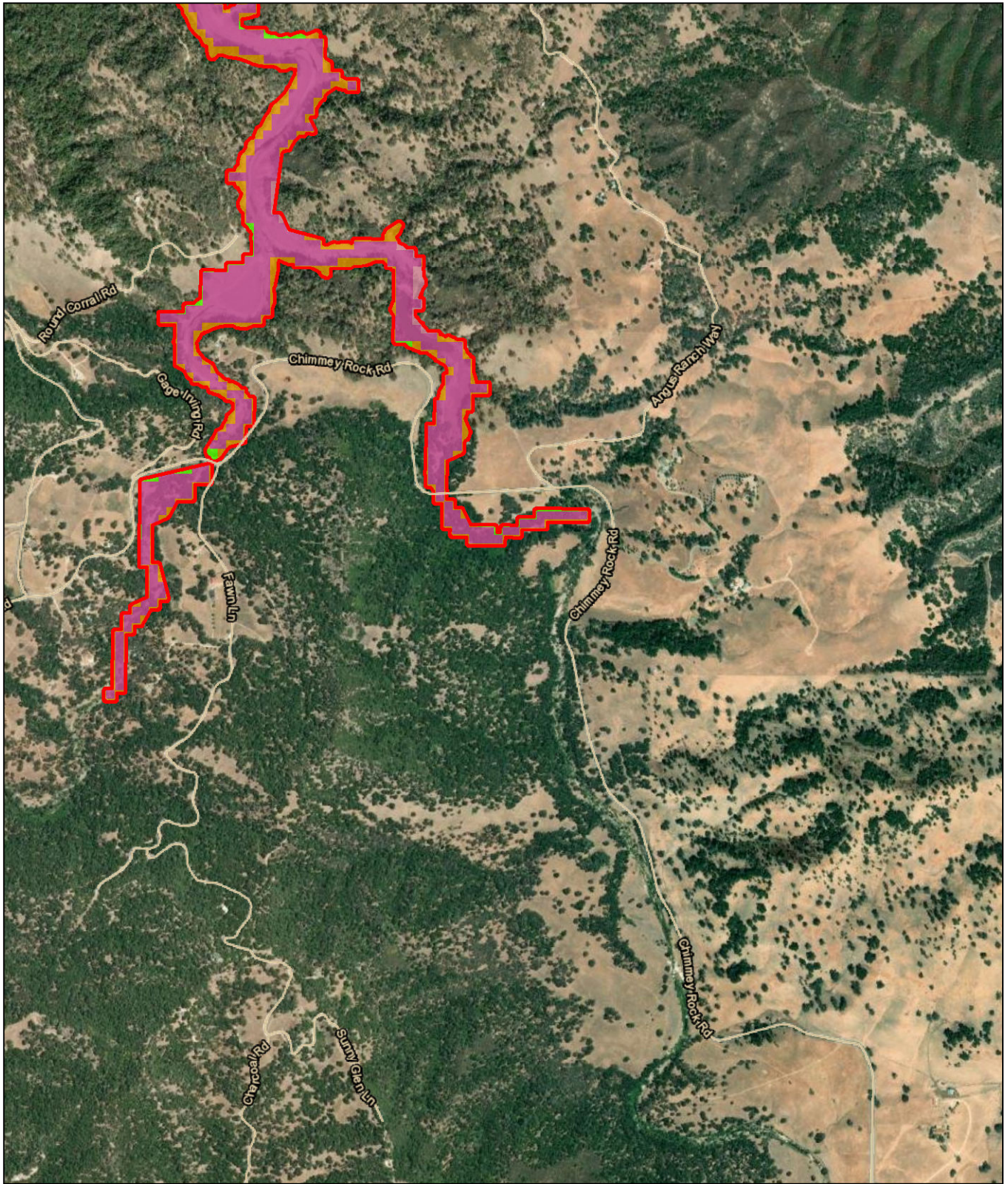
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|---------------------------------|-----------------------------|---------------------|
| Biological Resources Study Area | California Annual Grassland | Forest and Woodland |
| Coastal Scrub                   | Lacustrine                  |                     |

### Appendix E - Sheet 80 Land Cover Mapbook



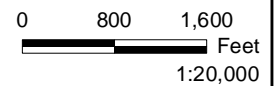
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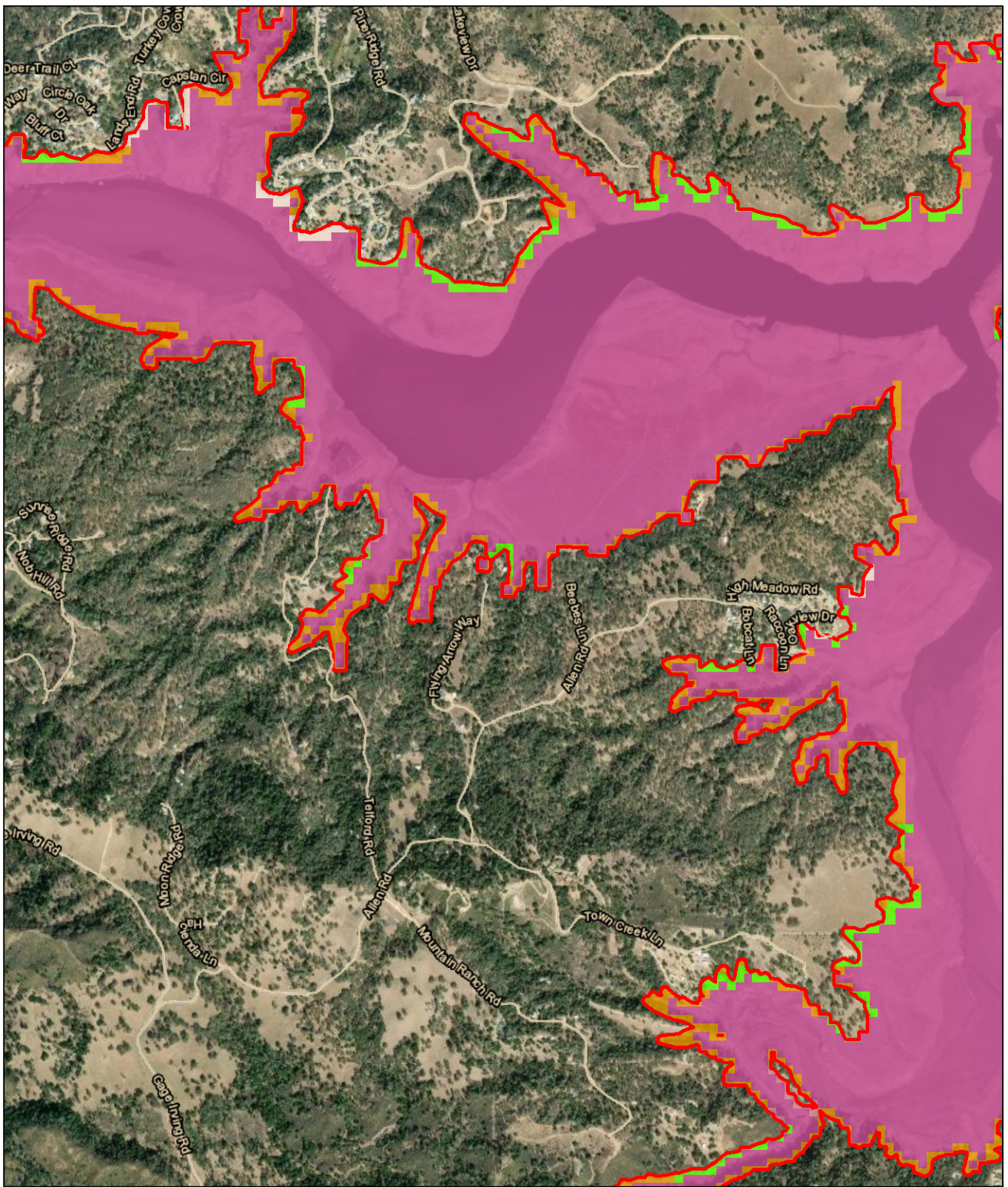
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| Biological Resources Study Area | California Annual Grassland | Forest and Woodland |
| Coastal Scrub                   | Lacustrine                  |                     |

### Appendix E - Sheet 81 Land Cover Mapbook



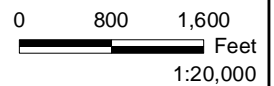
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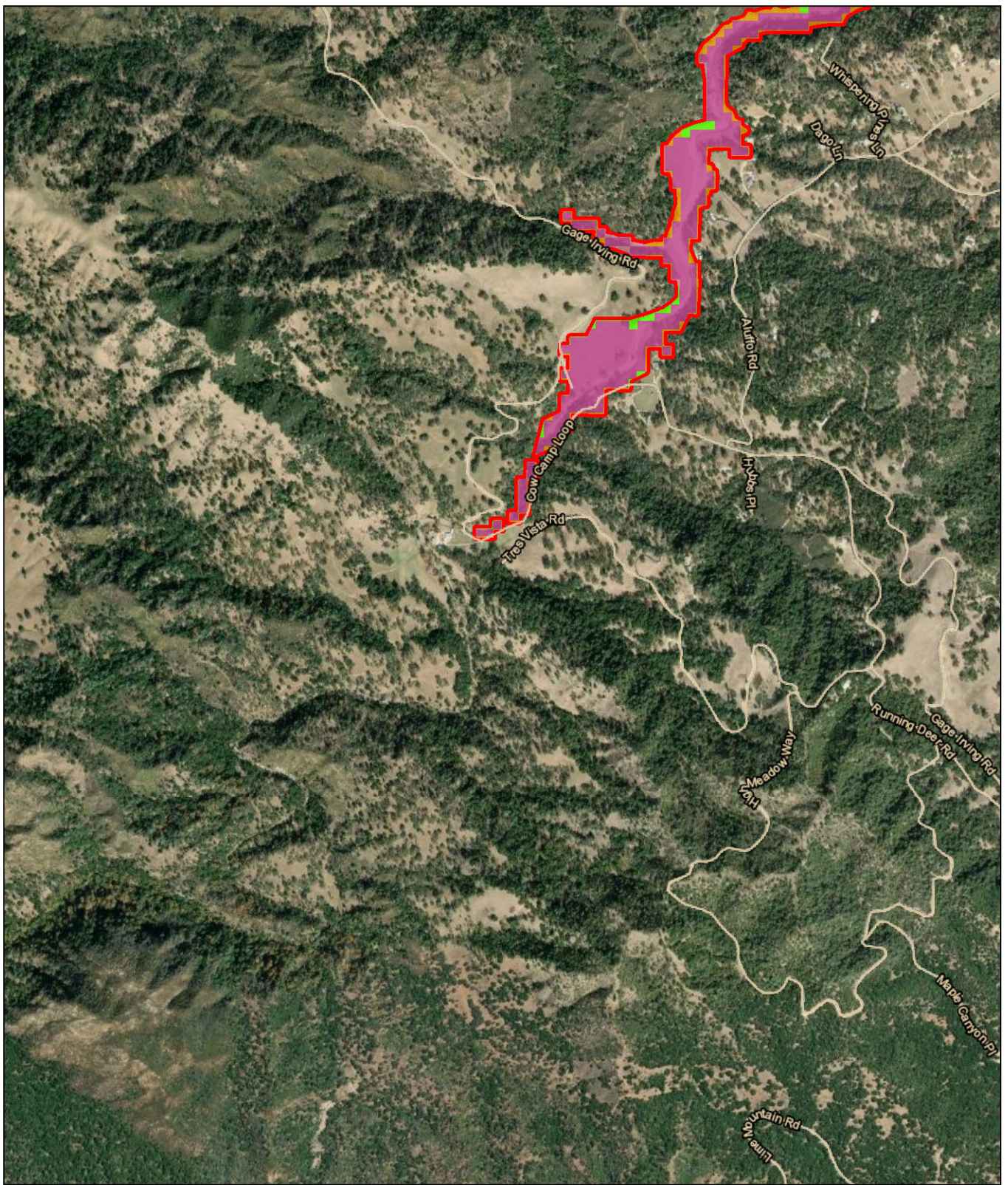
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|---------------------------------|---------------------|---------------|
| Biological Resources Study Area | Barren              | Coastal Scrub |
| California Annual Grassland     | Forest and Woodland | Lacustrine    |

### Appendix E - Sheet 82 Land Cover Mapbook



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.





**Land Cover**

Biological Resources Study Area	California Annual Grassland	Forest and Woodland
Coastal Scrub	Lacustrine	

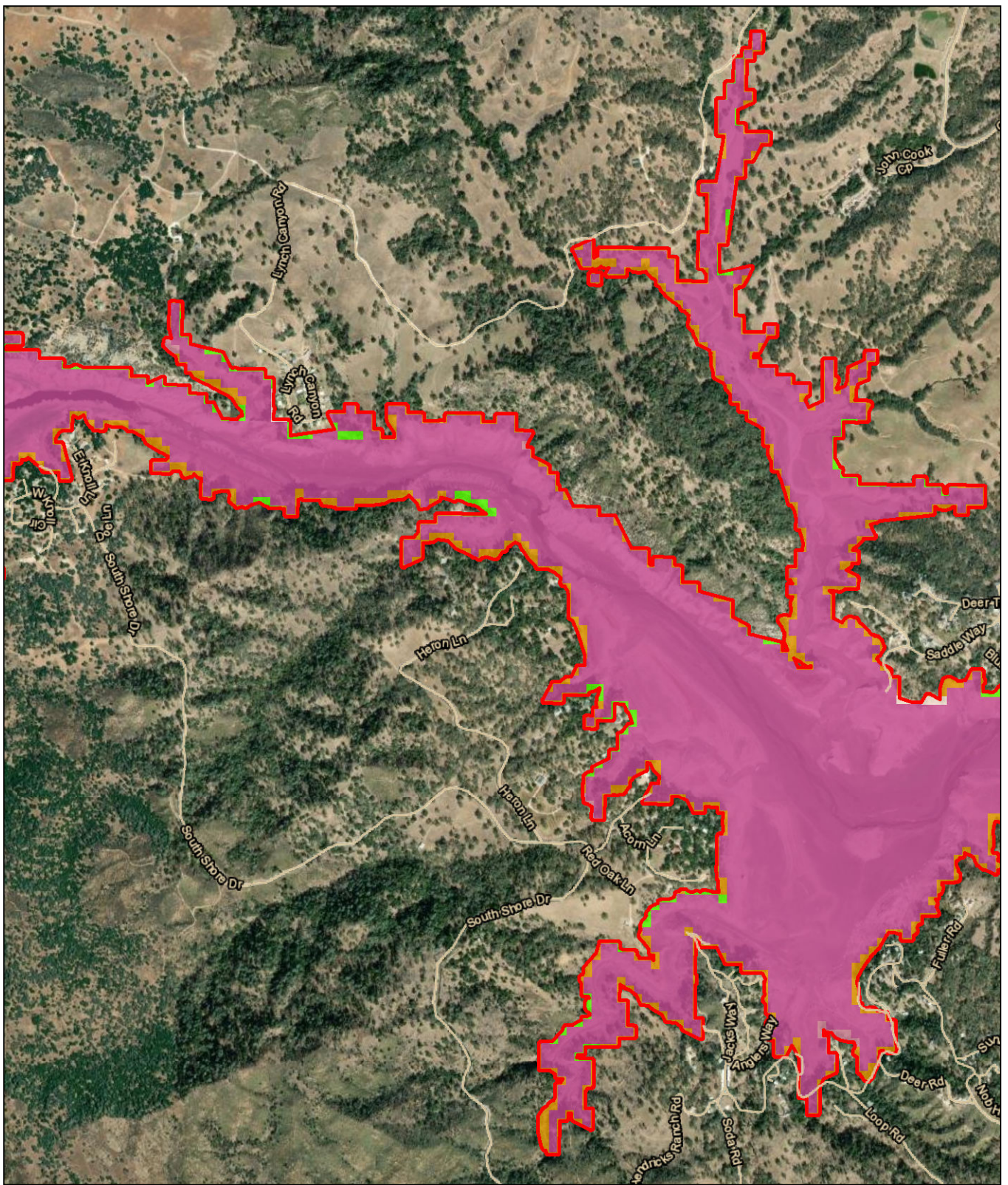
### Appendix E - Sheet 83 Land Cover Mapbook

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Feet  
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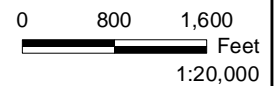
Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

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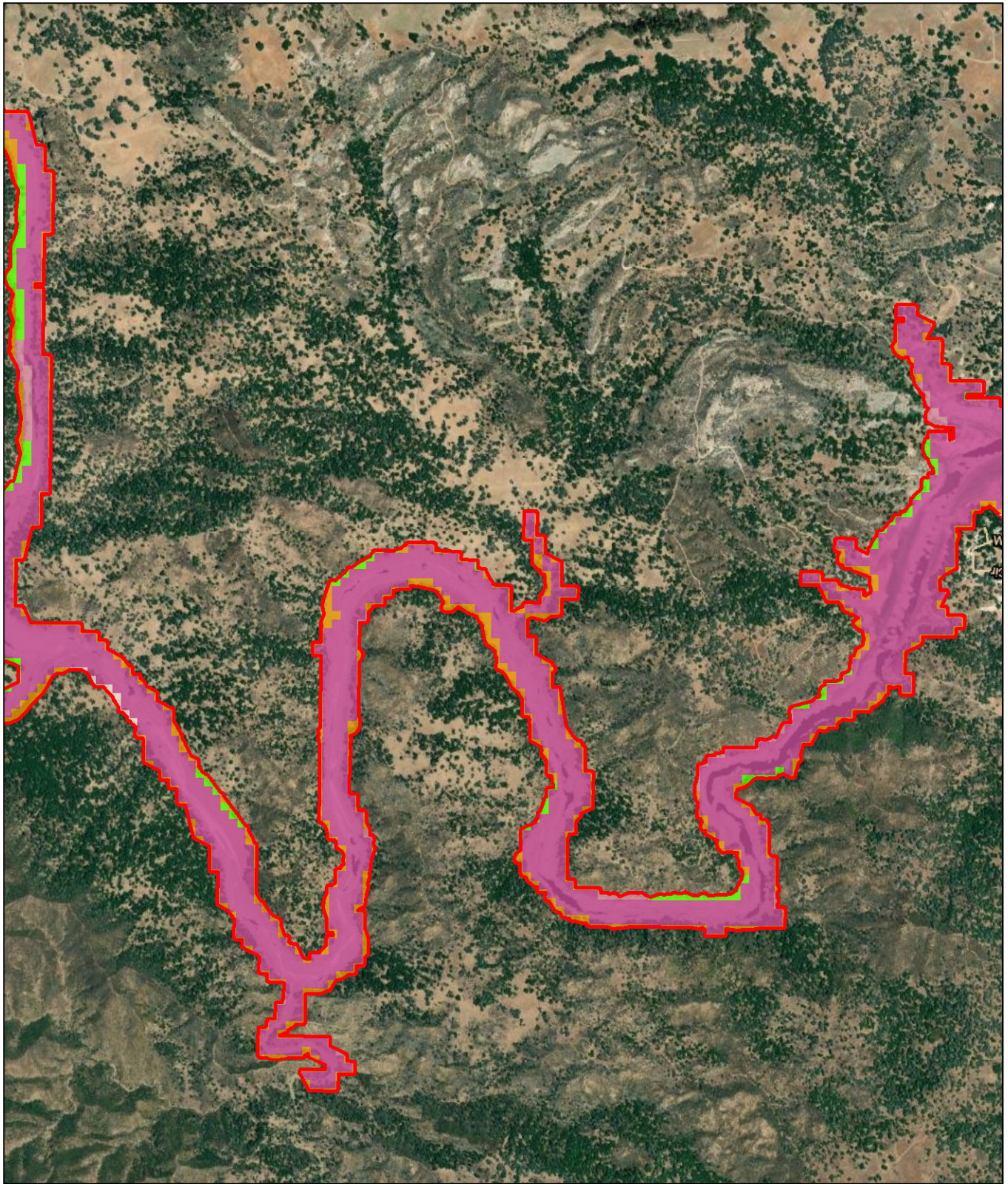
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|---------------------------------|---------------------|---------------|
| Biological Resources Study Area | Barren              | Coastal Scrub |
| California Annual Grassland     | Forest and Woodland | Lacustrine    |







**Appendix E - Sheet 84  
Land Cover Mapbook**



Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

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- |   |   |   |
|---|---|---|
|  Biological Resources Study Area |  Barren                      |  Coastal Scrub       |
| <b>Land Cover</b>   |  California Annual Grassland |  Forest and Woodland |
|   |  Lacustrine                  |   |

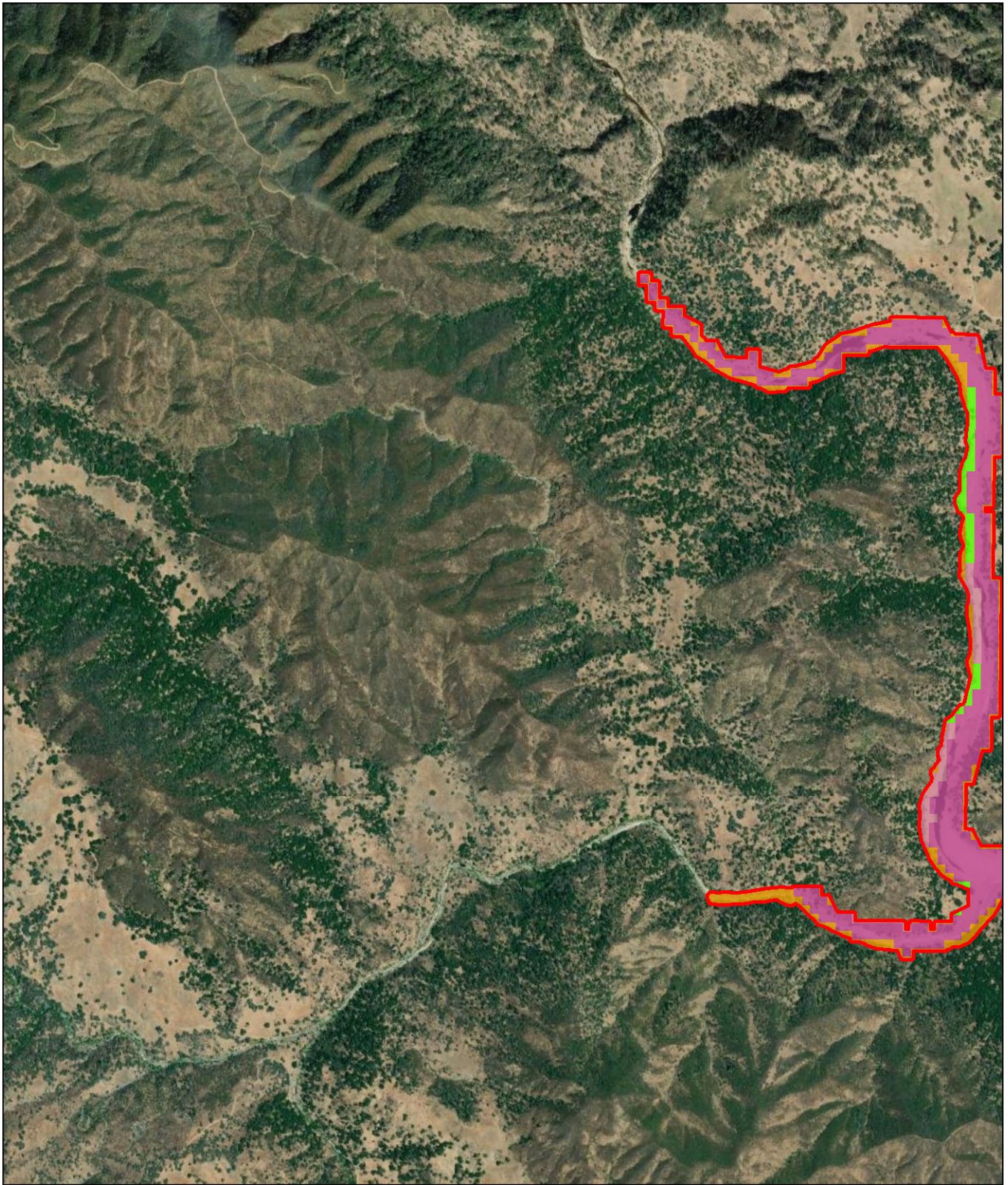
**Appendix E - Sheet 85**  
**Land Cover Mapbook**

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Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

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**Land Cover**

 Biological Resources Study Area	 California Annual Grassland	 Forest and Woodland
 Coastal Scrub	 Lacustrine	

### Appendix E - Sheet 86 Land Cover Mapbook

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Source: Basemap, ESRI 2021; Horizon 2016; SWAP 2015; TNC and AIS 2008; TNC, AIS, & Stanford University 2014; Cal-IPC et al.

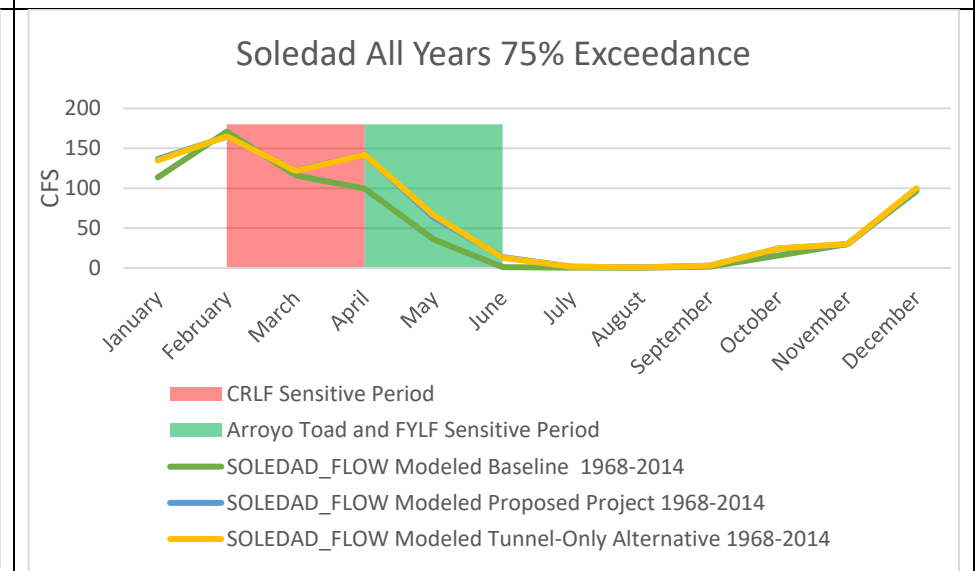
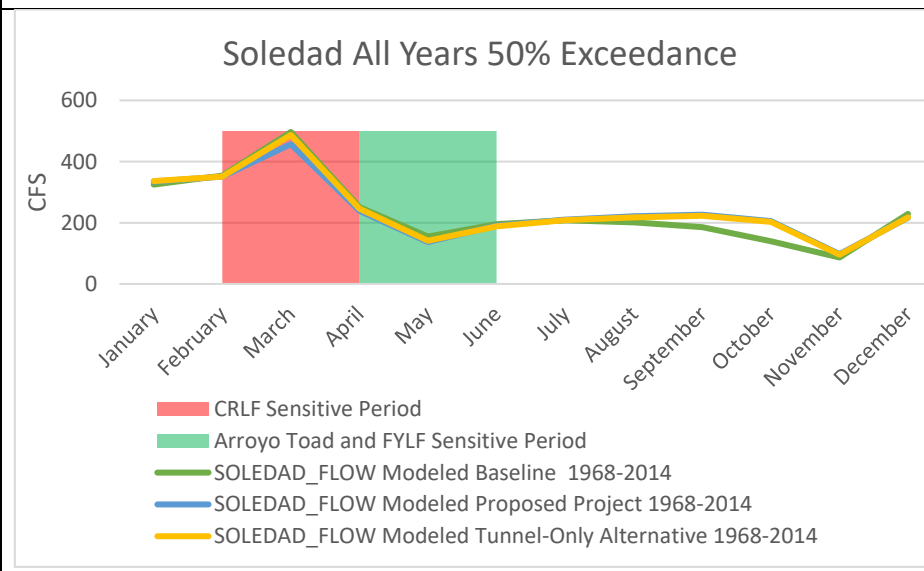
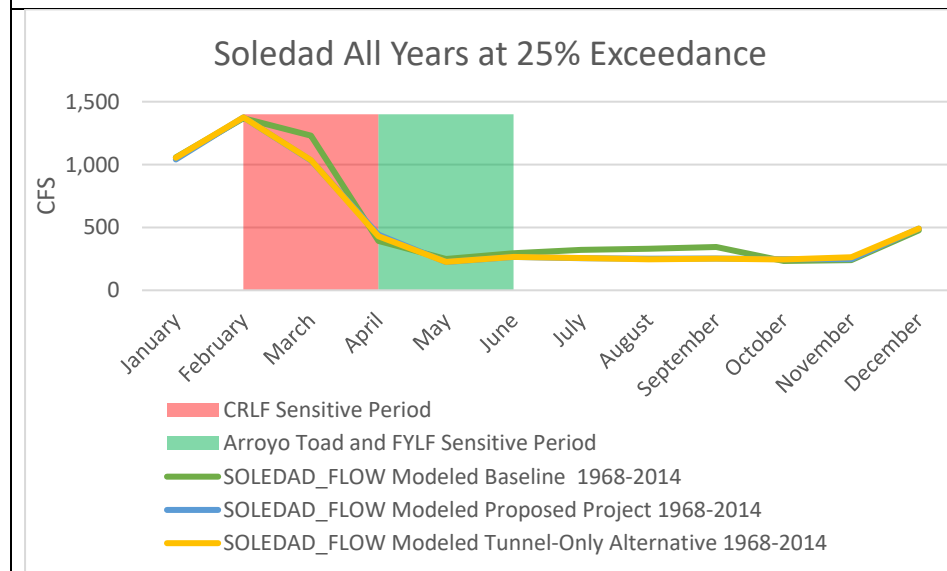
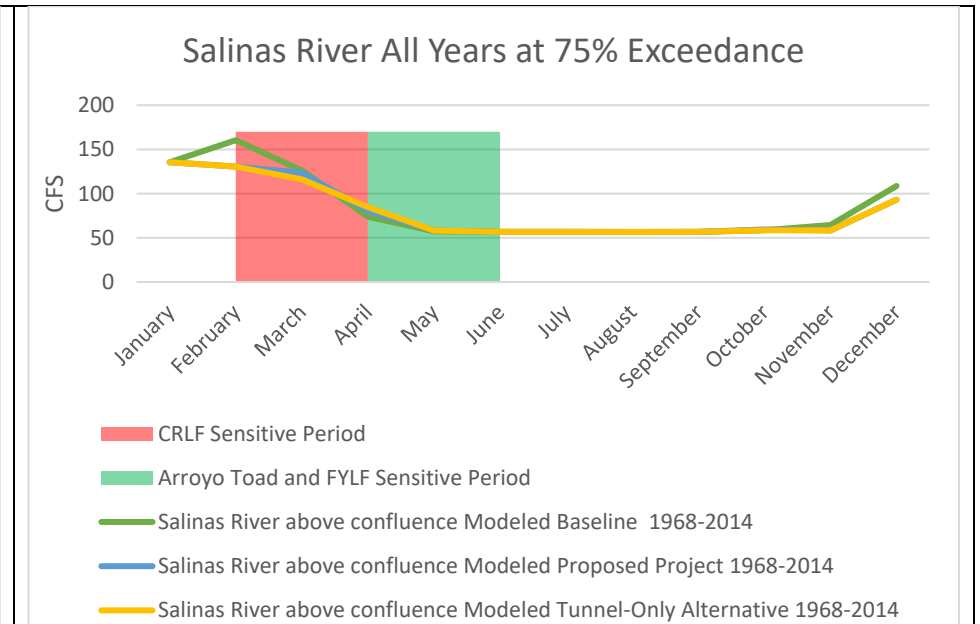
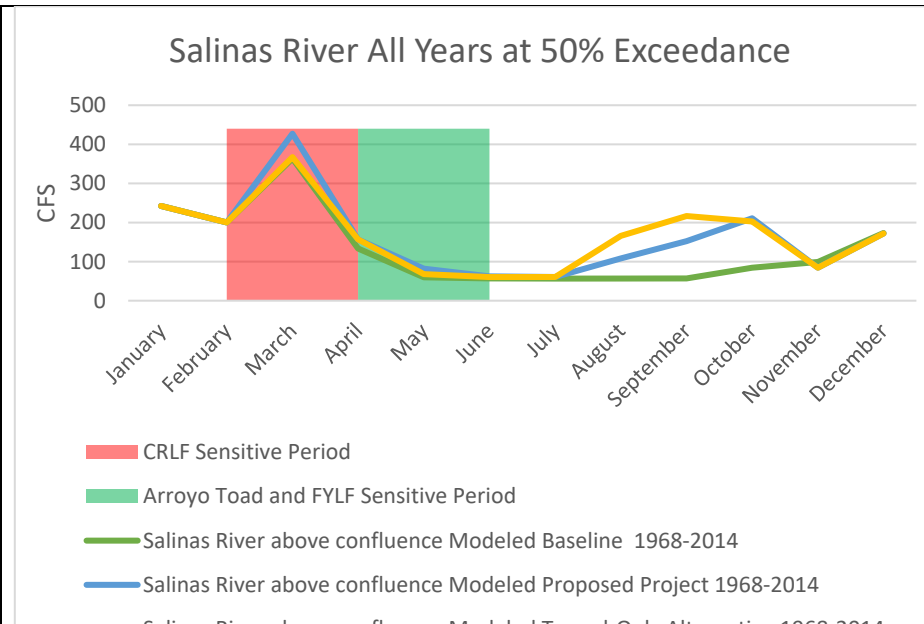
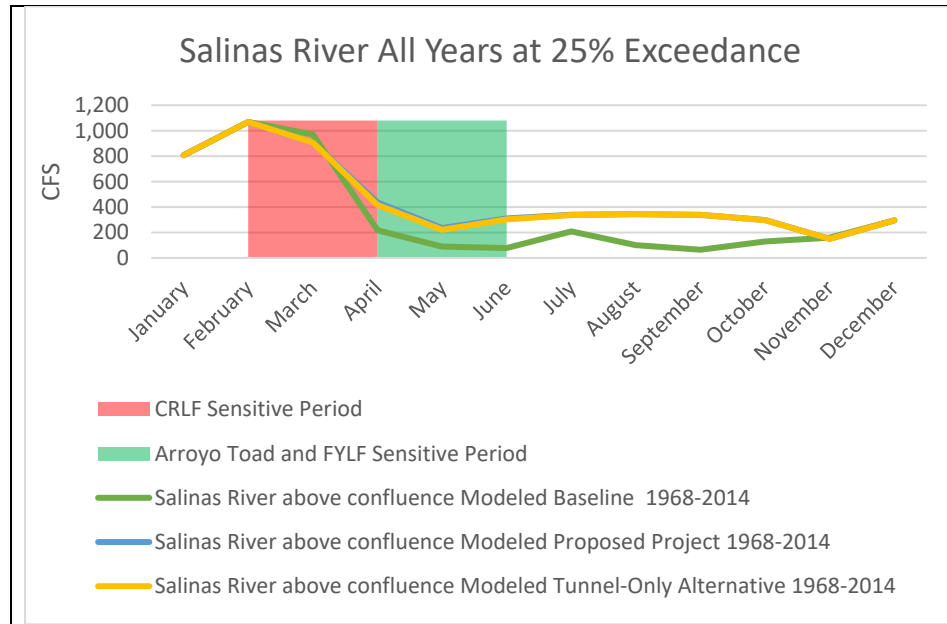
## Exceedance Flow Data for All Years Relative to Sensitive Amphibian Periods

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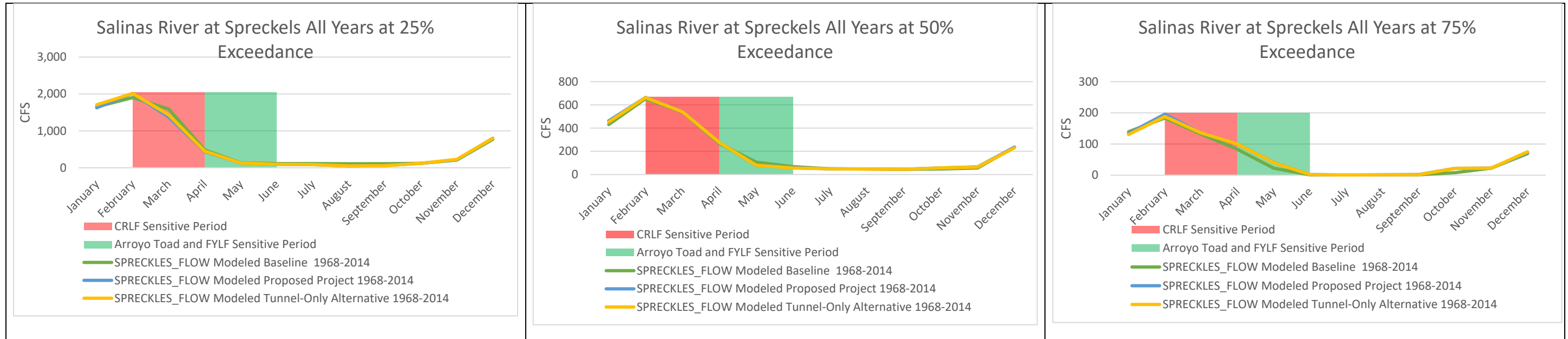
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**Figure E-1 Exceedance Flow Data for All Years Relative to Sensitive Amphibian Periods**









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# Reservoir Fisheries Impact Methodology

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# Reservoir Fisheries Impact Methodology

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## Introduction

The reservoir fisheries impacts methodology was developed through review of literature. The methodology uses hydrologic modeling output (average storage elevations, 1968–2014) for Nacimiento and San Antonio reservoirs. A methodology to determine absolute changes in fish population distribution, abundance, and production was not possible; however, the methodology implemented here for impact analysis provides valid and reasonably accurate comparisons of the proposed Project and Tunnel-Only Alternative against the modeled baseline, and between each scenario, and identification of potential impacts on reservoir fishery resources.

## Target Species

Impacts from project-related reservoir elevation changes were evaluated for largemouth bass, smallmouth bass, and sunfish (redeer and bluegill). Largemouth bass and smallmouth bass are primary sport fishes in both Nacimiento and San Antonio reservoirs. Redear and bluegill sunfish were selected as indicator species because of their importance as prey to largemouth and smallmouth bass and as sport fish. All of these species are likely to be an important food source for avian predators, such as bald eagle and osprey.

Although other important fish species are present in Nacimiento and San Antonio reservoirs, such as catfish, white bass (Nacimiento Reservoir only), and striped bass (San Antonio Reservoir only), they were excluded from the quantitative impact assessment because these species are not as greatly affected by reservoir elevations or as dependent (directly) on shoreline habitat as are the other target species.

## Impact Assessment Variables and Criteria

Two primary impact assessment variables were used in the analysis: reservoir water surface elevation and reservoir drawdown. Reservoir water surface elevation (directly related to reservoir surface area) plays an important role in defining reservoir fish productivity. Higher reservoir elevations, which typically provide greater spawning opportunities, cover, habitat diversity, and shoreline length, usually result in more diverse and larger fish populations. Not only is the physical living space available for fishes increased, but the diversity and quality of the habitat is superior when reservoir levels are high. The second impact assessment variable is reservoir drawdown. Reservoir drawdown can dewater nests, force adults away from nests, increase predation on juvenile fishes, reduce habitat diversity, and result in poor fish populations. Reservoir drawdown can be a major limiting or regulating factor for fish populations in multipurpose reservoirs, especially if drawdowns during spawning months (primarily spring) are significant. Reservoir drawdown and filling together comprise reservoir fluctuations. We specifically assessed only reservoir drawdown, however, because reservoir filling (increases in reservoir elevations) in Nacimiento and San Antonio Reservoirs was assumed not to have substantial direct, negative effects

on fish populations in these reservoirs. The major impact from reservoir drawdown is on spawning success.

## Reservoir Water Surface Elevations

Criteria relating fish productivity and reservoir water surface elevations were developed separately for Nacimiento and San Antonio reservoirs. These criteria were based on our evaluation of surface area and reservoir elevation relationships and the availability of shallow water habitat at various elevations. Professional judgement of the fish biologist familiar with reservoirs was also considered in criteria development.

### Nacimiento Reservoir

Relationships between reservoir elevations and percent of maximum surface area (Figure E-2) and between reservoir elevations and the area of shallow water (<10 feet deep) habitat (Figure E-3), were used to develop fish productivity ratings for Nacimiento Reservoir as shown in Table E-3.

**Table E-3. Fish Productivity Rating Categories by Water Surface Elevation Intervals for Nacimiento Reservoir.**

Water Surface Elevation (feet)	Fish Productivity Rating
>788	Excellent
776 – 788	Good
750 – 776	Fair
<750	Poor

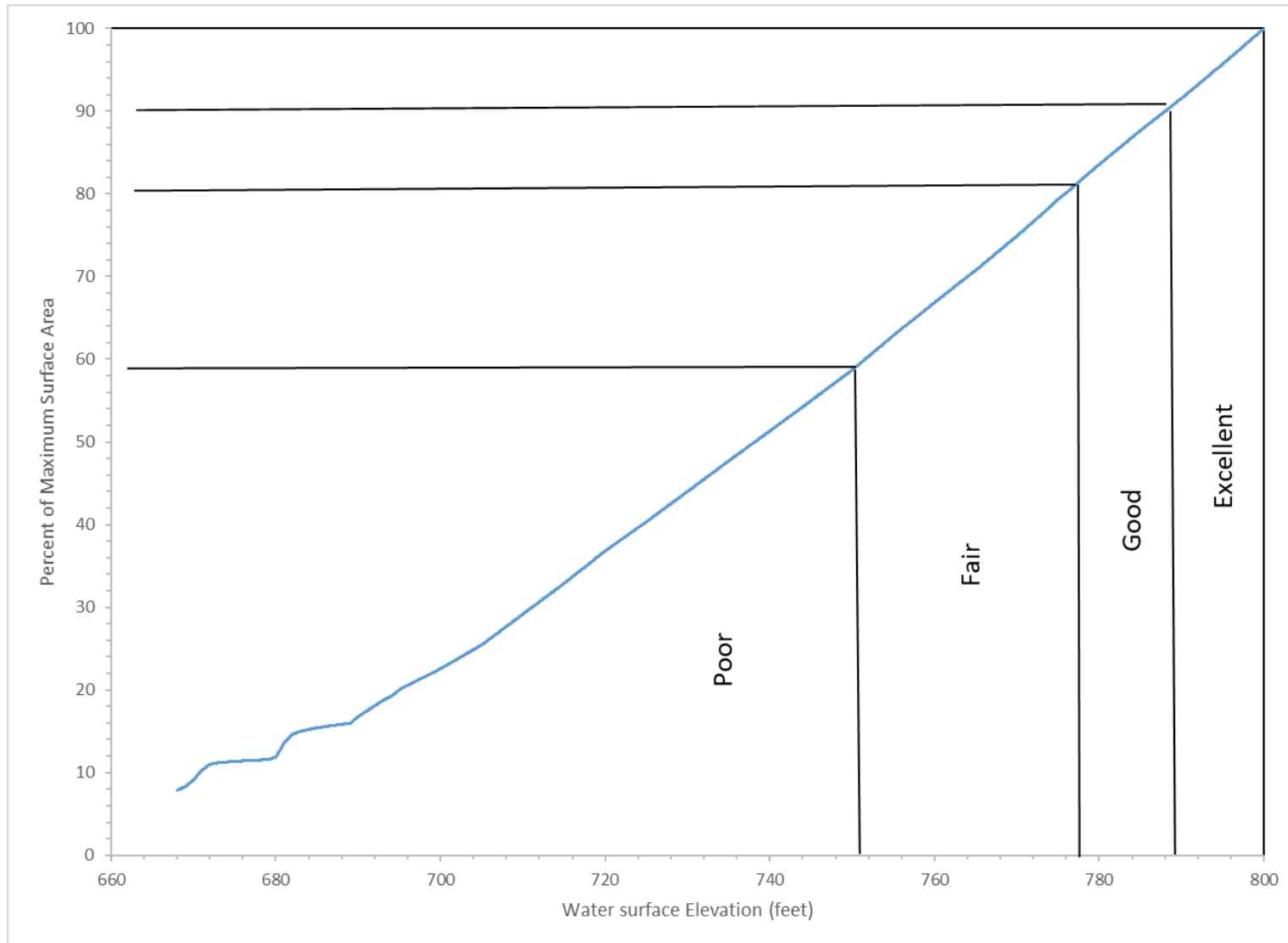
Figures E-2 and E-3 were used equally to develop the “boundary” elevation between good and excellent ratings. Figure E-3 was used primarily to develop the boundary elevations between fair and good ratings and between poor and fair ratings.

Excellent fish productivity was expected when more than 90% of maximum surface area was present. (Maximum surface area was assumed to be achieved at elevation 800 feet, although it is physically possible for the reservoir to achieve an elevation higher than 800 feet; however, this occurs infrequently and for relatively short duration). Good fish productivity was expected when 80–90% of the maximum surface area was present. Fair fish productivity was expected when 59–80% of maximum surface area was present. Poor fish productivity was expected when less than 59% of maximum surface area was present.

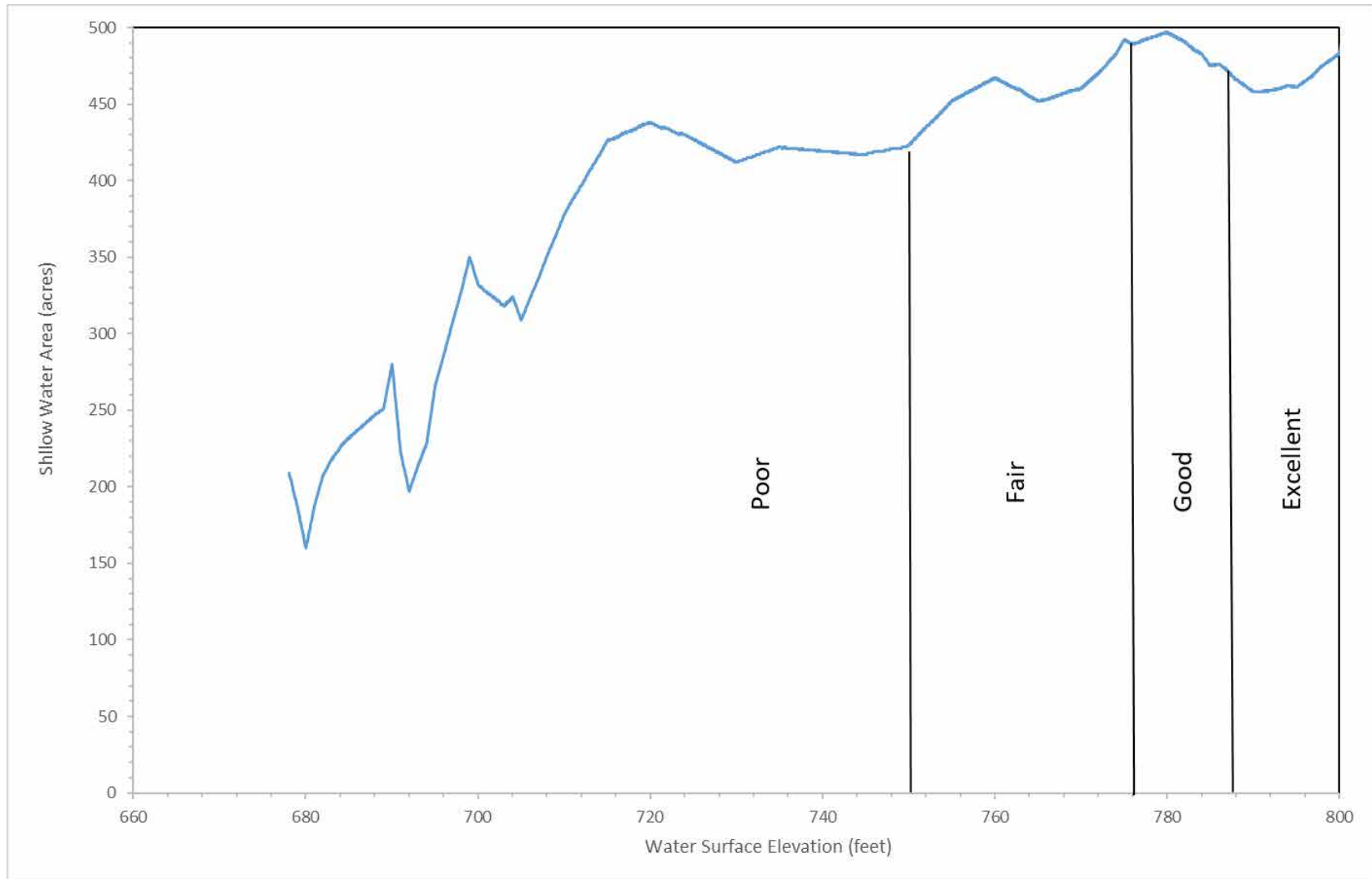
### San Antonio Reservoir

Relationships between reservoir elevations and percent of maximum surface area (Figure E-4) and between reservoir elevations and the area of shallow water (<10 feet deep) habitat (Figure E-5), were used to develop fish productivity ratings for San Antonio Reservoir as shown in Table E-4.

**Figure E-2. Relationship Between Water Surface Elevation and Percent of Maximum Surface Area, with Fish Productivity Ratings, Nacimiento Reservoir**

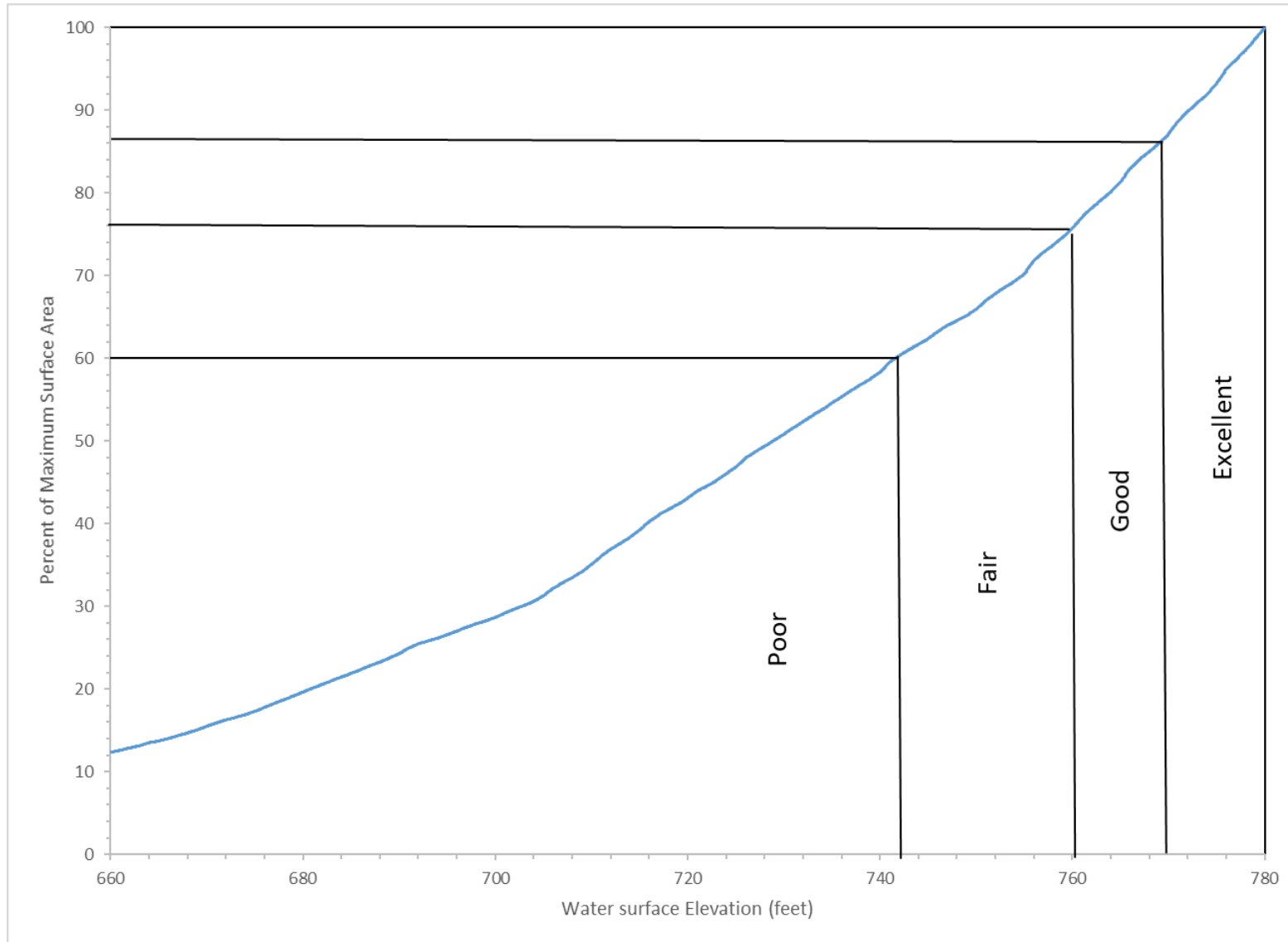


**Figure E-3. Relationship Between Water Surface Elevation and Shallow Water Habitat Area, with Fish Productivity Ratings, Nacimiento Reservoir**

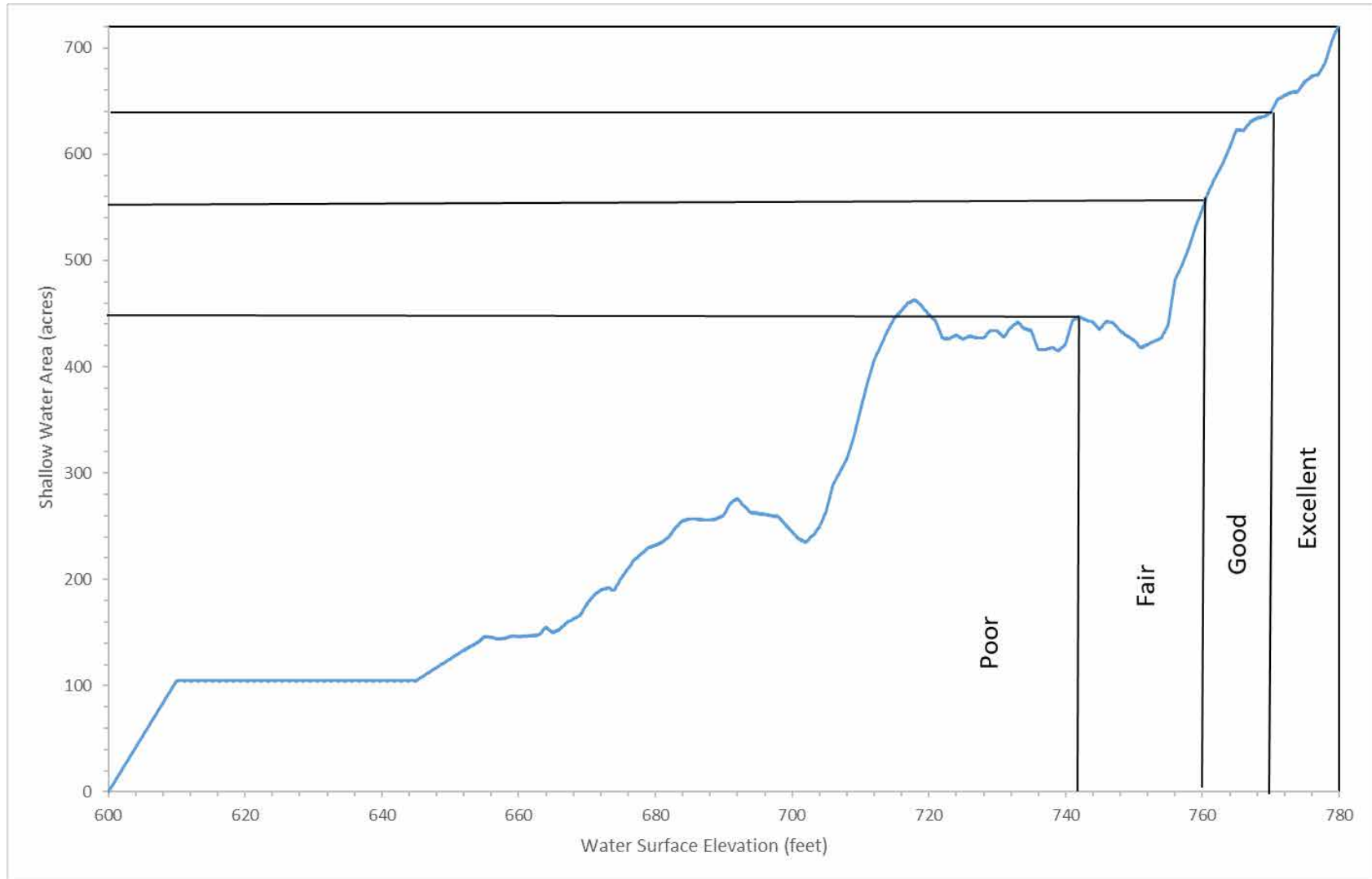




**Figure E-4. Relationship Between Water Surface Elevation and Percent of Maximum Surface Area, with Fish Productivity Ratings, San Antonio Reservoir**



**Figure E-5. Relationship Between Water Surface Elevation and Shallow Water Habitat Area, with Fish Productivity Ratings, San Antonio Reservoir**



**Table E-4. Fish Productivity Rating Categories by Water Surface Elevation Intervals for Nacimiento Reservoir.**

<b>Water Surface Elevation (feet)</b>	<b>Fish Productivity Rating</b>
>770	Excellent
760 – 770	Good
742 – 760	Fair
<742	Poor

Figures E-4 and E-5 were used equally to develop the “boundary” elevations between good and excellent ratings, between fair and good ratings, and between poor and fair ratings.

Excellent fish productivity was expected when more than 87% of maximum surface area was present. (Maximum surface area was assumed to be achieved at elevation 780 feet, although it is physically possible for the reservoir to achieve an elevation higher than 780 feet; however, this occurs infrequently and for relatively short duration). Good fish productivity was expected when 76–87% of the maximum surface area was present. Fair fish productivity was expected when 60–76% of maximum surface area was present. Poor fish productivity was expected when less than 60% of maximum surface area was present.

## Reservoir Drawdown

Species-specific reservoir drawdown criteria were developed from the literature (Von Geldern 1971; Stuber et al. 1982a; Stuber et al. 1982b; Edwards et al. 1983; Mitchell 1982; Twomey et al. 1984; Moyle 2002). Criteria presented in Table E-5 were developed considering potential impacts on spawning, incubating, and emerging fishes, as well as the early rearing of fry. Because largemouth bass and bluegill were determined to have narrower habitat requirements than smallmouth bass and redear sunfish, respectively, the more protective reservoir drawdown criteria for largemouth bass and bluegill were used to represent bass and sunfish, respectively. It was assumed that these criteria do not differ between reservoirs; there is no existing information on differential effects of drawdown rates for Nacimiento and San Antonio reservoirs.

**Table E-5. Spawning Success Ratings Related to Reservoir Drawdown Rates for Largemouth Bass, Smallmouth Bass, and Sunfish**

<b>Species</b>	<b>Spawning Months</b>	<b>Reservoir Drawdown Rate (feet/month)</b>	<b>Spawning Success Rating</b>
Largemouth and smallmouth bass	March–June	0–2	Excellent
		2–4	Good
		4–6.5	Fair
		>6.5	Poor
Bluegill and redear sunfish	April–August	0–4	Excellent
		4–7	Good
		7–10	Fair
		>10	Poor

## Criteria Integration with Model Results

The basic reservoir output of the hydrologic model was average monthly water surface elevations for the period 1968–2014. We conducted the impact assessment by comparing baseline conditions to conditions under the proposed Project and the Tunnel-only Alternative. This period of record was used because pre-1968 historic reservoir data are unavailable because the two reservoirs were not filled and operating together until 1968.

Prior to integrating our criteria with hydrologic model output, we evaluated the hydrologic output for general trends. We prepared monthly elevation exceedance probability graphs. These graphs show reservoir elevations (for each alternative and the baseline case) and the percent of time in the period of record that specific elevations are exceeded. We also developed tables showing month-by-month changes in water surface elevations between the proposed Project and Tunnel-Only Alternative and the modeled baseline condition. This information was useful to determine the occurrence of impacts across years.

## Reservoir Water Surface Elevations

Reservoir average monthly water surface elevations for the modeled baseline case and the proposed Project and Tunnel-Only Alternative were converted to the corresponding fish productivity ratings (excellent, good, fair, or poor), using the criteria described previously. The frequency (number) of months within each category was then determined. This output, presented in Tables E-7, E-8, E-9, and E-10, is useful and indicates overall trends but does not provide a specific quantitative value for comparing proposed Project and Tunnel-Only Alternative against the modeled baseline condition, or each other, and does not consider that certain months are more critical for fish production than are other months.

To develop monthly weighting factors, we assigned numerical values of 4, 3, 2, and 1 to excellent, good, fair, and poor ratings, respectively. Quantifying the categories simplifies the impact assessment but should not be construed as the actual relationship between fish productivity and reservoir elevations; however, the proportional (relative) differences in these quantitative ratings are valid for comparing alternatives. We then weighted months important to fish productivity based on professional judgement. April and May were weighted by a factor of 3, and the months of June

through November were weighted by a factor of 2. The actual contribution of each month to annual fish productivity is unknown, but the contribution between months is certainly not equal, and monthly weighting provides more accurate results than if no weighting factors were applied.

An example calculation is offered to summarize the development of the fish productivity index. There are 47 reservoir elevations for October for the period 1968–2014. We converted each of these elevations to a rating (excellent, good, fair, or poor) based on our criteria. We then valued each rating for the 47 Octobers using numerical values of 4, 3, 2, or 1 for excellent, good, fair, or poor ratings, respectively. Because October is weighted by a factor of 2 (see previous paragraph), these values become 8, 6, 4, or 2. The values are then added to yield one fish productivity index for October. This procedure was completed for each month and scenario and facilitates monthly comparisons of the fish productivity index between scenarios including the modeled baseline case for the reservoir fisheries analysis presented in the DEIR.

## Reservoir Drawdown

Specific pairs of reservoir monthly average water surface elevations were compared to assess impacts from reservoir drawdown and are shown in Table E-10.

**Table E-6. Months That Were Compared to Calculate Monthly Change in Reservoir Elevations**

Species	Monthly Average Elevations Compared
Largemouth and smallmouth bass	February to March
	March to April
	April to May
	May to June
Bluegill and redear sunfish	March to April
	April to May
	May to June
	June to July
	July to August

Differences between these paired months for each year of the period of record were calculated for the period of record. These differences were subjected to the criteria presented in Table E-5 to develop spawning success ratings (excellent, good, fair, poor). These ratings were then compared between scenarios and the baseline case. Monthly weighting factors were not used to evaluate reservoir drawdown because the spawning period is already narrowly defined.

**Table E-7. Number of Months per Fish Habitat Category in Nacimiento Reservoir over the Simulated Period**

Month	Excellent			Good			Fair			Poor		
	Baseline	Proposed Project	Tunnel Only	Baseline	Proposed Project	Tunnel Only	Baseline	Proposed Project	Tunnel Only	Baseline	Proposed Project	Tunnel Only
October	1	1	1	2	1	1	18	4	4	26	41	41
November	1	1	1	2	1	1	17	4	4	27	41	41
December	0	0	0	3	2	2	21	5	3	23	40	42
January	1	0	0	6	4	3	24	9	10	16	34	34
February	3	2	2	15	7	7	16	13	13	13	25	25
March	15	5	5	9	14	14	13	9	8	10	19	20
April	19	6	8	5	16	12	11	5	7	12	20	20
May	18	5	8	5	16	11	10	4	6	14	22	22
June	13	4	4	8	8	6	6	13	14	20	22	23
July	7	2	3	7	3	2	12	17	17	21	25	25
August	4	2	2	3	2	1	18	10	13	22	33	31
September	2	2	2	3	0	0	17	7	4	25	38	41
<b>Total</b>	<b>84</b>	<b>30</b>	<b>36</b>	<b>68</b>	<b>74</b>	<b>60</b>	<b>183</b>	<b>100</b>	<b>103</b>	<b>229</b>	<b>360</b>	<b>365</b>

**Table E-8. Number of Months per Spawning Success Category in Nacimiento Reservoir over the Simulated Period**

Month	Excellent			Good			Fair			Poor		
	Baseline	Proposed Project	Tunnel Only	Baseline	Proposed Project	Tunnel Only	Baseline	Proposed Project	Tunnel Only	Baseline	Proposed Project	Tunnel Only
<b>Largemouth and smallmouth bass</b>												
March	44	44	45	3	2	1	0	1	1	0	0	0
April	36	28	26	3	9	11	2	7	5	6	3	5
May	26	16	15	10	14	17	6	8	7	5	9	8
June	7	4	4	17	18	17	6	6	8	17	19	18
<b>Total</b>	<b>113</b>	<b>92</b>	<b>90</b>	<b>33</b>	<b>43</b>	<b>46</b>	<b>14</b>	<b>22</b>	<b>21</b>	<b>28</b>	<b>31</b>	<b>31</b>
<b>Bluegill and redear sunfish</b>												
April	39	37	37	2	8	7	5	2	3	1	0	0
May	36	30	32	8	11	9	0	3	5	3	3	1
June	24	22	21	6	7	8	10	11	13	7	7	5
July	17	12	12	4	13	13	8	8	7	18	14	15
August	17	10	10	7	13	11	8	7	5	15	17	21
<b>Total</b>	<b>133</b>	<b>111</b>	<b>112</b>	<b>27</b>	<b>52</b>	<b>48</b>	<b>31</b>	<b>31</b>	<b>33</b>	<b>44</b>	<b>41</b>	<b>42</b>

**Table E-9. Number of Months per Fish Habitat Category in San Antonio Reservoir over the Simulated Period**

Month	Excellent			Good			Fair			Poor		
	Baseline	Proposed Project	Tunnel-Only Alternative	Baseline	Proposed Project	Tunnel-Only Alternative	Baseline	Proposed Project	Tunnel-Only Alternative	Baseline	Proposed Project	Tunnel-Only Alternative
October	1	17	12	1	6	8	3	2	5	42	22	22
November	1	15	11	1	8	9	2	2	5	43	22	22
December	1	16	12	1	7	8	2	2	5	43	22	22
January	1	18	14	1	6	8	2	1	3	43	22	22
February	1	19	17	2	5	5	5	3	4	39	20	21
March	2	22	18	3	5	8	7	6	7	35	14	14
April	2	22	21	4	8	8	10	4	4	31	13	14
May	2	24	24	4	6	4	9	3	4	32	14	15
June	2	24	24	4	1	0	9	7	7	32	15	16
July	2	24	24	4	0	0	9	3	2	32	20	21
August	1	21	19	4	3	5	7	1	2	35	22	21
September	1	19	16	1	5	7	8	0	1	37	23	23
<b>Total</b>	<b>17</b>	<b>241</b>	<b>212</b>	<b>30</b>	<b>60</b>	<b>70</b>	<b>73</b>	<b>34</b>	<b>49</b>	<b>444</b>	<b>229</b>	<b>233</b>



**Table E-10. Number of Months per Spawning Success Category in San Antonio Reservoir over the Simulated Period**

Month	Excellent			Good			Fair			Poor		
	Baseline	Proposed Project	Tunnel-Only Alternative	Baseline	Proposed Project	Tunnel-Only Alternative	Baseline	Proposed Project	Tunnel-Only Alternative	Baseline	Proposed Project	Tunnel-Only Alternative
<b>Largemouth and smallmouth bass</b>												
March	45	45	45	1	2	2	0	0	0	1	0	0
April	41	37	37	1	3	3	1	1	1	4	6	6
May	42	36	36	1	5	4	2	2	1	2	4	6
June	38	37	35	2	2	3	1	0	1	6	8	8
<b>Total</b>	<b>166</b>	<b>155</b>	<b>153</b>	<b>5</b>	<b>12</b>	<b>12</b>	<b>4</b>	<b>3</b>	<b>3</b>	<b>13</b>	<b>18</b>	<b>20</b>
<b>Sunfish</b>												
April	42	40	40	1	1	2	2	2	1	2	4	4
May	43	41	40	2	3	2	1	0	2	1	3	3
June	40	39	38	1	1	2	3	2	2	3	5	5
July	39	37	36	0	2	3	1	1	0	7	7	8
August	33	34	34	1	3	4	3	2	1	10	8	8
<b>Total</b>	<b>197</b>	<b>191</b>	<b>188</b>	<b>5</b>	<b>10</b>	<b>13</b>	<b>10</b>	<b>7</b>	<b>6</b>	<b>23</b>	<b>27</b>	<b>28</b>

## Determining Impact Significance

The quantitative methodology presented in this appendix provides the most accurate and detailed impact assessment possible, given inherent data limitations. Nonetheless, determining impact significance ultimately is based on a professional judgement after reviewing all quantitative models and applying other ecological principals of fishery science that cannot be effectively modeled. Interpretation of results is an important and necessary step to determine impact significance. Consequently, we did not establish any “threshold” or “critical” level in the impact assessment that automatically triggered impact significance. We relied on our professional judgement after considering model results and other data appropriate to the analyses.

## References Cited

- Edwards, E. A., G. Gebhart, and O. E. Maughan. 1983. Habitat Suitability Information: Smallmouth Bass. September. U.S. Department of Interior, Fish and Wildlife Service. FWS/OBS-82/10.36. 47 pp.
- Mitchell, D. F. 1982. Effects of Water Level Fluctuation on Reproduction of Largemouth Bass, *Micropterus Salmoides*, at Millerton Lake, California, in 1973. *California Fish and Game* 68(2): 68–77.
- Moyle, P. B. 2002. Inland Fishes of California. 2<sup>nd</sup> Edition. University of California Press. Berkeley, California.
- Stuber, R. J., G. Gebhart, and O. E. Maughan. 1982b. Habitat Suitability Index Models: Bluegill. February. U.S. Fish and Wildlife Service. FWS/OBS-82/10.8. 26 pp.
- Stuber, R. J., G. Gebhart, and O. E. Maughan. 1982b. Habitat Suitability Index Models: Largemouth Bass. July. U.S. Fish and Wildlife Service. FWS/OBS-82/10.16. 33 pp.
- Twomey, K. A., G. Gebhart, O. E. Maughan, and P. C. Nelson. 1984. Habitat Suitability Index Models and Instream Flow Suitability Curves: Redear Sunfish. September. U. S. Fish and Wildlife Service. FWS/OBS-82/10.79. 29 pp.
- Von Geldern, Jr, C.E. 1971. Abundance and Distribution of Fingerling Largemouth Bass, *Micropterus salmoides*, as Determined by Electrofishing, at Lake Nacimiento, California. *California Fish and Game* 57(4): 228–245

## Flow Exceedance Tables

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**Table E-11. Exceedance Probability for Simulated Flows (cfs) in the Nacimiento River above Confluence Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for All Water Year Types (1968-2014)**

Location & Scenario <sup>1</sup>	Exceedance Probability (%)	Exceedance Probability												Annual
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	
Nacimiento River above confluence Baseline	5	193	3,793	2196	451	379	397	396	358	341	214	92	111	399
Nacimiento River above confluence TP7S	5	169	1,890	468	456	450	450	420	407	381	334	92	111	416
Nacimiento River above confluence Tunnel Only	5	169	1,507	466	452	450	449	417	407	374	333	92	111	411
Nacimiento River above confluence Baseline	25	104	108	95	73	65	61	209	66	59	72	76	86	86
Nacimiento River above confluence TP7S	25	104	105	94	79	217	311	340	345	337	282	71	86	224
Nacimiento River above confluence Tunnel Only	25	104	105	88	94	194	304	338	345	336	275	70	86	211
Nacimiento River above confluence Baseline	50	75	81	76	62	57	57	57	57	57	62	65	75	63
Nacimiento River above confluence TP7S	50	75	78	76	64	61	57	58	80	72	103	59	70	69
Nacimiento River above confluence Tunnel Only	50	75	78	76	65	58	57	58	166	81	96	59	70	69
Nacimiento River above confluence Baseline	75	65	68	64	58	57	57	57	57	57	57	59	65	57
Nacimiento River above confluence TP7S	75	65	64	63	58	57	57	57	57	57	18	14	58	57
Nacimiento River above confluence Tunnel Only	75	65	64	63	58	57	57	57	57	57	18	14	58	57
Nacimiento River above confluence Baseline	95	57	57	57	57	57	57	57	0	10	5	23	6	57
Nacimiento River above confluence TP7S	95	19	20	57	5	11	0	0	0	0	0	1	5	1
Nacimiento River above confluence Tunnel Only	95	19	20	57	5	11	0	0	0	0	0	1	5	1

**Table E-12. Exceedance Probability for Simulated Flows (cfs) in the Nacimiento River above Confluence Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for Wet Water Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
Nacimiento River above confluence Baseline	0.05	3,675	6,607	4,056	131	287	402	419	403	358	96	98	122	1675
Nacimiento River above confluence TP7S	0.05	230	4,003	2,280	79	287	396	412	414	388	337	93	116	420
Nacimiento River above confluence Tunnel Only	0.05	230	4,001	2,279	79	287	398	413	412	386	335	93	116	418
Nacimiento River above confluence Baseline	0.25	161	3,128	425	73	79	111	308	329	326	76	77	107	139
Nacimiento River above confluence TP7S	0.25	139	1,029	94	73	113	267	341	354	361	240	70	91	270
Nacimiento River above confluence Tunnel Only	0.25	139	945	94	73	98	264	339	356	358	246	70	91	264
Nacimiento River above confluence Baseline	0.5	114	232	88	63	61	57	58	183	63	67	71	85	76
Nacimiento River above confluence TP7S	0.5	114	117	83	63	61	62	276	323	333	88	58	82	90
Nacimiento River above confluence Tunnel Only	0.5	114	117	83	63	61	62	274	320	330	88	58	82	90
Nacimiento River above confluence Baseline	0.75	99	102	71	58	57	57	57	57	57	62	64	78	58
Nacimiento River above confluence TP7S	0.75	99	102	69	58	57	57	57	69	234	18	19	64	60
Nacimiento River above confluence Tunnel Only	0.75	99	102	69	58	57	57	57	66	233	18	19	64	60
Nacimiento River above confluence Baseline	0.95	73	68	57	57	57	57	57	57	57	57	57	64	57
Nacimiento River above confluence TP7S	0.95	73	68	57	57	57	57	57	57	58	0	1	10	19
Nacimiento River above confluence Tunnel Only	0.95	73	68	57	57	57	57	57	57	58	0	1	10	19

**Table E-13. Exceedance Probability for Simulated Flows (cfs) in the Nacimiento River above Confluence Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for Normal Water Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
Nacimiento River above confluence Baseline	0.05	130	213	705	451	350	343	379	347	295	307	92	106	358
Nacimiento River above confluence TP7S	0.05	130	110	456	458	450	465	419	383	371	314	92	106	437
Nacimiento River above confluence Tunnel Only	0.05	130	110	454	457	450	450	413	383	372	315	92	106	413
Nacimiento River above confluence Baseline	0.25	94	95	156	77	60	221	58	57	57	78	76	86	86
Nacimiento River above confluence TP7S	0.25	94	94	126	117	237	347	354	359	339	299	76	86	298
Nacimiento River above confluence Tunnel Only	0.25	94	94	121	203	229	345	350	357	340	289	76	86	286
Nacimiento River above confluence Baseline	0.5	77	73	82	63	57	57	57	57	57	62	65	75	61
Nacimiento River above confluence TP7S	0.5	77	72	82	66	79	279	314	323	306	199	65	75	76
Nacimiento River above confluence Tunnel Only	0.5	77	72	79	66	66	270	312	322	313	189	62	75	76
Nacimiento River above confluence Baseline	0.75	65	61	70	58	57	57	57	57	57	57	58	64	57
Nacimiento River above confluence TP7S	0.75	65	61	70	59	57	57	57	57	57	58	57	63	58
Nacimiento River above confluence Tunnel Only	0.75	65	61	69	59	57	57	57	57	57	58	57	63	58
Nacimiento River above confluence Baseline	0.95	57	58	60	57	57	57	57	57	57	57	57	5	57
Nacimiento River above confluence TP7S	0.95	57	57	60	57	57	57	57	57	57	0	1	14	57
Nacimiento River above confluence Tunnel Only	0.95	57	57	60	57	57	57	57	57	57	0	1	14	57

**Table E-14. Exceedance Probability for Simulated Flows (cfs) in the Nacimiento River above Confluence Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for Dry Water Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
Nacimiento River above confluence Baseline	0.05	77	89	80	427	462	450	392	68	81	72	76	98	202
Nacimiento River above confluence TP7S	0.05	77	89	80	430	451	450	450	446	81	368	76	86	362
Nacimiento River above confluence Tunnel Only	0.05	77	89	80	428	451	450	450	446	178	365	76	86	356
Nacimiento River above confluence Baseline	0.25	74	79	68	66	65	57	57	57	57	62	66	70	68
Nacimiento River above confluence TP7S	0.25	74	79	65	291	297	57	57	59	58	250	61	69	69
Nacimiento River above confluence Tunnel Only	0.25	74	79	65	288	64	57	57	59	58	250	61	69	69
Nacimiento River above confluence Baseline	0.5	65	76	64	61	57	57	57	57	57	58	63	69	58
Nacimiento River above confluence TP7S	0.5	64	69	61	72	57	57	57	57	55	57	36	58	57
Nacimiento River above confluence Tunnel Only	0.5	64	69	61	72	57	57	57	57	51	57	36	58	57
Nacimiento River above confluence Baseline	0.75	62	59	59	59	57	57	57	57	45	57	59	58	57
Nacimiento River above confluence TP7S	0.75	57	59	57	56	45	43	0	0	0	3	6	23	10
Nacimiento River above confluence Tunnel Only	0.75	57	59	57	56	45	43	0	0	0	3	6	23	10
Nacimiento River above confluence Baseline	0.95	27	57	57	57	4	0	0	0	0	0	1	0	0
Nacimiento River above confluence TP7S	0.95	0	0	8	0	0	0	0	0	0	0	1	0	0
Nacimiento River above confluence Tunnel Only	0.95	0	0	8	0	0	0	0	0	0	0	1	0	0



**Table E-15. Exceedance Probability for Simulated Flows (cfs) in the San Antonio River above Confluence Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for All Water Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
San Antonio River above confluence Baseline	0.05	145	154	559	756	692	867	897	890	949	767	47	73	859
San Antonio River above confluence TP7S	0.05	238	373	697	915	851	997	985	934	869	488	56	79	867
San Antonio River above confluence Tunnel Only	0.05	283	923	851	801	862	989	974	901	866	522	87	82	869
San Antonio River above confluence Baseline	0.25	78	74	57	45	400	687	800	808	809	383	30	46	306
San Antonio River above confluence TP7S	0.25	83	75	72	257	276	430	426	410	392	321	30	46	328
San Antonio River above confluence Tunnel Only	0.25	99	86	91	270	271	429	423	405	386	318	30	46	329
San Antonio River above confluence Baseline	0.5	37	37	37	19	28	293	345	341	261	42	19	31	32
San Antonio River above confluence TP7S	0.5	40	37	36	22	43	282	345	354	350	210	19	31	43
San Antonio River above confluence Tunnel Only	0.5	40	37	43	33	55	272	343	347	348	203	20	36	46
San Antonio River above confluence Baseline	0.75	20	24	20	13	11	10	10	10	10	15	12	19	13
San Antonio River above confluence TP7S	0.75	20	24	20	15	11	10	10	10	10	16	12	19	15
San Antonio River above confluence Tunnel Only	0.75	20	24	20	15	11	10	10	10	10	16	12	21	15
San Antonio River above confluence Baseline	0.95	11	13	11	10	10	10	10	10	10	10	10	11	10
San Antonio River above confluence TP7S	0.95	11	13	11	10	10	10	10	10	10	10	11	11	10
San Antonio River above confluence Tunnel Only	0.95	11	13	11	10	10	10	10	10	10	10	10	11	10

**Table E-16. Exceedance Probability for Simulated Flows (cfs) in the San Antonio River above Confluence Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for Wet Water Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
San Antonio River above confluence Baseline	0.05	240	235	170	430	522	717	814	851	1083	613	57	82	801
San Antonio River above confluence TP7S	0.05	1,030	2,244	993	372	279	632	751	806	650	472	57	82	652
San Antonio River above confluence Tunnel Only	0.05	2,110	2,216	1,246	408	279	628	771	800	642	465	57	82	678
San Antonio River above confluence Baseline	0.25	138	139	73	33	172	575	693	787	795	339	33	58	332
San Antonio River above confluence TP7S	0.25	172	203	85	44	145	319	414	431	408	324	33	68	339
San Antonio River above confluence Tunnel Only	0.25	172	203	85	99	150	318	407	431	406	310	33	72	339
San Antonio River above confluence Baseline	0.5	108	99	56	20	28	256	354	383	384	30	25	46	63
San Antonio River above confluence TP7S	0.5	114	117	57	21	29	188	335	355	370	108	25	46	82
San Antonio River above confluence Tunnel Only	0.5	122	117	57	21	40	189	335	355	366	49	25	46	83
San Antonio River above confluence Baseline	0.75	63	59	46	15	12	32	193	320	345	18	19	33	28
San Antonio River above confluence TP7S	0.75	63	59	46	15	11	35	255	335	345	28	19	33	30
San Antonio River above confluence Tunnel Only	0.75	68	59	46	15	15	38	248	335	345	18	19	33	31
San Antonio River above confluence Baseline	0.95	27	30	11	10	10	10	10	44	55	0.70	1.83	19	10
San Antonio River above confluence TP7S	0.95	27	38	11	10	10	10	13	38	50	11	10	19	11
San Antonio River above confluence Tunnel Only	0.95	27	38	11	10	10	10	13	38	50	11	1.83	19	11

**Table E-17. Exceedance Probability for Simulated Flows (cfs) in the San Antonio River above Confluence Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for Normal Water Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
San Antonio River above confluence Baseline	0.05	108	76	953	1,008	673	866	897	910	944	744	35	68	873
San Antonio River above confluence TP7S	0.05	108	82	793	1,122	483	522	854	902	845	334	90	90	659
San Antonio River above confluence Tunnel Only	0.05	257	440	882	1,011	494	657	863	627	834	358	139	117	623
San Antonio River above confluence Baseline	0.25	52	53	100	48	471	783	819	848	848	471	30	41	371
San Antonio River above confluence TP7S	0.25	54	56	100	259	252	388	392	392	374	318	31	41	328
San Antonio River above confluence Tunnel Only	0.25	72	60	212	265	244	394	389	388	370	318	34	44	331
San Antonio River above confluence Baseline	0.5	36	29	43	19	201	330	389	381	380	215	20	31	37
San Antonio River above confluence TP7S	0.5	40	29	43	22	86	313	350	357	344	212	20	31	43
San Antonio River above confluence Tunnel Only	0.5	40	31	45	48	77	303	347	350	341	211	20	37	49
San Antonio River above confluence Baseline	0.75	20	16	29	13	10	10	10	10	10	12	11	19	14
San Antonio River above confluence TP7S	0.75	20	18	29	15	10	10	10	10	10	15	11	19	15
San Antonio River above confluence Tunnel Only	0.75	20	18	29	17	11	10	10	10	10	15	11	25	15
San Antonio River above confluence Baseline	0.95	16	13	14	10	10	10	10	10	10	10	11	12	10
San Antonio River above confluence TP7S	0.95	16	13	14	10	10	10	10	10	10	10	11	12	10
San Antonio River above confluence Tunnel Only	0.95	16	13	14	10	10	10	10	10	10	10	11	12	10

**Table E-18. Exceedance Probability for Simulated Flows (cfs) in the San Antonio River above Confluence Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for Dry Water Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
San Antonio River above confluence Baseline	0.05	37	46	33	774	850	887	905	869	34	923	29	53	864
San Antonio River above confluence TP7S	0.05	37	46	33	548	1,021	1,035	1,010	955	913	520	29	53	984
San Antonio River above confluence Tunnel Only	0.05	37	46	33	548	1,019	1,026	1,008	955	923	600	29	53	974
San Antonio River above confluence Baseline	0.25	29	34	22	362	395	419	441	12	13	303	20	28	29
San Antonio River above confluence TP7S	0.25	29	34	22	332	518	988	974	871	795	335	20	28	294
San Antonio River above confluence Tunnel Only	0.25	29	34	22	331	848	984	955	857	420	322	20	28	267
San Antonio River above confluence Baseline	0.5	22	29	17	17	14	10	10	10	10	16	17	23	16
San Antonio River above confluence TP7S	0.5	22	29	17	34	152	205	255	10	14	229	17	23	21
San Antonio River above confluence Tunnel Only	0.5	22	29	17	34	152	200	255	10	13	213	17	23	20
San Antonio River above confluence Baseline	0.75	17	16	12	13	10	10	10	10	10	11	13	12	10
San Antonio River above confluence TP7S	0.75	17	16	13	13	11	10	10	10	10	15	13	12	10
San Antonio River above confluence Tunnel Only	0.75	17	16	13	13	11	10	10	10	10	14	13	12	10
San Antonio River above confluence Baseline	0.95	10	10	10	0.01	10	0.06	0	0	0.36	10	11	10	10
San Antonio River above confluence TP7S	0.95	10	10	10	10	10	10	10	10	10	10	11	10	10
San Antonio River above confluence Tunnel Only	0.95	10	10	10	10	10	10	10	10	10	10	11	10	10

**Table E-19. Exceedance Probability for Simulated Flows (cfs) in the Salinas River above Confluence Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for All Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
Salinas River above confluence Baseline	0.05	4,261	7,903	4,697	657	395	397	395	357	345	297	272	1,149	1,353
Salinas River above confluence TP7S	0.05	4,249	6,202	2,990	657	449	449	418	406	383	366	272	1,148	1,182
Salinas River above confluence Tunnel Only	0.05	4,249	6,207	2,951	655	449	448	416	406	375	362	272	1,148	1,182
Salinas River above confluence Baseline	0.25	807	1,069	971	217	89	78	209	100	64	129	160	295	273
Salinas River above confluence TP7S	0.25	807	1,069	907	436	234	310	339	344	338	298	150	295	344
Salinas River above confluence Tunnel Only	0.25	807	1,069	907	416	221	303	337	344	339	297	150	295	341
Salinas River above confluence Baseline	0.5	242	200	364	134	60	57	57	57	57	84	99	173	99
Salinas River above confluence TP7S	0.5	242	200	427	157	82	62	61	108	152	211	84	172	160
Salinas River above confluence Tunnel Only	0.5	242	200	367	157	68	61	61	166	217	203	84	172	158
Salinas River above confluence Baseline	0.75	136	160	126	74	57	57	57	57	57	59	65	109	57
Salinas River above confluence TP7S	0.75	136	131	124	81	58	57	57	57	57	59	58	93	60
Salinas River above confluence Tunnel Only	0.75	136	131	116	85	58	57	57	57	57	59	58	93	59
Salinas River above confluence Baseline	0.95	57	79	72	58	57	57	57	0	57	34	52	29	57
Salinas River above confluence TP7S	0.95	57	79	66	27	57	0.03	0.00	0.00	0.03	0.00	7	28	5
Salinas River above confluence Tunnel Only	0.95	57	79	66	27	57	0.03	0.00	0.00	0.06	0.00	7	28	5

**Table E-20. Exceedance Probability for Simulated Flows (cfs) in the Salinas River above Confluence Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for Wet Water Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
Salinas River above confluence Baseline	0.05	6,806	11,321	8,222	651	451	401	418	402	367	297	421	1,182	5,090
Salinas River above confluence TP7S	0.05	6,308	10,378	6,566	618	451	397	411	413	390	392	421	1,182	4,193
Salinas River above confluence Tunnel Only	0.05	6,291	10,378	6,563	618	451	397	412	411	386	385	421	1,182	4,193
Salinas River above confluence Baseline	0.25	4,202	6,312	2,586	438	122	114	307	328	325	147	244	1,003	622
Salinas River above confluence TP7S	0.25	4,024	4,193	2,334	438	168	276	340	353	362	298	244	1,003	618
Salinas River above confluence Tunnel Only	0.25	4,024	4,193	2,334	438	163	274	338	355	360	297	244	1,003	618
Salinas River above confluence Baseline	0.5	2,519	2,757	1,224	180	82	58	61	182	88	109	151	322	207
Salinas River above confluence TP7S	0.5	2,519	2,556	1,224	180	82	69	275	322	332	237	95	322	303
Salinas River above confluence Tunnel Only	0.5	2,519	2,556	1,224	180	82	69	274	319	329	235	95	322	301
Salinas River above confluence Baseline	0.75	807	661	907	120	60	57	57	57	57	83	95	173	74
Salinas River above confluence TP7S	0.75	807	661	907	120	60	57	57	80	236	86	71	172	89
Salinas River above confluence Tunnel Only	0.75	807	661	907	120	60	57	57	77	235	86	71	172	89
Salinas River above confluence Baseline	0.95	166	575	74	59	57	57	57	57	57	58	57	110	57
Salinas River above confluence TP7S	0.95	166	575	74	59	58	57	57	57	63	1.44	7	52	57
Salinas River above confluence Tunnel Only	0.95	166	575	74	59	58	57	57	57	63	1.44	7	52	57

**Table E-21. Exceedance Probability for Simulated Flows (cfs) in the Salinas River above Confluence Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for Normal Water Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
Salinas River above confluence Baseline	0.05	1,572	1,833	1407	666	350	342	378	346	318	307	272	818	677
Salinas River above confluence TP7S	0.05	1,572	1,118	997	678	449	464	418	382	370	318	272	818	629
Salinas River above confluence Tunnel Only	0.05	1,572	1,118	997	666	449	449	412	382	371	318	272	818	623
Salinas River above confluence Baseline	0.25	385	623	520	217	74	220	61	57	57	134	172	273	249
Salinas River above confluence TP7S	0.25	385	607	511	456	238	347	353	358	339	300	157	273	344
Salinas River above confluence Tunnel Only	0.25	385	607	511	450	236	344	349	356	339	293	157	273	341
Salinas River above confluence Baseline	0.5	247	199	449	137	59	57	57	57	57	83	101	175	96
Salinas River above confluence TP7S	0.5	247	199	449	152	114	278	313	322	317	222	98	175	200
Salinas River above confluence Tunnel Only	0.5	247	199	438	152	109	270	311	322	314	209	96	175	190
Salinas River above confluence Baseline	0.75	145	131	181	68	58	57	57	57	57	59	61	99	57
Salinas River above confluence TP7S	0.75	145	116	187	91	59	57	57	57	57	62	60	93	66
Salinas River above confluence Tunnel Only	0.75	145	116	181	98	59	57	57	57	57	62	60	93	65
Salinas River above confluence Baseline	0.95	63	91	79	58	57	57	57	57	57	57	57	28	57
Salinas River above confluence TP7S	0.95	63	91	79	63	57	57	57	57	57	0	5	62	57
Salinas River above confluence Tunnel Only	0.95	63	91	79	63	57	57	57	57	57	0	5	62	57

**Table E-22. Exceedance Probability for Simulated Flows (cfs) in the Salinas River above Confluence Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for Dry Water Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
Salinas River above confluence Baseline	0.05	242	361	182	459	463	449	391	108	217	129	148	378	355
Salinas River above confluence TP7S	0.05	242	361	182	460	452	449	449	444	217	369	148	332	369
Salinas River above confluence Tunnel Only	0.05	242	361	182	457	452	449	449	444	252	367	148	332	365
Salinas River above confluence Baseline	0.25	149	188	130	100	96	58	57	57	60	88	103	160	128
Salinas River above confluence TP7S	0.25	149	188	130	317	296	58	57	65	61	279	76	145	139
Salinas River above confluence Tunnel Only	0.25	149	188	130	316	89	58	57	65	61	280	76	145	137
Salinas River above confluence Baseline	0.5	135	167	110	77	57	57	57	57	57	61	91	124	66
Salinas River above confluence TP7S	0.5	135	166	101	128	58	57	57	57	57	72	64	111	62
Salinas River above confluence Tunnel Only	0.5	135	166	101	128	57	57	57	57	57	72	64	111	62
Salinas River above confluence Baseline	0.75	110	101	92	65	57	57	57	57	57	57	64	64	57
Salinas River above confluence TP7S	0.75	98	101	68	61	57	43	0	0	0.77	23	36	62	53
Salinas River above confluence Tunnel Only	0.75	98	101	68	61	57	43	0	0	0.77	16	36	62	46
Salinas River above confluence Baseline	0.95	57	58	57	57	24	0	0	0	0.01	0	12	0.02	0.02
Salinas River above confluence TP7S	0.95	0	1.46	46	0.01	0	0	0	0	0	0	7	0.02	0
Salinas River above confluence Tunnel Only	0.95	0	1.46	46	0.01	0	0	0	0	0	0	7	0.02	0



**Table E-23. Exceedance Probability for Simulated Flows (cfs) in the Salinas River at Los Lobos Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for All Water Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
LOSLOBOS_FLOW Baseline	0.05	4380	8072	5145	1072	903	941	957	947	1006	843	321	1231	1497
LOSLOBOS_FLOW TP7S	0.05	4380	7669	3941	1526	966	1054	1041	999	926	744	414	1230	1490
LOSLOBOS_FLOW Tunnel Only	0.05	4380	7731	4059	1262	968	1047	1031	958	926	744	417	1231	1505
LOSLOBOS_FLOW Baseline	0.25	870	1145	1095	506	565	803	867	865	866	541	187	330	735
LOSLOBOS_FLOW TP7S	0.25	870	1145	1030	665	544	791	806	782	742	612	181	330	715
LOSLOBOS_FLOW Tunnel Only	0.25	972	1193	1030	678	532	796	810	765	728	612	181	330	711
LOSLOBOS_FLOW Baseline	0.5	272	232	492	171	128	552	669	660	509	197	118	206	215
LOSLOBOS_FLOW TP7S	0.5	276	256	492	202	133	551	664	681	676	427	100	198	289
LOSLOBOS_FLOW Tunnel Only	0.5	276	291	498	213	136	533	660	667	670	416	114	203	289
LOSLOBOS_FLOW Baseline	0.75	170	182	150	100	70	68	66	66	66	79	76	128	83
LOSLOBOS_FLOW TP7S	0.75	170	154	137	117	72	68	67	67	67	97	69	116	92
LOSLOBOS_FLOW Tunnel Only	0.75	170	154	140	122	74	68	67	67	67	95	69	121	92
LOSLOBOS_FLOW Baseline	0.95	67	92	85	68	66	66	66	10	58	51	66	45	66
LOSLOBOS_FLOW TP7S	0.95	67	92	77	43	66	10	10	10	10	10	19	44	19
LOSLOBOS_FLOW Tunnel Only	0.95	67	92	77	43	66	10	10	10	10	10	16	44	16

**Table E-24. Exceedance Probability for Simulated Flows (cfs) in the Salinas River at Los Lobos Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for Wet Water Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
LOSLOBOS_FLOW Baseline	0.05	6,945	11,531	8,392	971	652	832	880	908	1,140	755	475	1,261	5,261
LOSLOBOS_FLOW TP7S	0.05	6,567	11,229	6,845	925	615	817	847	866	799	815	468	1,261	4,380
LOSLOBOS_FLOW Tunnel Only	0.05	6,567	11,089	6,845	927	618	819	850	865	793	811	468	1,261	4,380
LOSLOBOS_FLOW Baseline	0.25	4,334	6,413	2,671	469	406	713	837	846	855	446	279	1,076	873
LOSLOBOS_FLOW TP7S	0.25	4,196	4,652	2,519	469	374	613	758	758	742	598	279	1,076	837
LOSLOBOS_FLOW Tunnel Only	0.25	4,196	4,645	2,520	525	378	615	759	762	740	593	279	1,076	847
LOSLOBOS_FLOW Baseline	0.5	2,627	2,896	1,280	195	103	461	685	742	734	175	181	368	624
LOSLOBOS_FLOW TP7S	0.5	2,672	2,673	1,280	203	103	371	623	681	714	341	124	368	596
LOSLOBOS_FLOW Tunnel Only	0.5	2,744	2,673	1,280	203	103	365	617	670	708	339	124	368	592
LOSLOBOS_FLOW Baseline	0.75	870	719	964	138	87	91	374	620	670	118	114	206	175
LOSLOBOS_FLOW TP7S	0.75	870	719	964	157	78	98	473	643	669	118	97	197	177
LOSLOBOS_FLOW Tunnel Only	0.75	876	719	964	157	92	102	449	631	670	117	97	197	175
LOSLOBOS_FLOW Baseline	0.95	192	634	85	70	68	67	66	111	143	59	66	131	70
LOSLOBOS_FLOW TP7S	0.95	192	634	85	70	68	67	70	107	138	12	19	74	70
LOSLOBOS_FLOW Tunnel Only	0.95	192	634	85	70	68	67	69	107	138	12	9	74	70

**Table E-25. Exceedance Probability for Simulated Flows (cfs) in the Salinas River at Los Lobos Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for Normal Water Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
LOSLOBOS_FLOW Baseline	0.05	1,671	1,914	1,636	1,354	748	922	957	966	1001	800	321	886	1,059
LOSLOBOS_FLOW TP7S	0.05	1,671	1,193	1,507	1,599	807	956	1000	959	902	651	321	886	1,042
LOSLOBOS_FLOW Tunnel Only	0.05	1,671	1,862	1,507	1,478	804	948	952	863	891	654	321	886	1,049
LOSLOBOS_FLOW Baseline	0.25	430	677	1,021	498	600	852	881	905	907	623	203	312	728
LOSLOBOS_FLOW TP7S	0.25	430	667	844	723	492	753	761	761	726	618	203	312	682
LOSLOBOS_FLOW Tunnel Only	0.25	550	681	850	709	492	765	754	752	718	619	211	312	682
LOSLOBOS_FLOW Baseline	0.5	276	215	522	171	379	644	729	720	674	366	120	210	282
LOSLOBOS_FLOW TP7S	0.5	276	215	504	207	233	606	680	692	669	427	116	218	312
LOSLOBOS_FLOW Tunnel Only	0.5	276	229	522	232	226	588	673	679	661	427	118	224	312
LOSLOBOS_FLOW Baseline	0.75	171	154	216	108	70	68	66	67	66	79	72	117	92
LOSLOBOS_FLOW TP7S	0.75	171	138	216	127	71	68	67	67	66	82	70	117	104
LOSLOBOS_FLOW Tunnel Only	0.75	171	138	255	135	78	68	67	67	66	79	70	124	104
LOSLOBOS_FLOW Baseline	0.95	74	104	94	68	66	66	66	66	66	66	67	44	66
LOSLOBOS_FLOW TP7S	0.95	74	104	94	74	67	66	66	66	66	10	16	73	66
LOSLOBOS_FLOW Tunnel Only	0.95	74	104	94	74	67	66	66	66	66	10	16	73	66

**Table E-26. Exceedance Probability for Simulated Flows (cfs) in the Salinas River at Los Lobos Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for Dry Water Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
LOSLOBOS_FLOW Baseline	0.05	272	407	215	1,003	952	956	962	925	250	984	176	431	941
LOSLOBOS_FLOW TP7S	0.05	272	407	215	964	1,078	1,092	1,067	1,015	970	759	176	380	1,041
LOSLOBOS_FLOW Tunnel Only	0.05	272	407	215	957	1,075	1,083	1,065	1,017	980	755	176	380	1,031
LOSLOBOS_FLOW Baseline	0.25	176	221	152	597	744	788	844	90	74	407	123	187	179
LOSLOBOS_FLOW TP7S	0.25	176	221	144	658	951	1,046	1,031	942	882	578	97	173	548
LOSLOBOS_FLOW Tunnel Only	0.25	176	221	144	654	950	1,041	1,012	939	639	620	97	173	545
LOSLOBOS_FLOW Baseline	0.5	163	199	128	105	90	68	66	66	66	110	108	147	106
LOSLOBOS_FLOW TP7S	0.5	161	196	119	152	313	422	498	66	84	477	76	132	129
LOSLOBOS_FLOW Tunnel Only	0.5	161	196	119	152	314	412	488	66	84	467	76	132	121
LOSLOBOS_FLOW Baseline	0.75	129	122	106	81	67	66	66	57	64	67	76	76	67
LOSLOBOS_FLOW TP7S	0.75	116	122	83	74	67	52	10	10	11	67	53	73	66
LOSLOBOS_FLOW Tunnel Only	0.75	116	122	83	74	67	52	10	10	11	67	53	73	66
LOSLOBOS_FLOW Baseline	0.95	67	69	67	57	40	10	10	10	10	51	24	10	18
LOSLOBOS_FLOW TP7S	0.95	10	12	66	10	10	10	10	10	10	10	19	10	10
LOSLOBOS_FLOW Tunnel Only	0.95	10	12	66	10	10	10	10	10	10	10	19	10	10

**Table E-27. Exceedance Probability for Simulated Flows (cfs) in the Salinas River at Soledad Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for All Water Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
SOLEDAD_FLOW Baseline	0.05	4,732	7,495	4,942	1,056	388	360	371	370	398	398	583	1,333	1,620
SOLEDAD_FLOW TP7S	0.05	4,397	6,732	3,395	1,029	421	398	398	398	391	351	570	1,357	1,549
SOLEDAD_FLOW Tunnel Only	0.05	4,484	6,976	3,373	1,063	420	401	396	398	392	351	571	1,413	1,581
SOLEDAD_FLOW Baseline	0.25	1,057	1,368	1,230	392	249	295	321	331	344	233	240	476	356
SOLEDAD_FLOW TP7S	0.25	1,041	1,375	1,033	442	225	266	255	251	252	248	248	490	361
SOLEDAD_FLOW Tunnel Only	0.25	1,054	1,375	1,036	430	226	266	256	247	251	245	263	490	356
SOLEDAD_FLOW Baseline	0.5	325	354	497	251	155	196	208	202	186	139	86	229	208
SOLEDAD_FLOW TP7S	0.5	335	351	457	239	137	191	210	221	226	206	98	216	216
SOLEDAD_FLOW Tunnel Only	0.5	336	351	487	246	141	188	209	217	223	203	96	218	214
SOLEDAD_FLOW Baseline	0.75	114	171	116	99	36	1	0	0	2	16	30	96	46
SOLEDAD_FLOW TP7S	0.75	137	165	122	142	63	14	2	1	3	24	30	99	79
SOLEDAD_FLOW Tunnel Only	0.75	135	165	121	142	66	13	2	1	3	25	30	100	76
SOLEDAD_FLOW Baseline	0.95	7.77	27.78	18.08	2.87	0.10	0.08	0.08	0.06	0.06	0.08	2.01	18.17	0.17
SOLEDAD_FLOW TP7S	0.95	7.77	47.62	30.71	3.29	0.21	0.08	0.08	0.06	0.06	0.26	2.01	18.09	0.33
SOLEDAD_FLOW Tunnel Only	0.95	7.77	47.37	30.48	3.29	0.20	0.08	0.08	0.06	0.06	0.08	2.01	18.61	0.31

**Table E-28. Exceedance Probability for Simulated Flows (cfs) in the Salinas River at Soledad Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for Wet Water Year Types (1968-2014)**

Location & Scenario	Exceedance Probability	Exceedance												Annual
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	
SOLEDAD_FLOW Baseline	0.05	7,152	11,752	8,394	1,602	814	338	346	355	415	509	600	1,627	5,374
SOLEDAD_FLOW TP7S	0.05	7,371	12,722	7,566	1,638	874	359	311	331	343	434	599	1,600	4,589
SOLEDAD_FLOW Tunnel Only	0.05	7,365	12,591	7,566	1,639	879	362	316	330	343	435	599	1,656	4,615
SOLEDAD_FLOW Baseline	0.25	4,100	5,687	3,080	975	309	284	301	327	352	223	385	1,137	924
SOLEDAD_FLOW TP7S	0.25	4,059	5,049	2,972	897	296	233	236	250	257	277	384	1,154	902
SOLEDAD_FLOW Tunnel Only	0.25	4,120	4,999	2,970	956	301	234	236	250	255	276	362	1,152	919
SOLEDAD_FLOW Baseline	0.5	2,823	3,507	1,652	403	203	221	210	223	258	160	168	359	307
SOLEDAD_FLOW TP7S	0.5	2,834	2,907	1,497	376	162	183	199	218	232	224	152	346	257
SOLEDAD_FLOW Tunnel Only	0.5	2,896	2,911	1,496	383	162	182	199	219	232	222	152	347	257
SOLEDAD_FLOW Baseline	0.75	1,060	883	1,287	265	134	138	161	187	213	59	44	192	182
SOLEDAD_FLOW TP7S	0.75	1,044	891	1,195	258	115	123	173	197	215	69	48	200	183
SOLEDAD_FLOW Tunnel Only	0.75	1,049	891	1,210	258	116	129	173	196	215	69	48	189	181
SOLEDAD_FLOW Baseline	0.95	219	685	304	182	77	83	89	101	154	0.81	0.17	50	50
SOLEDAD_FLOW TP7S	0.95	226	702	302	163	66	82	124	121	158	0.81	0.17	55	55
SOLEDAD_FLOW Tunnel Only	0.95	217	702	306	165	65	82	121	120	158	0.81	0.17	55	55

**Table E-29. Exceedance Probability for Simulated Flows (cfs) in the Salinas River at Soledad Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for Normal Water Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
SOLEDAD_FLOW Baseline	0.05	1,936	1,688	1,645	824	284	350	370	376	399	346	624	1,191	882
SOLEDAD_FLOW TP7S	0.05	1,955	1,584	905	796	275	320	363	375	362	291	579	1,193	834
SOLEDAD_FLOW Tunnel Only	0.05	1,952	1,766	907	853	298	331	365	309	363	292	580	1,195	878
SOLEDAD_FLOW Baseline	0.25	616	814	700	344	239	323	340	353	358	295	268	468	361
SOLEDAD_FLOW TP7S	0.25	620	819	698	473	189	246	245	239	243	222	278	466	337
SOLEDAD_FLOW Tunnel Only	0.25	714	832	700	462	186	242	249	235	242	221	283	467	325
SOLEDAD_FLOW Baseline	0.5	347	295	534	216	156	210	227	229	304	191	94	207	226
SOLEDAD_FLOW TP7S	0.5	354	304	510	221	128	197	214	227	226	201	102	208	218
SOLEDAD_FLOW Tunnel Only	0.5	356	311	537	233	124	192	213	223	224	200	105	209	216
SOLEDAD_FLOW Baseline	0.75	116	204	304	127	38	0.90	0.44	0.43	0.44	11	39	99	69
SOLEDAD_FLOW TP7S	0.75	134	206	302	152	69	9	1.12	0.80	0.64	56	37	101	90
SOLEDAD_FLOW Tunnel Only	0.75	134	222	306	148	72	8	0.91	0.80	0.64	57	37	105	91
SOLEDAD_FLOW Baseline	0.95	63	96	91	6	0.10	0.07	0.07	0.06	0.06	0.35	2.47	34	0.09
SOLEDAD_FLOW TP7S	0.95	49	96	98	8	1.22	0.08	0.07	0.06	0.06	0.35	2.47	30	0.18
SOLEDAD_FLOW Tunnel Only	0.95	50	96	96	8	1.22	0.08	0.07	0.06	0.06	0.35	2.47	30	0.13

**Table E-30. Exceedance Probability for Simulated Flows (cfs) in the Salinas River at Soledad Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for Dry Water Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
SOLEDAD_FLOW Baseline	0.05	286	580	291	352	348	365	375	276	168	398	209	620	367
SOLEDAD_FLOW TP7S	0.05	307	575	288	336	415	410	408	445	494	278	199	658	409
SOLEDAD_FLOW Tunnel Only	0.05	294	576	288	335	414	409	406	444	493	276	200	655	407
SOLEDAD_FLOW Baseline	0.25	165	250	85	251	218	249	263	46	17	214	91	236	165
SOLEDAD_FLOW TP7S	0.25	171	242	83	247	252	389	396	382	383	256	99	225	259
SOLEDAD_FLOW Tunnel Only	0.25	170	243	81	247	363	385	389	381	381	253	92	225	256
SOLEDAD_FLOW Baseline	0.5	99	110	57	60	33	1.10	0.49	0.43	2.68	100	41	86	43
SOLEDAD_FLOW TP7S	0.5	124	103	57	111	105	122	137	2.22	29	206	74	112	92
SOLEDAD_FLOW Tunnel Only	0.5	122	103	55	105	104	119	137	2.22	15	204	73	106	86
SOLEDAD_FLOW Baseline	0.75	44	63	38	9	0.65	0.36	0.46	0.37	0.20	16	26	34	1.83
SOLEDAD_FLOW TP7S	0.75	42	74	52	12	11	0.66	0.46	0.37	2.43	19	27	30	6
SOLEDAD_FLOW Tunnel Only	0.75	41	73	49	12	11	0.66	0.46	0.37	2.43	19	27	29	6
SOLEDAD_FLOW Baseline	0.95	0.42	5	15	0.38	0.05	0.06	0.08	0.06	0.02	0.02	3.89	0.16	0.08
SOLEDAD_FLOW TP7S	0.95	0.42	25	16	0.65	0.05	0.06	0.08	0.06	0.06	0.02	3.89	0.16	0.16
SOLEDAD_FLOW Tunnel Only	0.95	0.42	22	16	0.46	0.05	0.06	0.08	0.06	0.06	0.02	3.89	0.16	0.16



**Table E-31. Exceedance Probability for Simulated Flows (cfs) in the Salinas River at Chualar Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for All Water Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
CHUALAR_FLOW Baseline	0.05	6,253	8,052	5,447	1,572	494	227	217	214	242	274	662	1,733	2,170
CHUALAR_FLOW TP7S	0.05	5,621	7,381	4,080	1,568	455	233	225	228	243	245	645	1,756	2,127
CHUALAR_FLOW Tunnel Only	0.05	5,971	7,497	4,054	1,671	484	236	223	224	244	245	644	1,759	2,129
CHUALAR_FLOW Baseline	0.25	1,691	2,075	1,651	524	201	196	197	196	209	173	246	834	360
CHUALAR_FLOW TP7S	0.25	1,690	2,137	1,398	517	202	168	146	118	137	160	261	834	371
CHUALAR_FLOW Tunnel Only	0.25	1,735	2,137	1,485	514	214	169	145	117	118	158	272	834	371
CHUALAR_FLOW Baseline	0.5	489	722	630	307	149	116	110	102	107	94	70	275	166
CHUALAR_FLOW TP7S	0.5	503	733	641	320	121	111	109	108	108	111	78	282	137
CHUALAR_FLOW Tunnel Only	0.5	503	732	638	319	120	111	109	107	107	108	75	277	132
CHUALAR_FLOW Baseline	0.75	168	229	171	130	16	0	0	0	0	6	17	85	41
CHUALAR_FLOW TP7S	0.75	161	237	169	161	76	5	0	0	0	11	22	85	78
CHUALAR_FLOW Tunnel Only	0.75	161	238	169	164	78	4	0	0	0	11	22	84	75
CHUALAR_FLOW Baseline	0.95	2	64	26	0.24	0	0	0	0	0	0	0.11	12	0
CHUALAR_FLOW TP7S	0.95	1	66	37	0.96	0	0	0	0	0	0	0.11	10	0
CHUALAR_FLOW Tunnel Only	0.95	1	66	36	0.73	0	0	0	0	0	0	0.11	10	0

**Table E-32. Exceedance Probability for Simulated Flows (cfs) in the Salinas River at Chualar Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for Wet Water Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
CHUALAR_FLOW Baseline	0.05	8,846	14,826	9,476	2,106	1,000	395	212	212	245	410	727	2,230	6,268
CHUALAR_FLOW TP7S	0.05	9,077	15,790	8,734	2,151	1,090	411	201	201	244	348	710	2,199	5,634
CHUALAR_FLOW Tunnel Only	0.05	9,103	15,540	8,949	2,151	1,094	413	201	201	244	346	709	2,278	5,711
CHUALAR_FLOW Baseline	0.25	5,330	6,328	3,742	1,307	389	207	196	195	215	181	407	1,384	1,235
CHUALAR_FLOW TP7S	0.25	4,944	5,966	3,450	1,215	377	176	138	119	140	205	412	1,392	1,232
CHUALAR_FLOW Tunnel Only	0.25	4,949	5,904	3,545	1,292	384	174	137	119	140	205	390	1,392	1,242
CHUALAR_FLOW Baseline	0.5	3,578	4,362	2,267	624	221	164	115	114	141	111	152	449	241
CHUALAR_FLOW TP7S	0.5	3,591	3,896	2,126	596	212	120	112	108	111	153	131	427	226
CHUALAR_FLOW Tunnel Only	0.5	3,647	3,900	2,125	594	214	120	111	108	112	149	131	426	228
CHUALAR_FLOW Baseline	0.75	1,542	1,230	1,717	461	160	108	96	99	109	17	43	280	114
CHUALAR_FLOW TP7S	0.75	1,519	1,265	1,634	456	120	93	100	101	107	56	47	290	110
CHUALAR_FLOW Tunnel Only	0.75	1,521	1,265	1,660	457	120	97	100	101	107	55	47	279	110
CHUALAR_FLOW Baseline	0.95	327	1,028	474	211	99	74	72	70	104	0.00	0.00	54	46
CHUALAR_FLOW TP7S	0.95	333	1,028	458	200	88	69	86	86	104	0.00	0.00	62	59
CHUALAR_FLOW Tunnel Only	0.95	324	1,028	470	207	88	72	85	86	104	0.00	0.00	62	59

**Table E-33. Exceedance Probability for Simulated Flows (cfs) in the Salinas River at Chualar Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for Normal Water Year Types (1968-2014)**

Location & Scenario	Exceedance Probability	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
CHUALAR_FLOW Baseline	0.05	2,342	2,369	1,784	1,438	208	113	116	113	127	208	684	1,746	1,437
CHUALAR_FLOW TP7S	0.05	2,378	2,265	1,377	1,425	190	97	108	111	113	181	662	1,833	1,380
CHUALAR_FLOW Tunnel Only	0.05	2,374	2,413	1,492	1,434	211	101	108	84	113	182	664	1,800	1,399
CHUALAR_FLOW Baseline	0.25	810	1,171	1,064	341	117	111	112	111	110	119	228	836	324
CHUALAR_FLOW TP7S	0.25	819	1,177	965	344	94	82	57	49	48	107	243	830	327
CHUALAR_FLOW Tunnel Only	0.25	882	1,191	1,003	336	96	80	57	48	48	107	263	829	329
CHUALAR_FLOW Baseline	0.5	477	549	685	288	107	75	58	48	105	48	63	249	111
CHUALAR_FLOW TP7S	0.5	488	536	685	288	80	54	49	48	46	48	69	233	84
CHUALAR_FLOW Tunnel Only	0.5	489	565	689	289	78	52	49	47	46	48	70	232	82
CHUALAR_FLOW Baseline	0.75	196	255	321	122	13	0.73	0.48	1.19	0.74	3.55	26	77	43
CHUALAR_FLOW TP7S	0.75	243	301	311	151	46	0.97	0.54	1.23	0.74	21	19	78	45
CHUALAR_FLOW Tunnel Only	0.75	242	308	322	156	48	0.97	0.54	1.19	0.73	21	20	88	45
CHUALAR_FLOW Baseline	0.95	69	82	131	16	0.45	0.30	0.33	0.31	0.28	1.15	2.85	21	0.36
CHUALAR_FLOW TP7S	0.95	71	82	137	17	0.43	0.35	0.36	0.31	0.28	1.15	2.85	13	0.41
CHUALAR_FLOW Tunnel Only	0.95	71	82	137	17	0.47	0.35	0.36	0.31	0.28	1.15	2.85	14	0.40

**Table E-34. Exceedance Probability for Simulated Flows (cfs) in the Salinas River at Chualar Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for Dry Water Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
CHUALAR_FLOW Baseline	0.05	444	867	374	265	213	216	218	119	110	257	179	808	290
CHUALAR_FLOW TP7S	0.05	468	860	371	267	290	231	229	309	399	187	167	862	336
CHUALAR_FLOW Tunnel Only	0.05	454	861	371	267	289	230	227	309	399	187	167	858	333
CHUALAR_FLOW Baseline	0.25	189	269	140	171	104	114	116	22	2	160	70	259	121
CHUALAR_FLOW TP7S	0.25	184	281	133	168	118	224	222	221	218	158	77	247	189
CHUALAR_FLOW Tunnel Only	0.25	185	273	134	168	213	223	221	220	211	156	72	247	188
CHUALAR_FLOW Baseline	0.5	105	136	94	58	13	0	0	0	0	60	28	73	38
CHUALAR_FLOW TP7S	0.5	121	138	92	95	58	55	60	0	10	115	56	92	87
CHUALAR_FLOW Tunnel Only	0.5	121	138	92	92	57	54	60	0	1	115	50	86	83
CHUALAR_FLOW Baseline	0.75	67	91	41	4	0	0	0	0	0	0.53	15	23	0
CHUALAR_FLOW TP7S	0.75	68	86	52	7	1.96	0	0	0	0	10	18	17	0.43
CHUALAR_FLOW Tunnel Only	0.75	68	86	50	6	1.53	0	0	0	0	10	19	17	0.43
CHUALAR_FLOW Baseline	0.95	0	1	20	0	0	0	0	0	0	0	0.42	0	0
CHUALAR_FLOW TP7S	0.95	0	18	28	0	0	0	0	0	0	0	0.42	0	0
CHUALAR_FLOW Tunnel Only	0.95	0	16	27	0	0	0	0	0	0	0	0.42	0	0

**Table E-35. Exceedance Probability for Simulated Flows (cfs) in the Salinas River at Spreckels Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for All Water Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
SPRECKLES_FLOW Baseline	0.05	6,167	7,764	5,305	1,515	500	187	119	112	137	207	665	1,724	2,119
SPRECKLES_FLOW TP7S	0.05	5,578	7,121	4,028	1,469	477	186	112	111	157	191	662	1,774	2,079
SPRECKLES_FLOW Tunnel Only	0.05	5,795	7,252	4,003	1,574	490	188	113	112	157	190	663	1,777	2,082
SPRECKLES_FLOW Baseline	0.25	1,649	1,902	1,591	483	134	111	111	108	109	119	207	770	314
SPRECKLES_FLOW TP7S	0.25	1,625	2,014	1,373	438	127	91	84	50	64	118	219	799	316
SPRECKLES_FLOW Tunnel Only	0.25	1,706	2,014	1,434	451	127	93	85	50	56	118	227	797	315
SPRECKLES_FLOW Baseline	0.5	430	653	537	267	107	68	49	47	45	48	56	236	109
SPRECKLES_FLOW TP7S	0.5	463	664	543	274	80	58	49	48	46	57	66	236	91
SPRECKLES_FLOW Tunnel Only	0.5	452	663	541	275	80	56	49	48	46	57	64	230	89
SPRECKLES_FLOW Baseline	0.75	140	183	132	83	22	1.01	0.62	0.61	1.41	8	23	69	33
SPRECKLES_FLOW TP7S	0.75	134	196	135	100	41	1.99	0.67	1.23	2.11	22	23	72	45
SPRECKLES_FLOW Tunnel Only	0.75	130	188	136	100	40	2.00	0.67	1.19	1.62	22	23	75	45
SPRECKLES_FLOW Baseline	0.95	5.11	44.52	26.01	3.70	0.53	0.31	0.34	0.30	0.28	1.02	2.85	5.25	0.49
SPRECKLES_FLOW TP7S	0.95	5.11	56.02	27.83	3.70	0.54	0.35	0.36	0.31	0.28	1.01	2.26	4.23	0.54
SPRECKLES_FLOW Tunnel Only	0.95	5.11	56.02	27.25	3.70	0.76	0.35	0.36	0.31	0.28	1.01	2.26	4.23	0.53

**Table E-36. Exceedance Probability for Simulated Flows (cfs) in the Salinas River at Spreckels Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for Wet Water Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
SPRECKLES_FLOW Baseline	0.05	8,726	14,934	9,212	2,163	1,006	396	161	112	167	301	712	2,194	6,158
SPRECKLES_FLOW TP7S	0.05	8,889	15,868	8,654	2,214	1,084	404	171	111	167	239	708	2,151	5,581
SPRECKLES_FLOW Tunnel Only	0.05	8,929	15,633	8,716	2,214	1,086	407	171	111	167	240	708	2,183	5,646
SPRECKLES_FLOW Baseline	0.25	4,917	6,241	3,683	1,358	387	145	112	110	109	137	405	1,278	1,191
SPRECKLES_FLOW TP7S	0.25	4,854	5,871	3,485	1,256	375	132	111	52	72	129	403	1,284	1,194
SPRECKLES_FLOW Tunnel Only	0.25	4,861	5,814	3,521	1,334	379	139	111	53	72	129	387	1,285	1,197
SPRECKLES_FLOW Baseline	0.5	3,529	4,266	2,274	601	197	111	68	48	72	66	131	391	184
SPRECKLES_FLOW TP7S	0.5	3,525	3,827	2,092	569	184	80	50	48	47	107	139	387	168
SPRECKLES_FLOW Tunnel Only	0.5	3,589	3,821	2,097	576	184	81	50	48	47	107	139	385	169
SPRECKLES_FLOW Baseline	0.75	1,492	1,198	1,663	419	115	63	49	47	47	18	29	239	72
SPRECKLES_FLOW TP7S	0.75	1,463	1,204	1,573	415	96	49	48	47	45	52	31	249	58
SPRECKLES_FLOW Tunnel Only	0.75	1,464	1,208	1,601	415	96	50	48	47	45	50	30	246	58
SPRECKLES_FLOW Baseline	0.95	277	915	431	177	64	43	45	44	44	1.02	0.67	59	31
SPRECKLES_FLOW TP7S	0.95	283	936	427	165	57	43	44	44	43	1.02	0.67	63	40
SPRECKLES_FLOW Tunnel Only	0.95	274	947	435	172	57	43	44	43	43	1.02	0.67	63	41

**Table E-37. Exceedance Probability for Simulated Flows (cfs) in the Salinas River at Spreckels Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for Normal Water Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
SPRECKLES_FLOW Baseline	0.05	2,342	2,369	1,784	1,438	208	113	116	113	127	208	684	1,746	1,437
SPRECKLES_FLOW TP7S	0.05	2,378	2,265	1,377	1,425	190	97	108	111	113	181	662	1,833	1,380
SPRECKLES_FLOW Tunnel Only	0.05	2,374	2,413	1,492	1,434	211	101	108	84	113	182	664	1,800	1,399
SPRECKLES_FLOW Baseline	0.25	810	1,171	1,064	341	117	111	112	111	110	119	228	836	324
SPRECKLES_FLOW TP7S	0.25	819	1,177	965	344	94	82	57	49	48	107	243	830	327
SPRECKLES_FLOW Tunnel Only	0.25	882	1,191	1,003	336	96	80	57	48	48	107	263	829	329
SPRECKLES_FLOW Baseline	0.5	477	549	685	288	107	75	58	48	105	48	63	249	111
SPRECKLES_FLOW TP7S	0.5	488	536	685	288	80	54	49	48	46	48	69	233	84
SPRECKLES_FLOW Tunnel Only	0.5	489	565	689	289	78	52	49	47	46	48	70	232	82
SPRECKLES_FLOW Baseline	0.75	196	255	321	122	13	0.73	0.48	1.19	0.74	3.55	26	77	43
SPRECKLES_FLOW TP7S	0.75	243	301	311	151	46	0.97	0.54	1.23	0.74	21	19	78	45
SPRECKLES_FLOW Tunnel Only	0.75	242	308	322	156	48	0.97	0.54	1.19	0.73	21	20	88	45
SPRECKLES_FLOW Baseline	0.95	69	82	131	16	0.45	0.30	0.33	0.31	0.28	1.15	2.85	21	0.36
SPRECKLES_FLOW TP7S	0.95	71	82	137	17	0.43	0.35	0.36	0.31	0.28	1.15	2.85	13	0.41
SPRECKLES_FLOW Tunnel Only	0.95	71	82	137	17	0.47	0.35	0.36	0.31	0.28	1.15	2.85	14	0.40

**Table E-38. Exceedance Probability for Simulated Flows (cfs) in the Salinas River at Spreckels Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for Dry Water Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
SPRECKLES_FLOW Baseline	0.05	357	772	332	197	116	114	111	50	77	136	136	750	234
SPRECKLES_FLOW TP7S	0.05	389	759	328	197	184	117	112	218	335	118	124	826	293
SPRECKLES_FLOW Tunnel Only	0.05	370	758	328	197	184	117	112	218	335	118	124	821	293
SPRECKLES_FLOW Baseline	0.25	155	218	112	107	47	47	46	11	5	110	51	220	94
SPRECKLES_FLOW TP7S	0.25	148	232	109	102	54	109	107	107	106	116	66	199	111
SPRECKLES_FLOW Tunnel Only	0.25	148	222	109	102	107	110	107	108	105	74	64	199	110
SPRECKLES_FLOW Baseline	0.5	84	107	71	48	25	1.23	0.64	0.53	1.62	43	38	65	33
SPRECKLES_FLOW TP7S	0.5	94	110	66	66	34	23	25	0.61	5	57	45	84	57
SPRECKLES_FLOW Tunnel Only	0.5	94	110	65	65	33	23	25	0.61	5	55	43	79	54
SPRECKLES_FLOW Baseline	0.75	68	83	27	8	1.23	0.61	0.55	0.50	0.42	1.23	20	7	1.27
SPRECKLES_FLOW TP7S	0.75	72	79	35	9	5	0.87	0.57	0.52	1.62	26	23	5	4
SPRECKLES_FLOW Tunnel Only	0.75	71	80	33	9	5	0.87	0.57	0.52	1.61	26	23	5	4
SPRECKLES_FLOW Baseline	0.95	1	6	15	0.75	0.53	0.26	0.34	0.28	0.21	0.65	6	0.89	0.42
SPRECKLES_FLOW TP7S	0.95	1	16	23	0.74	0.53	0.26	0.34	0.29	0.43	0.65	6	0.89	0.52
SPRECKLES_FLOW Tunnel Only	0.95	1	15	21	0.74	0.53	0.26	0.34	0.29	0.42	0.65	6	0.89	0.52



**Table E-39. Exceedance Probability for Simulated Flows (cfs) in the Salinas River Lagoon Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for All Water Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
LAGOON_FLOW Baseline	0.05	6,419	7,888	5,389	1,573	472	152	100	90	152	278	820	1,894	2,226
LAGOON_FLOW TP7S	0.05	5,810	7,243	4,123	1,547	442	157	88	85	180	252	816	1,960	2,155
LAGOON_FLOW Tunnel Only	0.05	6,079	7,379	4,098	1,649	460	159	88	85	180	252	816	1,964	2,196
LAGOON_FLOW Baseline	0.25	1,783	2,065	1,653	497	119	72	78	77	86	135	282	915	342
LAGOON_FLOW TP7S	0.25	1,759	2,140	1,468	473	113	69	53	30	54	140	292	952	351
LAGOON_FLOW Tunnel Only	0.25	1,847	2,178	1,522	493	114	71	54	29	49	141	304	951	351
LAGOON_FLOW Baseline	0.5	493	768	565	259	74	36	19	18	29	64	97	314	90
LAGOON_FLOW TP7S	0.5	504	779	575	264	53	29	18	20	26	64	106	311	89
LAGOON_FLOW Tunnel Only	0.5	507	777	573	264	56	26	18	18	25	63	104	310	87
LAGOON_FLOW Baseline	0.75	187	215	183	86	19	3.36	2.06	1.96	4	21	44	120	21
LAGOON_FLOW TP7S	0.75	190	216	183	96	23	6.73	2.94	3.52	7	24	38	126	21
LAGOON_FLOW Tunnel Only	0.75	185	213	182	98	23	6.73	2.93	3.51	7	24	38	128	21
LAGOON_FLOW Baseline	0.95	17	62	27	14	1.31	0.74	0.98	0.78	0.53	4	8	15	1.30
LAGOON_FLOW TP7S	0.95	17	82	40	14	1.35	0.92	1.05	0.82	0.77	4	8	13	1.69
LAGOON_FLOW Tunnel Only	0.95	17	81	37	14	2.05	0.92	1.06	0.78	0.77	4	8	13	1.67

**Table E-40. Exceedance Probability for Simulated Flows (cfs) in the Salinas River Lagoon Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for Wet Water Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
LAGOON_FLOW Baseline	0.05	9,012	15,451	9,364	2,223	1,012	350	119	90	183	312	870	2,402	6,314
LAGOON_FLOW TP7S	0.05	9,111	16,381	8,757	2,274	1,078	359	129	85	183	260	865	2,360	5,804
LAGOON_FLOW Tunnel Only	0.05	9,151	16,147	8,910	2,274	1,083	361	129	86	183	259	865	2,362	5,878
LAGOON_FLOW Baseline	0.25	5,232	6,379	3,772	1,400	353	149	79	84	88	203	523	1,390	1,299
LAGOON_FLOW TP7S	0.25	5,103	6,011	3,529	1,309	338	101	80	30	54	168	531	1,385	1,289
LAGOON_FLOW Tunnel Only	0.25	5,109	5,954	3,564	1,377	348	103	80	30	54	168	509	1,384	1,301
LAGOON_FLOW Baseline	0.5	3,714	4,462	2,330	594	171	70	37	21	54	95	192	518	203
LAGOON_FLOW TP7S	0.5	3,710	3,997	2,163	564	158	52	22	21	29	136	213	506	194
LAGOON_FLOW Tunnel Only	0.5	3,774	4,046	2,168	568	162	55	22	21	29	135	213	507	201
LAGOON_FLOW Baseline	0.75	1,627	1,318	1,693	427	81	35	18	14	29	41	54	311	68
LAGOON_FLOW TP7S	0.75	1,608	1,329	1,607	399	76	15	17	15	24	43	56	314	39
LAGOON_FLOW Tunnel Only	0.75	1,608	1,328	1,630	397	76	15	18	15	24	43	55	313	38
LAGOON_FLOW Baseline	0.95	331	909	436	141	50	11	15	11	22	3.77	1.99	120	14
LAGOON_FLOW TP7S	0.95	337	926	416	129	20	11	12	11	17	3.88	2.00	124	13
LAGOON_FLOW Tunnel Only	0.95	328	937	430	136	23	11	12	11	17	3.88	2.00	124	13

**Table E-41. Exceedance Probability for Simulated Flows (cfs) in the Salinas River Lagoon Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for Normal Water Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
LAGOON_FLOW Baseline	0.05	2,502	2,573	1,955	1,500	186	78	94	96	109	235	844	1,930	1,516
LAGOON_FLOW TP7S	0.05	2,499	2,460	1,473	1,496	176	75	79	77	95	218	813	2,020	1,469
LAGOON_FLOW Tunnel Only	0.05	2,498	2,602	1,586	1,497	188	75	79	61	95	230	815	1,983	1,496
LAGOON_FLOW Baseline	0.25	970	1,293	1,135	354	91	71	79	78	87	109	307	984	361
LAGOON_FLOW TP7S	0.25	985	1,298	1,037	359	78	51	36	26	35	123	336	985	369
LAGOON_FLOW Tunnel Only	0.25	1,040	1,317	1,055	350	78	51	40	25	35	125	339	985	365
LAGOON_FLOW Baseline	0.5	536	612	744	279	74	45	24	21	77	53	96	321	91
LAGOON_FLOW TP7S	0.5	533	595	734	284	48	18	13	18	20	45	105	310	79
LAGOON_FLOW Tunnel Only	0.5	528	618	746	280	48	17	13	17	20	45	107	309	77
LAGOON_FLOW Baseline	0.75	219	298	334	117	12	2.05	1.29	3.51	1.74	13	43	122	23
LAGOON_FLOW TP7S	0.75	266	348	335	135	23	3.34	1.69	4.32	1.74	21	30	123	20
LAGOON_FLOW Tunnel Only	0.75	265	351	343	135	16	3.33	1.69	3.53	1.74	21	31	122	18
LAGOON_FLOW Baseline	0.95	124	158	162	20	1.31	0.73	0.83	0.81	0.43	3.93	9.55	31.99	0.97
LAGOON_FLOW TP7S	0.95	124	158	168	24	1.31	0.91	0.97	0.81	0.43	3.93	6.17	24.55	1.07
LAGOON_FLOW Tunnel Only	0.95	124	158	168	24	1.31	0.91	0.97	0.77	0.43	3.93	6.31	24.79	0.99

**Table E-42. Exceedance Probability for Simulated Flows (cfs) in the Salinas River Lagoon Reach under Baseline, Proposed Project, and Tunnel-Only Alternative Conditions for Dry Water Year Types (1968-2014)**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
LAGOON_FLOW Baseline	0.05	406	904	385	252	85	76	78	65	125	153	185	871	324
LAGOON_FLOW TP7S	0.05	437	891	381	252	189	79	91	224	363	153	173	946	363
LAGOON_FLOW Tunnel Only	0.05	419	890	381	252	189	79	91	224	363	153	172	941	363
LAGOON_FLOW Baseline	0.25	220	260	167	97	61	13	21	3	19	109	99	314	115
LAGOON_FLOW TP7S	0.25	223	274	167	110	61	74	78	82	89	109	108	297	128
LAGOON_FLOW Tunnel Only	0.25	223	265	167	107	70	74	78	82	86	90	107	298	127
LAGOON_FLOW Baseline	0.5	161	189	114	80	23	4	2	2	7	64	82	121	51
LAGOON_FLOW TP7S	0.5	171	185	108	75	23	9	11	3	20	64	97	145	74
LAGOON_FLOW Tunnel Only	0.5	171	185	109	75	23	9	11	3	19	64	86	141	71
LAGOON_FLOW Baseline	0.75	106	113	59	24	4	1.85	1.75	1.48	1.81	5	43	15	4
LAGOON_FLOW TP7S	0.75	101	125	59	25	9	2.97	2.00	1.71	7	25	54	15	12
LAGOON_FLOW Tunnel Only	0.75	102	126	59	25	9	2.96	2.00	1.71	7	25	54	15	12
LAGOON_FLOW Baseline	0.95	3.11	23	15	2.38	1.29	0.65	1.09	0.76	0.53	1.88	19	2.82	1.23
LAGOON_FLOW TP7S	0.95	3.11	32	23	2.48	1.29	0.65	1.09	0.76	1.24	1.89	19	2.83	1.62
LAGOON_FLOW Tunnel Only	0.95	3.11	30	21	2.48	1.29	0.65	1.09	0.76	1.23	1.89	19	2.83	1.62

# Wetland Delineation Report

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**Draft Aquatic Resource Delineation Report**  
**Interlake Tunnel and Spillway Modification Project**  
**Monterey and San Luis Obispo Counties, CA**



**File No. SPK-201X-00XXX**

**July 2018**







# **Draft Aquatic Resource Delineation Report**

## **Interlake Tunnel and Spillway Modification Project**

### **Prepared By:**

Horizon Water and Environment  
266 Grand Avenue, Suite 210  
Oakland, CA 94610  
Contact: Jeff Thomas  
(510) 986-4054  
Jeff@horizonh2o.com

### Supported by:

Dudek  
605 Third Street  
Encinitas, California 92024

### **Prepared For:**

Monterey County Water Resources Agency  
1441 Schilling Place, North Building  
Salinas, CA 93901  
Contact: Elizabeth Krafft  
(831) 755-4860  
krafftea@co.monterey.ca.us

Monterey and San Luis Obispo Counties

July 2018

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## **Executive Summary**

This delineation of aquatic resources has been conducted in accordance with the 1987 Corps of Engineers Wetland Delineation Manual, the 2008 Arid West Regional Supplement, and A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. A 599-acre study area was assessed for aquatic resources. The study area encompasses the proposed Interlake Tunnel and Spillway Modification Project located in Monterey and San Luis Obispo Counties, California.

The study area contains a total of 69.75 acres of potential waters of the U.S., consisting of 69.75 acres of potential non-wetland waters of the U.S. No potential wetlands were delineated. The dominant waters Cowardin classifications are: (1) Lacustrine, Limnetic, Unconsolidated Bottom (L1UB); (2) Riverine, Intermittent, Streambed (R4SB); and (3) Riverine, Ephemeral (R6) (Cowardin et al. 1979 and USACE 2017).

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**Appendices**

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**Electronic Appendix**

Aquatic Resources spreadsheet and GIS shapefiles

## Acronyms and Abbreviations

amsl	above mean sea level
cfs	cubic feet per second
ft	feet
GPS	Global Positioning System
LiDAR	light detection and ranging
MCWRA	Monterey County Water Resources Agency
NGVD29	National Geodetic Vertical Datum of 1929
NRCS	National Resource Conservation Service
NWI	National Wetland Inventory
OHW	Ordinary High Water
OHWM	Ordinary High Water Mark
OMBIL	Operations and Maintenance Business Information Link
ORM	Operations and Maintenance Business Information Link Regulatory Module
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture

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## 1.0 INTRODUCTION

This report presents the methods and results of an aquatic resources (wetland) delineation conducted for the Interlake Tunnel and Spillway Modification Project (project) located in Monterey and San Luis Obispo Counties, California. As part of the project, Monterey County Water Resources Agency (MCWRA) proposes to construct a tunnel between Nacimiento Reservoir and San Antonio Reservoir. Nacimiento Reservoir fills approximately three times faster than San Antonio Reservoir, resulting in the possibility of unused storage in San Antonio Reservoir when Nacimiento Reservoir is at capacity and releasing water for flood control. A tunnel connection would provide the conveyance means to transfer water from Nacimiento Reservoir to San Antonio Reservoir at appropriate times to maximize the net storage of the combined reservoirs. The proposed modification of the San Antonio Dam spillway has been envisioned as a method to enhance efficacy of the proposed Interlake Tunnel by increasing San Antonio Reservoir's storage capacity. The proposed spillway modification would not be constructed without the Interlake Tunnel.

MCWRA is the applicant and can be contacted at:

Elizabeth Krafft  
(831) 755-4860  
kraftea@co.monterey.ca.us  
Monterey County Water Resources  
1441 Schilling Place, North Building  
Salinas, CA 93901

Horizon Water and Environment is the agent and can be contacted at:

Jeff Thomas  
(510) 986-4054  
[jeff@horizonh2o.com](mailto:jeff@horizonh2o.com)  
Horizon Water and Environment  
266 Grand Avenue, Suite 210  
Oakland, CA 94610

## 2.0 LOCATION & SETTING

The project would be constructed within, between and adjacent to Nacimiento and San Antonio Reservoirs. These reservoirs are located in the Salinas River Basin, northwest of Paso Robles, California in Monterey and San Luis Obispo Counties as shown in Figure 1. Nacimiento Dam and its reservoir are located in northern San Luis Obispo County, approximately 20 miles inland from the coast. The dam is situated 10 miles upstream from the confluence of the Nacimiento and Salinas Rivers. San Antonio Dam and its reservoir are located in southern Monterey County, north of Nacimiento Reservoir. San Antonio Dam is situated 5 miles upstream from the confluence of the San Antonio and Salinas Rivers.

The study area for this delineation includes elevations between 780 to 788 feet National Geodetic Vertical Datum of 1929 (NGVD 29)<sup>1</sup> surrounding San Antonio Reservoir. This elevation band encompasses the potential maximum inundation area that would result from raising of the San Antonio spillway by approximately 7 feet plus an additional vertical one-foot buffer. The study area also includes project components where the Interlake Tunnel would be constructed within San Antonio and Nacimiento Reservoirs, including access routes. The study area covers 599 acres (Figure 2).

### 2.1 LOCATION AND DRIVING DIRECTIONS

Main Waterbodies	San Antonio River, San Antonio Reservoir, Nacimiento Reservoir		
Tributary Drainages	Deer Creek, Copperhead Creek, Harris Creek		
Tributary to and downstream waterbody	San Antonio River, Nacimiento River, Salinas River, Pacific Ocean.		
Watershed HUC and Name	Salinas 18060005		
Latitude & Longitude (DD)	35.795727°, -120.886837°		
Section, Township, Range	S25, T23S, R8E	S8, T24S, R9E	S19, T24S, R10E
	S26, T23S, R8E	S9, T24S, R9E	S28, T24S, R10E
	S35, T23S, R8E	S10, T24S, R9E	S29, T24S, R10E
	S36, T23S, R8E	S11, T24S, R9E	S30, T24S, R10E
	S30, T23S, R9E	S12, T24S, R9E	S31, T24S, R10E
	S31, T23S, R9E	S13, T24S, R9E	S32, T24S, R10E
	S32, T23S, R9E	S14, T24S, R9E	S33, T24S, R10E
	S33, T23S, R9E	S15, T24S, R9E	S34, T24S, R10E
	S2, T24S, R9E	S24, T24S, R9E	S4, T25S, R10E
	S3, T24S, R9E	S25, T24S, R9E	S5, T25S, R10E
	S4, T24S, R9E	S26, T24S, R9E	S9, T25S, R10E
	S5, T24S, R9E	S35, T24S, R9E	S10, T25S, R10E
	S6, T24S, R9E	S36, T24S, R9E	S15, T25S, R10E

<sup>1</sup> Elevations in this document are referenced to the National Geodetic Vertical Datum of 1929 (NGVD 29).

USGS Quadrangle	Tierra Redonda, Bryson, Williams Hill		
County Assessor Parcel Numbers	Monterey County		San Luis Obispo County
	219-031-017	219-021-005	080-034-002
	424-071-024	219-021-007	080-034-018
	424-061-040	219-021-001	080-034-003
	424-061-039	424-091-064	080-038-006
	424-071-028	424-071-027	080-041-014
	424-091-035	424-091-051	080-091-022
	424-091-065	424-061-007	080-091-023
	219-011-016	219-011-004	
	219-021-003	219-011-014	
	424-061-018	423-051-018	
	219-011-015	215-011-001	
	219-021-006	215-011-004	
219-021-002	219-011-013		
Street Address	Various		
Directions	<p>From U.S. Highway 101 in Paso Robles, California, take exit 231 for Highway 46 West/24th Street and head west. Travel for approximately 7.5 miles then turn right (north) onto Nacimiento Lake Drive. Travel for approximately 9 miles and turn left onto Interlake Road. The study area is located along the margins of Nacimiento Reservoir and San Antonio Reservoir, which are south and north of Interlake Road, respectively. An alternate route from U.S. Highway 101 near Bradley, California, take exit 252 for Jolon Road and head west toward Fort Hunter Liggett. Travel for approximately 0.4 mile and turn left on Nacimiento Lake Drive. Travel for approximately 6.9 miles and turn left to stay on Nacimiento Lake Drive. Travel 1.8 miles and turn right onto Interlake Road.</p>		
Access Restrictions	USACE should contact MCWRA prior to accessing the study area.		

## 2.2 LANDSCAPE SETTING

### 2.2.1 Climate

The study area has a Mediterranean climate characterized by cool, wet winters and hot, dry summers. Average temperatures range from a low of 34.7 degrees Fahrenheit (°F) in January to a high of 96.9°F in July (WRCC 2017a). Average annual precipitation at Nacimiento Dam is 15.02 inches (WRCC 2017a). Average annual precipitation in Bradley, California (approximately 6 miles east of San Antonio Dam) is approximately 11 inches (WRCC 2017b).



## 2.2.2 Hydrology

The study area is located within the Salinas River basin. The majority of the study area lies within the San Antonio River watershed, a 527 square mile watershed, specifically within the San Antonio River Reservoir-San Antonio River, Deer Creek-San Antonio River, and Harris Creek sub-watersheds. The remaining portion of the study area is within the Nacimiento River watershed and the Nacimiento Reservoir-Nacimiento River sub-watershed.

Total precipitation for the 2016/2017 water year at San Antonio Reservoir was 19.23 inches (MCWRA 2017), which is considerably above normal. For the period between October 1, 2016 and March 31, 2017, the Salinas River basin as a whole received 200% precipitation compared to the historic average precipitation (CDEC 2017).

## 2.2.3 Topography

San Antonio and Nacimiento Reservoirs are located along the eastern margin of the Santa Lucia Mountains and west of the Salinas Valley. Topography within the study area consists of rolling hills with steeper slopes on the southern edges of San Antonio Reservoir and more gradual slopes on the northern edge of the reservoir. Relatively flat areas are located to the northwest of San Antonio Reservoir near the San Antonio River, and in the vicinity of Nacimiento Reservoir. The remainder of the study area is characterized by relatively steep slopes. Elevations in the study area are from 780- to 788 feet at San Antonio Reservoir and 800 feet at the proposed Interlake Tunnel intake at Nacimiento Reservoir.

## 2.2.4 Soils

Based on review of the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) data, 18 soil series with various slopes and categories occur within the study area totaling 30 soil types (NRCS 2017a). Table 1 lists the soil types within the project site, and Figure 3 shows the locations of these soils. A brief summary of the soils in the study area is provided below.

<b>Soil Types</b>	<b>Map Unit Symbol</b>	<b>Hydric Status</b>
Alo silty clay, 15 to 30 percent slopes	AaE	No
Balcom-Calleguas complex, 50 to 75 percent slopes	113	No
Chamise shaly loam, 30 to 50 percent slopes	CaF	No
Corducci-Typic Xerofluvents, 0 to 5 percent slopes, occasionally flooded, MLRA 14	300	Yes
Gaviota sandy loam, 15 to 30 percent slopes	GdE	No
Gaviota sandy loam, 30 to 75 percent slopes	GdF	No
Linne silty clay loam, 30 to 50 percent slopes	LaF	No
Lockwood shaly loam, 2 to 9 percent slopes	LeC	Yes
Lockwood shaly loam, 9 to 15 percent slopes	LeD	No
Los Osos clay loam, 15 to 30 percent slopes	LmE	No

Table 1. Soil Types and Hydric Status		
Soil Types	Map Unit Symbol	Hydric Status
Los Osos clay loam, 30 to 50 percent slopes	LmF	No
Metz complex	Mg	No
Metz loamy sand	Me	No
Mocho silt loam, 0 to 2 percent slopes	MnA	Yes
Nacimiento silty clay loam, 15 to 30 percent slopes	NaE	No
Nacimiento silty clay loam, 30 to 50 percent slopes	NaF	No
Nacimiento-Los Osos complex, 30 to 50 percent slopes	NbF	No
Nacimiento-Los Osos complex, 50 to 75 percent slopes	NbG	No
Placentia sandy loam, 9 to 15 percent slopes	PnD	No
Psamments and Fluvents, frequently flooded	Ps	Yes
Psamments and Fluvents, occasionally flooded	Pr	Yes
Rincon clay loam, 2 to 9 percent slopes	RaC/188	No
Santa Lucia shaly clay loam, 15 to 30 percent slopes	SfE	No
Santa Lucia shaly clay loam, 30 to 50 percent slopes	SfF	No
Santa Lucia-Reliz association	Sg	No
Santa Ynez fine sandy loam, 15 to 30 percent slopes	ShE	No
Shedd silty clay loam, 30 to 50 percent slopes, eroded	SmG3	No
Water	W	N/A
Xerorthents, dissected	Xd	No
Xerorthents, loamy	Xc	No

Source: NRCS 2017

**Alo silty clay, 15 to 30 percent slopes.** The Alo series consists of moderately deep, well drained soils formed in material weathered from shale or sandstone on mountains. These soils are well-drained and are not considered hydric (NRCS 2017b).

**Balcom-Calleguas complex, 50 to 75 percent slopes.** The Balcom soil is a moderately deep, well-drained soil that formed in material weathered from calcareous sandstone and shale. Typically, the surface layer is light brownish gray loam about 12 inches thick. The subsoil is very pale brown heavy loam to a depth of about 28 inches. Below this is weathered, calcareous shale. This soil is calcareous throughout. The Calleguas soil is a shallow, well-drained soil that formed in material weathered from calcareous shale. Typically, the surface layer is pale brown, calcareous shaly loam to a depth of about 12 inches. Below this is weathered, calcareous shale.

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**Chamise shaly loam, 30 to 50 percent slopes.** The Chamise series is a member of the clayey-skeletal, mixed, thermic family of Ultic Argixerolls. Typically, Chamise soils have dark gray and gray, moderately acid, shaly loam A horizons with light brownish gray, strongly acid, very shaly clay and very shaly heavy clay loam B2t horizons, and pale brown, strongly acid, very shaly clay loam C horizons. These soils are well-drained and are not considered hydric (NRCS 2017b).

**Corducci-Typic Xerofluvents, 0 to 5 percent slopes, occasionally flooded, MLRA 14.** This soil is on alluvial plains, flood plains. The parent material consists of mixed alluvium derived from igneous and sedimentary rock. These soils are considered hydric (NRCS 2017b).

**Gaviota sandy loam, 15 to 30 percent slopes and Gaviota sandy loam, 30 to 75 percent slopes.** The Gaviota series consists of very shallow or shallow, well-drained soils that formed in material weathered from hard sandstone or meta-sandstone. Gaviota soils are on hills and mountains and have slopes of 2 to 100 percent. Gaviota sandy loam, 15 to 30 percent slopes and Gaviota sandy loam, 30 to 75 percent slopes are well-drained and are not considered hydric soils (NRCS 2017b).

**Linne silty clay loam, 30 to 50 percent slopes.** The Linne series consists of moderately deep, well-drained soils that formed in material weathered from fairly soft shale and sandstone. Linne soils are on hills and have slopes of 5 to 75 percent. These soils are well-drained and are not considered hydric (NRCS 2017b).

**Lockwood shaly loam, 2 to 9 percent slopes and Lockwood shaly loam, 9 to 15 percent slopes.** The Lockwood series consists of very deep, well-drained soils that formed in alluvial material from dominantly siliceous shales. Lockwood soils are on alluvial fans and bench terraces and have slopes of 0 to 15 percent. Lockwood shaly loam, 2 to 9 percent slopes are considered hydric soils. Lockwood shaly loam, 9 to 15 percent slopes are not considered hydric soils (NRCS 2017b).

**Los Osos clay loam, 15 to 30 percent slopes and Los Osos clay loam, 30 to 50 percent slopes.** The Los Osos series consists of moderately deep, well-drained soils that formed in material weathered from sandstone and shale. Los Osos soils are on uplands and have slopes of 5 to 75 percent. Los Osos clay loam, 15 to 30 percent slopes and Los Osos clay loam, 30 to 50 percent slopes are well-drained and are not considered hydric soils (NRCS 2017b).

**Metz complex and Metz loamy sand.** The Metz series consists of very deep, somewhat excessively drained soils that formed in alluvial material from mixed, but dominantly sedimentary rocks. Metz soils are on floodplains and alluvial fans and have slopes of 0 to 15 percent. Metz complex and Metz loamy sand are not considered hydric soils (NRCS 2017b).

**Mocho silt loam, 0 to 2 percent slopes.** The Mocho series consists of very deep, well-drained soils that formed in alluvium derived mostly from sandstone and shale rock sources. Mocho soils are on alluvial fans and have slopes of 0 to 9 percent. These soils are considered hydric (NRCS 2017b).

**Nacimiento silty clay loam, 15 to 30 percent slopes and Nacimiento silty clay loam, 30 to 50 percent slopes.** The Nacimiento series consists of moderately deep, well-drained soils that formed in material weathered from calcareous shale and sandstone. Nacimiento soils are on rolling uplands and have mostly complex slopes of 9 to 75 percent. Nacimiento silty clay loam, 15 to 30 percent slopes and Nacimiento silty clay loam, 30 to 50 percent slopes are not considered hydric soils (NRCS 2017b).

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**Nacimiento-Los Osos complex, 30 to 50 percent slopes and Nacimiento-Los Osos complex, 50 to 75 percent slopes.** This is a mix of Nacimiento series and Los Osos series. The Nacimiento series consists of moderately deep, well-drained soils that formed in material weathered from calcareous shale and sandstone. Nacimiento soils are on rolling uplands and have mostly complex slopes of 9 to 75 percent. The Los Osos series consists of moderately deep, well-drained soils that formed in material weathered from sandstone and shale. Los Osos soils are on uplands and have slopes of 5 to 75 percent. Nacimiento-Los Osos complex, 30 to 50 percent slopes and Nacimiento-Los Osos complex, 50 to 75 percent slopes are not considered hydric soils (NRCS 2017b).

**Placentia sandy loam, 9 to 15 percent slopes.** The Placentia series is a member of the fine, montmorillonitic, thermic family of Typic Natrixeralfs. Typically, Placentia soils have brown, medium acid, sandy loam A horizons with dark reddish brown, clay and heavy sandy clay loam B2t horizons with prismatic structure in the upper part and strong brown, gravelly sandy loam C horizons. These soils are not considered hydric (NRCS 2017b).

**Psamments and Fluvents, frequently flooded and Psamments and Fluvents, occasionally flooded.** Psamments are sandy in all layers. They are among the most productive rangeland soils in some arid and semiarid climates. Some Psamments that are nearly bare are subject to soil blowing and drifting and provide poor support for wheeled vehicles. Psamments are used mostly as rangeland, pasture, or wildlife habitat. Fluvents are the more or less freely drained Entisols that formed in recent water-deposited sediments on flood plains, fans, and deltas along rivers and small streams throughout the country. Most Fluvents are frequently flooded, unless they are protected by dams or levees. Stratification of the materials is normal. Most Fluvents are used as rangeland, forest, pasture, or wildlife habitat. Some are used as cropland. Psamments and Fluvents, frequently flooded and Psamments and Fluvents, occasionally flooded are considered hydric soils (NRCS 2017b).

**Rincon clay loam, 2 to 9 percent slopes.** The Rincon series consists of deep, well-drained soils that formed in alluvium from sedimentary rocks. Rincon soils are on old alluvial fans and both stream and marine terraces, and have slopes of 0 to 30 percent. These soils are not considered hydric (NRCS 2017b).

**Santa Lucia shaly clay loam, 15 to 30 percent slopes and Santa Lucia shaly clay loam, 30 to 50 percent slopes.** The Santa Lucia series consists of moderately deep, well-drained soils that formed in material weathered from white shale containing some ash, and some siliceous and diatomaceous material. Santa Lucia soils are on uplands and have slopes of 2 to 75 percent. Santa Lucia shaly clay loam, 15 to 30 percent slopes and Santa Lucia shaly clay loam, 30 to 50 percent slopes are not considered hydric soils (NRCS 2017b).

**Santa Lucia-Reliz association.** This is a mix of Santa Lucia series and Reliz series. The Santa Lucia series consists of moderately deep, well-drained soils that formed in material weathered from white shale containing some ash, and some siliceous and diatomaceous material. Santa Lucia soils are on uplands and have slopes of 2 to 75 percent. The Reliz series consists of shallow, somewhat excessively drained or excessively drained soils on uplands. These soils formed in material weathered from acid shale. Slope is 30 to 75 percent. These soils are not considered hydric (NRCS 2017b).

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**Santa Ynez fine sandy loam, 15 to 30 percent slopes.** The Santa Ynez series consists of deep, moderately well-drained soils that formed in material weathered in alluvium from shale, sandstone and granite. Santa Ynez soils are on terraces and footslopes and have slopes of 0 to 50 percent. These soils are not considered hydric (NRCS 2017b).

**Shedd silty clay loam, 30 to 50 percent slopes, eroded.** The Shedd series is a member of the fine-silty, mixed (calcareous), thermic family of Typic Xerorthents. Typically, Shedd soils have gray, strongly and violently effervescent, silty clay loam A horizons and light gray, violently effervescent, silty clay loam Cca horizons over soft calcareous shale at a depth of 30 inches. These soils are not considered hydric (NRCS 2017b).

**Xerorthents, dissected and Xerorthents, loamy.** Shallow soils found on recent erosional surfaces or very old landforms completely devoid of weatherable materials which is extremely dry, lacking humidity and water. Xerorthents that have a lithic contact within 50 cm of the mineral soil surface. Xerorthents, dissected and Xerorthents, loamy are not considered hydric soils (NRCS 2017b).

### 2.2.5 National Wetlands Inventory

Figures 4a and 4b show waters and wetlands identified by the National Wetlands Inventory (NWI) (USFWS 2017). Waters and wetlands mapped in the study area by the NWI include: San Antonio Reservoir (Lacustrine, Limnetic, Unconsolidated Bottom); Lake (Lacustrine, Littoral, Emergent); Freshwater Pond (Palustrine, Unconsolidated Shore, Scrub-shrub); Riverine (Riverine, Intermittent, Streambed); Freshwater Scrub-Shrub Wetland (Palustrine, Scrub-Shrub); and Freshwater Emergent Wetland (Palustrine, Emergent).

### 2.2.6 Land Use

San Antonio Reservoir is a large recreation area in Monterey County. Recreational facilities at the reservoir are operated by the Monterey County Parks Department and managed by Monterey Lakes Recreation Company, known also as Cal Parks. The reservoir is formed by the damming of the San Antonio River. MCWRA operates the reservoir primarily for flood control and water supply with recreational opportunities also being available. San Antonio Reservoir provides opportunities for camping, hiking, biking, picnicking, equestrian use, swimming, boating, water skiing, fishing, and wakeboarding. Additionally, grazing is permitted on many parcels that border and include the reservoir. A portion of San Antonio Reservoir and San Antonio River are on Fort Hunter Liggett, a U.S. Army Combat Support Training Center.

Nacimiento Reservoir is located in northern San Luis Obispo County, and similarly to San Antonio Reservoir, Nacimiento Reservoir is also operated by the Monterey County Water Resources Agency for flood control and water supply. Recreational facilities are operated by the Monterey County Parks Department and managed by Cal Parks. The reservoir is formed by the Nacimiento Dam and covers approximately 5,000 acres of surface waters and approximately 165 miles of shoreline. The area provides recreational facilities for camping, lodging, hiking, biking, boating, fishing, and equestrian use among other recreational opportunities.

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## 2.2.7 Natural Communities

This section describes natural communities and land cover types present within and adjacent to the study area.

### **Lacustrine**

Lacustrine habitat is the dominant habitat type in Nacimiento and San Antonio Reservoirs. As the study area is primarily above the current maximum high reservoir level, only a small amount of lacustrine habitat is present within the study area, located in the spillway modification area and tunnel outfall in San Antonio Reservoir and the tunnel intake in Nacimiento Reservoir.

### **Riverine**

Riverine habitat in the study area is located in the San Antonio River, Deer Creek, Copperhead Creek, Harris Creek, and other unnamed tributaries to San Antonio Reservoir. San Antonio River is a wide sand/gravel stream with flashy, intermittent flows. Other riverine features within the study area include intermittent or ephemeral drainages. Streambed substrate tends to be sand, with occasional gravel and cobble in the larger drainages.

### **Annual Grassland**

Annual grassland is the most abundant natural community within the study area. Dominant species include slender oat (*Avena barbata*), wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), and soft brome (*Bromus hordeaceus*). This community is located on slopes and some flat areas throughout the study area.

### **Blue Oak Woodland**

Blue oak woodland communities include blue oak (*Quercus douglasii*) as the dominant or co-dominant tree in the canopy (Sawyer et al. 2009). Some species associated with blue oak woodland include California buckeye (*Aesculus californica*), ghost pine (*Pinus sabiniana*), coast live oak (*Quercus agrifolia*), valley oak (*Quercus lobata*), and interior live oak (*Quercus wislizeni*) (Sawyer et al. 2009). This community is located on slopes throughout the study area.

### **Bare Ground**

Bare ground is composed of areas lacking vegetation due to frequent disturbance that has discouraged the growth and development of vegetation. In the study area, bare ground is generally located along the north rim of San Antonio Reservoir and in a few areas along the San Antonio River channel.

### **Valley Oak Woodland**

Valley oak woodland is dominated by valley oak in the tree canopy. This oak canopy intergrades with blue oak woodland in the ecotone between the two woodland types. Valley oak woodland in the study area is typically associated with low-lying areas above the bank of the reservoir that appear to be historic floodplain, and along stream channels. Where located on the floodplain, the understory of this habitat type is open, with few shrubs and a high concentration of annual grasses and forbs. Where this habitat is found along streams, it generally contains a dense shrub and vine layer under the tree canopy that includes such species as snowberry (*Symphoricarpos*

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*mollis*), Himalayan blackberry (*Rubus armeniacus*), wild rose (*Rosa californica*), and elderberry (*Sambucus nigra*). The herb layer can be dense to sparse and includes annual grasses and forbs, as well as California mugwort (*Artemisia douglasiana*) and Santa Barbara sedge (*Carex barbarae*).

### **Coyote Brush Scrub**

Coyote brush scrub communities include coyote brush (*Baccharis pilularis*) as the dominant or co-dominant shrub in the canopy (Sawyer et al. 2009). This community is generally found on slopes above the southern shore of San Antonio Reservoir.

### **Ruderal**

Ruderal vegetation is characterized by non-native forbs and grasses in a disturbed habitat typically along the edges of development or areas with frequent anthropogenic impacts. In the study area it is found in the vicinity of recreational facilities along the north shore of San Antonio Reservoir and in the vicinity of San Antonio Dam and spillway.

### **Urban/Developed**

Areas mapped as urban/developed include roads and anthropogenic features such as buildings. Vegetation in these areas, if present at all, is usually sparse, dominated by weedy herbaceous species, or part of the landscaping associated with development. This landcover is mapped within recreational facilities along the north and south shores of San Antonio Reservoir and along San Antonio Dam.

### **California Buckwheat Scrub**

California buckwheat scrub alliance communities include California buckwheat (*Eriogonum fasciculatum*) as the dominant or co-dominant shrub in the canopy.

Species associated with the California buckwheat scrub alliance include California sagebrush (*Artemisia californica*), coyote brush, deer weed (*Acmispon glaber*), black sage (*Salvia mellifera*), and white sage (*Salvia apiana*) (Sawyer et al. 2009). This community is located throughout the study area, typically in relatively dry areas.

### **Fremont Cottonwood Forest**

Fremont cottonwood forest communities include Fremont cottonwood (*Populus fremontii*) as the dominant or co-dominant tree in the canopy (Sawyer et al. 2009). Some species associated with Fremont cottonwood forest include California sycamore (*Platanus racemosa*), coast live oak, sandbar willow (*Salix exigua*), black willow (*Salix gooddingii*), red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), and Pacific willow (*Salix lasiandra* ssp. *lasiandra*) (Sawyer et al. 2009). In the study area, this community is associated with the San Antonio River floodplain.

### **Mulefat Thickets**

Mulefat thickets alliance communities include mulefat (*Baccharis salicifolia*) as the dominant or co-dominant shrub in the canopy. Species associated with the mulefat thickets alliance include willows, California sagebrush, and coyote brush (Sawyer et al. 2009). This community is associated with the San Antonio River, and is also located in a few areas around the rim of San Antonio Reservoir.

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### **Black Cottonwood Forest**

Black cottonwood forest communities include black cottonwood (*Populus trichocarpa*) as the dominant or co-dominant tree in the canopy (Sawyer et al. 2009). Some species associated with black cottonwood forest include Fremont cottonwood, coast live oak, California sycamore, sandbar willow, red willow, arroyo willow, and Pacific willow, (Sawyer et al. 2009). In the study area, this community is found in flat areas south of the San Antonio River.

### **Sandbar Willow Thickets**

Sandbar willow communities include sandbar willow as the dominant or co-dominant shrub in the canopy (Sawyer et al. 2009). Species associated with the sandbar willow thickets alliance include *Baccharis* spp., California rose briar, Himalayan blackberry, California blackberry (*Rubus ursinus*), and arroyo willow. In the study area, this community is found in the San Antonio River floodplain.

### **Poison Hemlock Patches**

Poison hemlock communities include poison hemlock (*Conium maculatum*) as dominant or co-dominant with other non-native plants in the herbaceous layer. In the study area, this community is found in a flat area south of the San Antonio River and just north of Interlake Road.

### **Arroyo Willow Thickets**

Arroyo willow thickets communities include arroyo willow as the dominant or co-dominant shrub or tree in the canopy (Sawyer et al. 2009). Some species associated with arroyo willow thickets include coyotebrush, mule-fat, and cottonwoods (*Populus* spp.) (Sawyer et al. 2009). This community is mapped within a depression area south of the San Antonio River.



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## 3.0 METHODS

A routine wetland delineation was conducted in accordance with the *1987 Corps of Engineers Wetland Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008).

### 3.1 BACKGROUND INFORMATION

Prior to conducting fieldwork, the following available resources were reviewed to assess the potential for jurisdictional features:

- 1:200-scale aerial photograph (Bing Maps 2016; Google Earth 2016)
- U.S. Geological Survey 7.5-minute topographic quadrangle (USGS 2016)
- U.S. Department of Agriculture Natural Resources Conservation Service Web Soil Survey (NRCS 2017b)
- National Wetland Inventory (USFWS 2017)
- 1-foot topographic contours and digital elevation model developed from light detection and ranging (LiDAR) data collected by Towill in November 2016.

### 3.2 DESKTOP ASSESSMENT

Prior to conducting the field component of the delineation, a desktop assessment of the study area was conducted, including the area potentially impacted by both the tunnel and the spillway modification. This assessment included the intake and associated facilities at Nacimiento Reservoir (including the access route), the outlet and associated facilities at San Antonio Reservoir, the footprint of the spillway modification and associated improvements, and the area adjacent to San Antonio Reservoir that would be inundated as a result of the spillway modification (780 feet to 788 feet<sup>2</sup>). This elevation area of 780- to 788-foot was delineated using 1-foot topographic contours generated from LiDAR data collected in November 2016. The area within the maximum current extent of San Antonio Reservoir (below 780-feet) is not included in the study area, with the exception of the footprint of the outfall and the spillway modification work area.

The desktop assessment was performed in ArcGIS 10 using LiDAR data, aerial photography, NWI data, U.S. Geological Survey (USGS) National Hydrography Dataset (NHD), USDA NRCS soil data, and other relevant data layers, such as influent streams, other sensitive water features and sensitive natural communities, and existing shoreline infrastructure. Based on the above resources, potential aquatic resources were identified for field investigation.

### 3.3 FIELD DATA COLLECTION

The field component of the delineation was conducted on April 24-28 and November 20-21, 2017, and March 8, 2018. The field component of the delineation focused on the area of San Antonio Reservoir to be inundated as a result of the spillway modification (i.e., 780-feet to 788-

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<sup>2</sup> At the time of the field surveys, the extent of the maximum inundation was assumed to be 8 vertical feet. The proposed maximum inundation has since been reduced to 7 vertical feet based on design refinements and coordination with the California Department of Water Resources, Division of Safety of Dams.

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feet), the area in the vicinity of the San Antonio spillway, tunnel portals, access roads, and other potential aquatic resources identified during the desktop assessment.

Sample points were established in representative areas supporting hydrophytic vegetation and along the boundaries of aquatic features. Vegetation species within the general vicinity (typically 1 to 3 meter radius) of each sample point were identified by stratum. The wetland indicator status of plant species was determined using the 2016 Regional Wetland Plant List (Lichvar et al. 2016). The soil profile was examined to a depth of approximately 14 inches. Soils were characterized by evaluating texture and color within each distinct layer of the profile. Soil color was described using a Munsell Soil Color Chart (Munsell 2009). Redoximorphic features were noted and characterized where present. Each sampling location was examined for evidence of wetland hydrology. Indicators of wetland hydrology could include saturation, high water table, water marks, oxidized rhizospheres along living roots, and water stained leaves, among others.

The locations of sample points and boundaries of aquatic resources were mapped in the field using a Trimble GeoXT Global Positioning System (GPS) receiver. GPS data were imported into ESRI ArcGIS 10.3 software for developing aquatic resource maps. Potential riverine aquatic resources were assessed and the widths of these features were recorded based on the limits of OHWM in accordance with *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Lichvar and McColley 2008). LiDAR data for the study area were also used to refine waters boundaries in conjunction with field-collected data. Georeferenced, high resolution aerial photographs were also consulted. Some ephemeral drainages or areas which likely contain ponded water during certain times of the year were not mapped as aquatic resources, as these areas did have a defined bed or bank, and did not have indicators of ordinary high water.

Cowardin classification codes were assigned to individual features, based on guidance from Cowardin et al. 1979 and the USACE Operations and Maintenance Business Information Link (OMBIL) Regulatory Module (ORM) Project Upload Template (USACE 2017).

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## 4.0 RESULTS

The results of the aquatic resource delineation are presented in this section. Figure 5, Sheets 1 through 50, provide delineation maps. Delineation data forms are included in **Appendix A** and **Table 2** provides a summary of aquatic resource in the study area. Representative photographs of the study area are included in **Appendix B**. A list of plant species observed in the study area is provided in **Appendix C**.

### 4.1 POTENTIAL NON-WETLAND WATERS OF THE U.S.

#### 4.1.1 Lacustrine

The delineation of lacustrine waters was based on the current maximum high reservoir level for San Antonio and Nacimiento Reservoirs. As described previously, the current maximum reservoir level is 780 ft for San Antonio Reservoir. Nacimiento Dam has a normal spillway elevation of approximately 788 ft, which can be raised to an elevation of 800 feet by the use of two inflatable Obermeyer spillway gates. The extent of lacustrine waters was delineated using the 1-foot topographic contours generated from 2016 LiDAR data. Thus, lacustrine waters in San Antonio Reservoir includes the area below the 780-foot contour, while in Nacimiento Reservoir it includes the area below the 800-foot contour. Sample points 13a and 13b are paired data points associated with feature W-59 within San Antonio Reservoir. Points 12a and 12b are paired data points for Nacimiento Reservoir. Sample points 12a and 13a had evidence of wetland hydrology (inundation visible on aerial imagery and drift deposits), but no indicators of hydric soils or hydrophytic vegetation.

A total of 44.62 acres of non-wetland waters of the U.S. was delineated in San Antonio Reservoir (W-57 through W-59) (Figure 5, Sheets 23-26) and 2.06 acres in Nacimiento Reservoir (W-60) (Figure 5, Sheet 49). The Cowardin classification assigned to these waters is Lacustrine, Limnetic, Unconsolidated Bottom (L1UB) (Table 2) (Cowardin et al. 1979).

#### 4.1.2 Riverine

Sixty-one riverine features were mapped within the study area (W-1 through W-55). The San Antonio River is feature W-1. The San Antonio River within the study area is a wide (115 to 375 feet) sand and gravel bed stream with intermittent flow. Geomorphic indicators of OHWMs used in the delineation of the San Antonio River include break in slope, highest surface of channel bars, and soil development (indicator above ordinary high water) (Lichvar and McColley 2008). Some vegetated in-channel bars are included within this feature. These vegetated bars below OHW lack hydric soils and therefore were not delineated as wetlands.

A total of 20.78 acres of potential non-wetland waters of the U.S. was delineated (Figure 5, Sheets 1-3) within the San Antonio River (W-1). The Cowardin classification assigned to these waters is Riverine, Intermittent, Streambed (R4SB) (Cowardin et al. 1979).

Other smaller riverine features were delineated by OHWM indicators such as break in bank slope, silt deposits, drift deposits, and change in particle size distribution (Lichvar and McColley 2008). Most of these drainages are narrow, steep tributaries that flow directly into San Antonio Reservoir.

A total of 1.71 acres of other intermittently flowing potential non-wetland waters of the U.S. was delineated (Table 2, Sheets 1-4, 7-8, 12, 25-26, 32-33, 41-44, and 47). These features range in width from 3 to 24 feet at OHW. The remainder of delineated riverine features consists of ephemeral drainages. A total of 0.52 acre of ephemeral potential non-wetland waters of the U.S. was delineated (Figure 5, Sheets 4, 6-9, 11-15, 19-21, 23, 31-35, 37-42, and 46-47). The Cowardin classification assigned to these waters is Riverine, Ephemeral (R6) (Table 1) (USACE 2017). These features are generally 1 to 3 feet in width at OHW.

#### 4.1.3 Palustrine

One palustrine feature (W-56) was delineated within the study area just south of the San Antonio River. Sample Point 11, taken within this feature, had indicators of wetland hydrology (water marks [non-riverine] and sediment deposits [non-riverine]), but lacked wetland vegetation and indicators of hydric soils. A total of 0.06 acres of potential non-wetland waters of the U.S. was delineated (Figure 5, Sheet 3). The Cowardin classification assigned to these waters is Palustrine, Unconsolidated Bottom (PUB) (Table 1).

#### 4.2 POTENTIAL WETLANDS

No potential wetlands were delineated in the study area. Sample points 1, 3, 4, 5, 7, 8 and 9 were taken in depressional areas in the landscape dominated by hydrophytic vegetation. However, none of these sample points had hydric soils or wetland hydrology.

Sample Point 6 lacked hydrophytic vegetation and hydric soil indicators, but wetland hydrology indicator Biotic Crust (B13) was present. Sample Point 2 lacked hydric vegetation, hydric soils, and wetland hydrology.

Sample point 11 was established in a borrow pit that showed evidence of wetland hydrology (seasonal ponding), but lacked hydric soils. Vegetation at this location was heavily disturbed by cattle.

Aquatic Resource Name	Aquatic Resources Classification		Aquatic Resource Size (acre)
	Cowardin	Location (latitude/longitude)	
W-1	R4SB	35.891583 -121.067616	20.78
W-2	R6	35.895930 -121.055285	0.006
W-3	R4SB	35.897625 -121.052809	0.13
W-4	R6	35.896148 -121.049106	0.01
W-5	R6	35.896115 -121.048073	0.01
W-6	R6	35.891791 -121.030095	0.05
W-7	R6	35.886253 -121.017068	0.05
W-8n	R4SB	35.883683 -121.013298	0.05
W-8s	R6	35.881426 -121.013305	0.005
W-9	R6	35.881745 -121.011864	0.003
W-10	R6	35.882080 -121.009959	0.02
W-11	R6	35.876225 -121.004975	0.02

Table 2. Aquatic Resources within the Survey Area				
Aquatic Resource Name	Aquatic Resources Classification			Aquatic Resource Size (acre)
	Cowardin	Location (latitude/longitude)		
W-12	R6	35.877005	-121.002950	0.02
W-13a	R6	35.871536	-120.985193	0.01
W-13b	R6	35.871259	-120.985429	0.001
W-14	R6	35.870946	-120.983015	0.003
W-15	R6	35.870577	-120.982226	0.001
W-16	R6	35.868886	-120.980247	0.005
W-17a	R6	35.867813	-120.978316	0.003
W-17b	R6	35.867532	-120.978583	0.000
W-18a	R6	35.867361	-120.974667	0.01
W-18b	R6	35.867136	-120.974786	0.01
W-18c	R6	35.866826	-120.975030	0.004
W-19	R4SB	35.866879	-120.971230	0.006
W-20a	R6	35.863537	-120.967829	0.03
W-20b	R6	35.862775	-120.968261	0.01
W-21	R6	35.849626	-120.954477	0.003
W-22	R6	35.844993	-120.952957	0.01
W-23	R6	35.821401	-120.922764	0.001
W-24	R6	35.818463	-120.921544	0.003
W-25	R6	35.817651	-120.906620	0.001
W-26	R6	35.815943	-120.905683	0.000
W-27	R6	35.813215	-120.902170	0.001
W-28	R6	35.811429	-120.899929	0.001
W-29	R6	35.811144	-120.898887	0.02
W-30	R6	35.809416	-120.897395	0.001
W-31	R4SB	35.789811	-120.916043	0.22
W-32	R6	35.804910	-120.951369	0.01
W-33	R4SB	35.801895	-120.961377	0.16
W-34	R6	35.807097	-120.962065	0.01
W-35	R4SB	35.810844	-120.963686	0.29
W-36	R6	35.809649	-120.961975	0.01
W-37	R6	35.816251	-120.936493	0.000
W-38	R6	35.823005	-120.946733	0.000
W-39	R6	35.839372	-120.965934	0.004
W-40	R6	35.841105	-120.966865	0.03
W-41	R6	35.849748	-120.976552	0.03
W-42	R6	35.850275	-120.979086	0.00
W-43	R6	35.847604	-120.983837	0.04
W-44	R4SB	35.855240	-120.992337	0.03
W-45	R6	35.856801	-120.997636	0.01
W-46	R6	35.857721	-121.001114	0.01
W-47	R4SB	35.857591	-121.004014	0.05
W-48	R6	35.858869	-121.004288	0.02

<b>Table 2. Aquatic Resources within the Survey Area</b>				
<b>Aquatic Resource Name</b>	<b>Aquatic Resources Classification</b>			<b>Aquatic Resource Size (acre)</b>
	<b>Cowardin</b>	<b>Location (latitude/longitude)</b>		
W-49	R4SB	35.863505	-121.016207	0.03
W-50	R4SB	35.863421	-121.027626	0.28
W-51	R6	35.880465	-121.040913	0.01
W-52	R4SB	35.881813	-121.043129	0.14
W-53a	R4SB	35.888179	-121.060057	0.08
W-53b	R4SB	35.888986	-121.060216	0.04
W-54	R4SB	35.893439	-121.068256	0.19
W-55	R6	35.891791	-121.030095	0.01
W-56	PUB	35.887950	-121.063432	0.06
W-57	L1UB	35.796066	-120.886773	2.27
W-58	L1UB	35.794901	-120.891413	0.08
W-59	L1UB	35.794000	-120.903270	42.27
W-60	L1UB	35.766095	-120.898129	2.06

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## 5.0 SUMMARY

An aquatic resources delineation was conducted for a 599-acre study area in Monterey and San Luis Obispo Counties, California. A total of 69.75 acres of potential waters of the U.S., consisting of 69.75 acres of potential non-wetland waters of the U.S. were delineated. No potential wetlands were delineated within the study area. Potential waters of the U.S. delineated in the study area are shown on Figure 5 and are summarized in Table 3<sup>3</sup>.

<b>Table 3. Summary of Potential Waters of the U.S. in the Study Area</b>				
<b>Class</b>	<b>Feature ID</b>	<b>Type</b>	<b>Cowardin Classification</b>	<b>Acres</b>
<b><i>Potential Non-Wetland Waters</i></b>				
Riverine	W-1 to W-54	Waters	R4SB/R6	23.01
Palustrine	W-55	Waters	PUB	0.06
Lacustrine	W-56 to W-58	Waters	L1UB	46.68
<b>Total Potential Waters of U.S.</b>				<b>69.75</b>

MCWRA is requesting verification of the delineation based on the information contained in this report. MCWRA reserves the right to resubmit this delineation for an approved Jurisdictional Determination, if that becomes necessary or appropriate during the later Clean Water Act permit process.

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<sup>3</sup> The required "Aquatic Resources" spreadsheet and GIS shapefiles are included in Appendix A and the Electronic Appendix.

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## 6.0 REFERENCES

- California Data Exchange Center. 2017. 2017 Water Year Precipitation Summary. For the period Oct 1, 2016 to Mar 31, 2017. Department of Water Resources. Available: <http://cdec.water.ca.gov/cgi-progs/reports/PRECIPSUM.BSN.201612>. Accessed December 8, 2017.
- Cowardin, L.M., V. Carter V., F.C. Golet, E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service Report No. FWS/OBS/-79/31. Washington, D.C.
- Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. *Phytoneuron* 2016-30: 1–17. Available at: <http://wetland.plants.usace.army.mil/>.
- Lichvar, R.W. and S.M. McColley. 2008. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. August. ERDC/CRREL TR-08-12.
- National Resources Conservation Service (NRCS). 2017a. National Hydric Soils List. December. Available at: <http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/>. Accessed: November 18, 2017.
- National Resources Conservation Service (NRCS). 2017b. Web Soil Survey. Accessed May 2017. <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>
- Monterey County Water Resources Agency (MCWRA). 2017. Dam and Reservoir – Daily Data (Provisional). Available at: <http://www.co.monterey.ca.us/home/showdocument?id=22189> Accessed on: December 6, 2017.
- Munsell Soil-Color Charts (Munsell). 2009. *Munsell Soil Color Charts*. Year 2009 Revised Edition. Grand Rapids, Michigan.
- Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. A Manual of California Vegetation, 2nd Edition. California Native Plant Society Press. Sacramento, California.
- U.S. Army Corps of Engineers (USACE). 1987. Corps of Engineers Wetland Delineation Manual. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
- U.S. Army Corps of Engineers (USACE). 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), ed. J. S. Wakeley, R. W.
- U.S. Army Corps of Engineers (USACE). 2017. OMBIL Regulatory Module Project Upload Template. April 20, 2017 Version.



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U.S. Fish and Wildlife Service (USFWS). 2017. National Wetlands Inventory database. Available at: <http://www.fws.gov/wetlands>. Accessed on: November 30, 2017.

Western Regional Climate Center (WRCC). 2017a. Climate Summary for Nacimiento Dam, California (046056), Available at: <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6056>. Accessed on: December 6, 2017.

Western Regional Climate Center (WRCC). 2017b. Climate Summary for Bradley, California, Available at: <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca1034>. Accessed on: December 6, 2017.

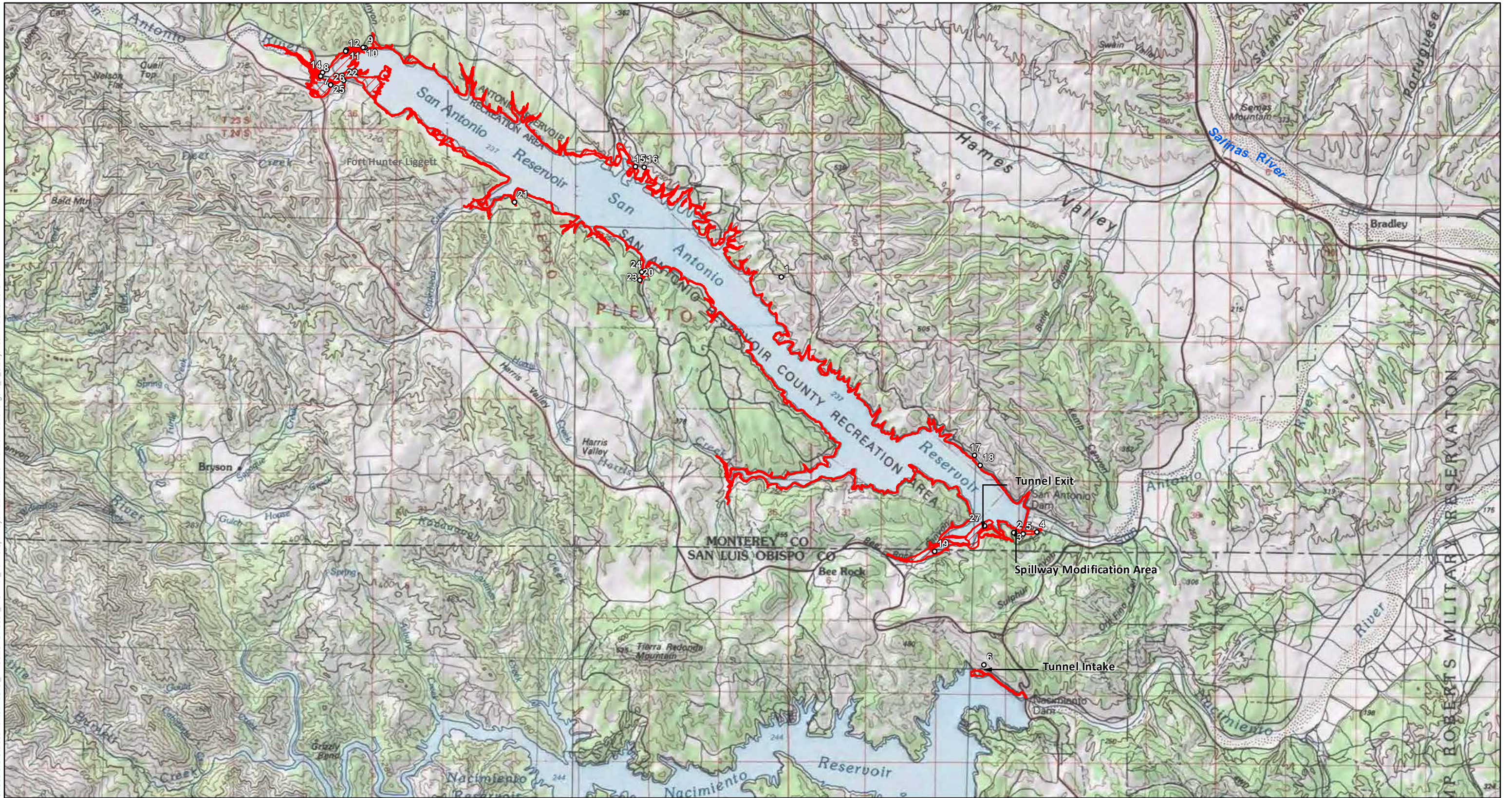
## Figures

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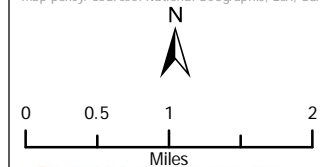


**Figure 1**  
**Locality Map**

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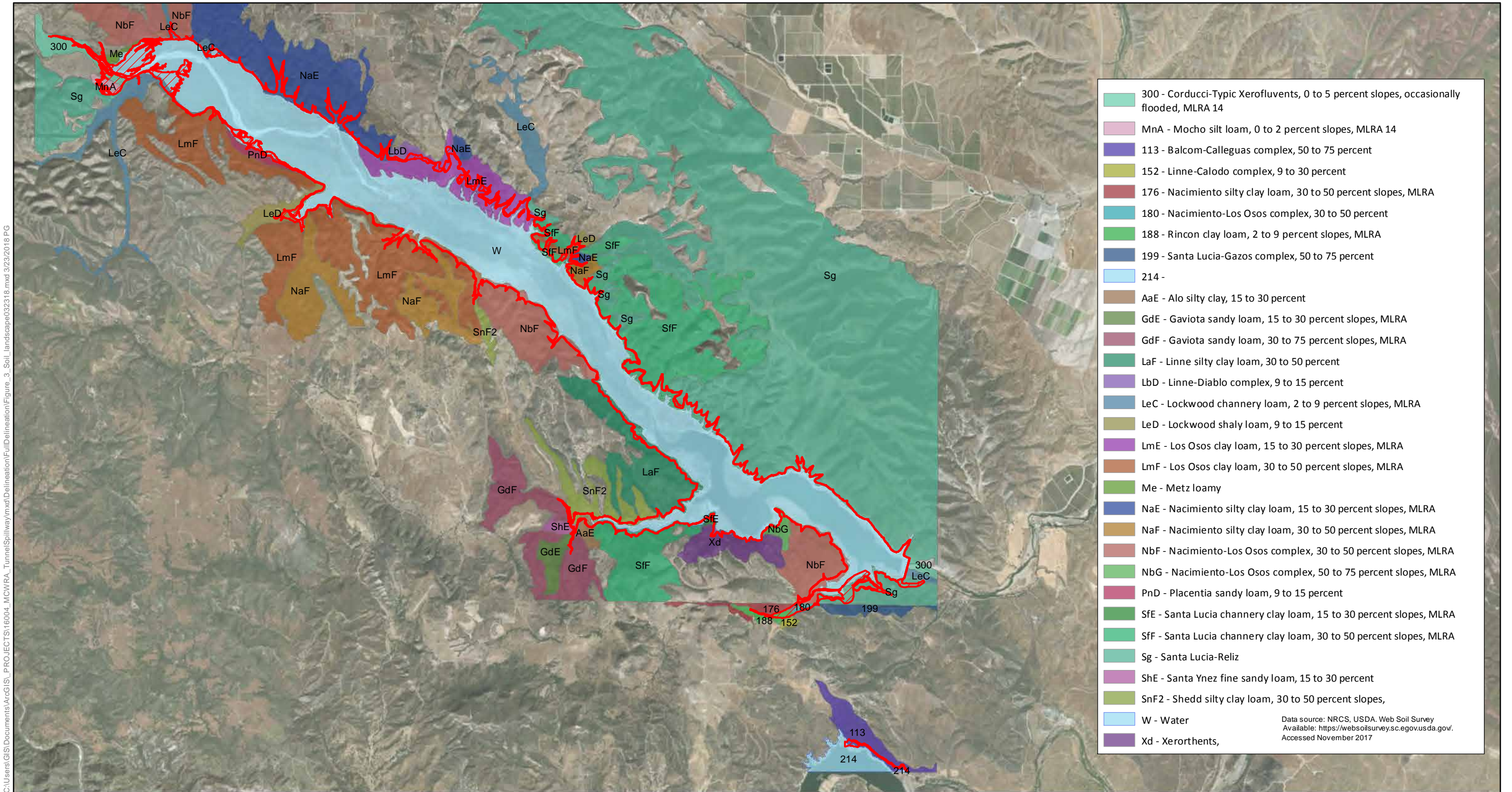
 Study Area

 Photo Locations

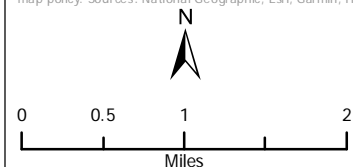


**Figure 2**  
Study Area



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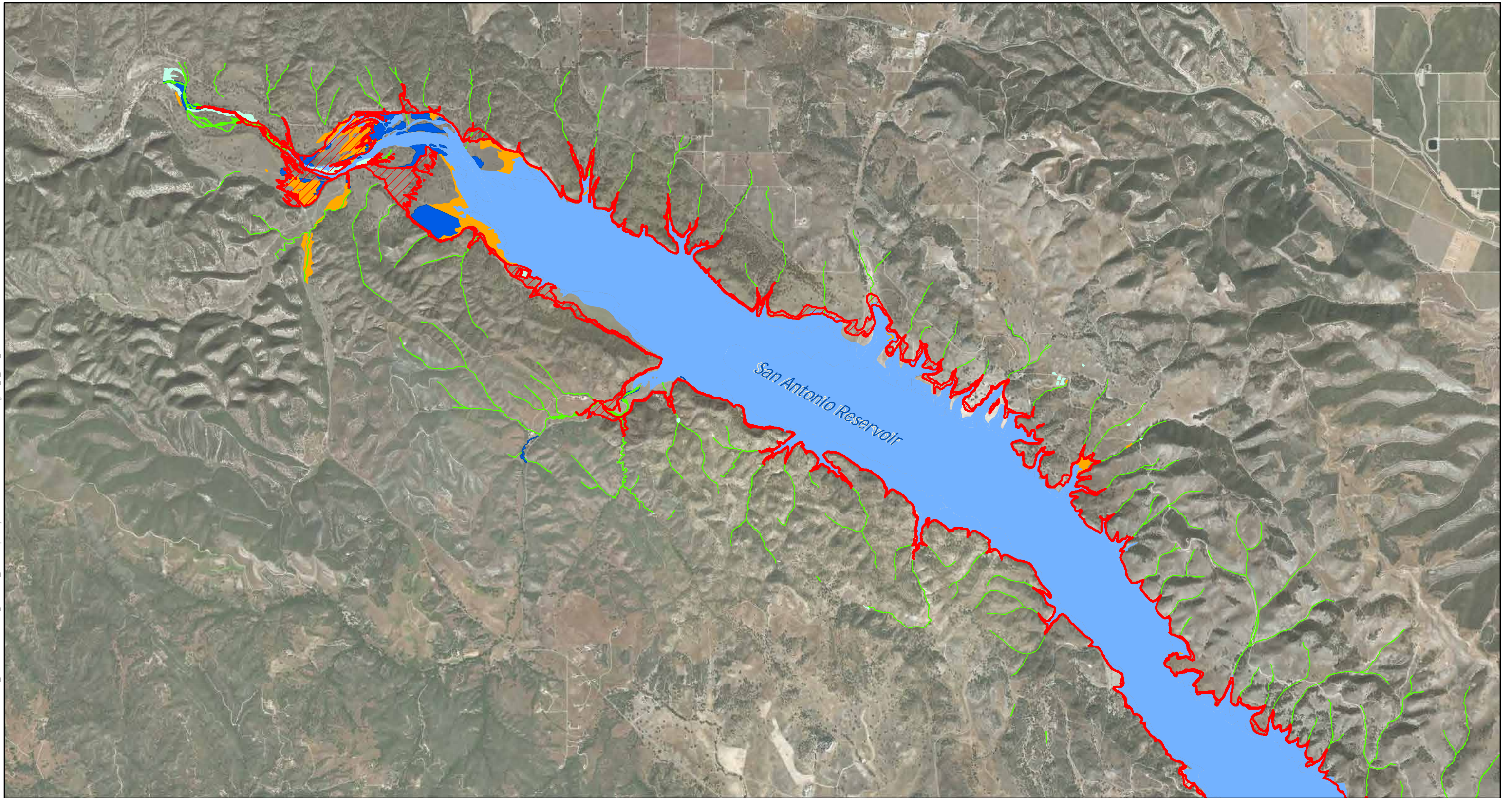


Study Area

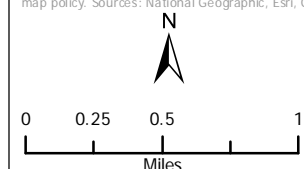








**Figure 3**  
**Soils**

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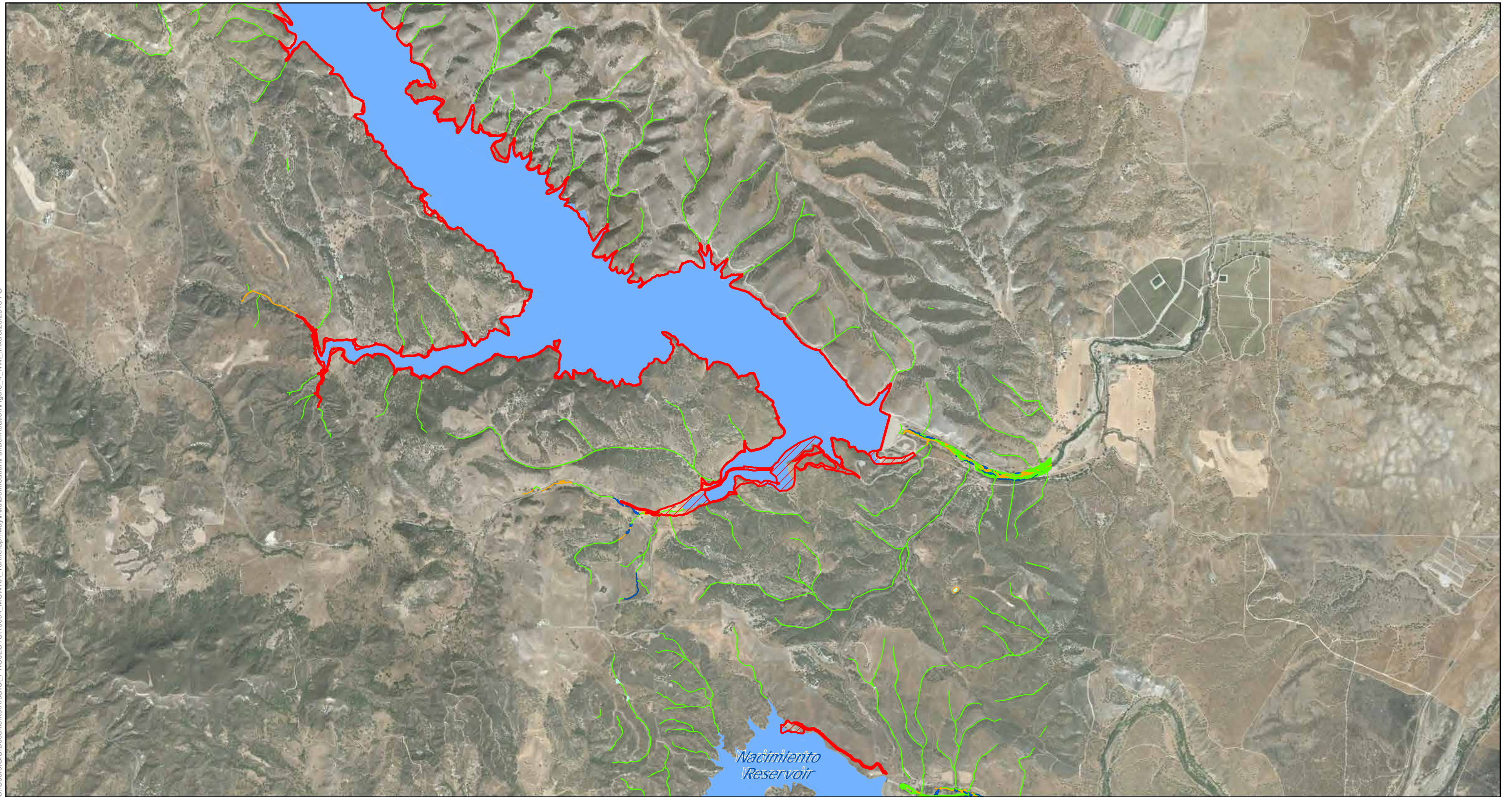


-  Study Area
  -  Freshwater Emergent Wetland
  -  Freshwater Forested/Shrub Wetland
  -  Freshwater Pond
  -  Lake
  -  Riverine
- Data source: USFWS. 2017. NWI Mapper.

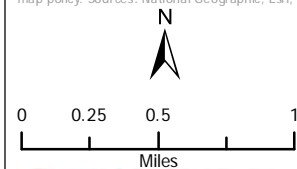
**Figure 4a**  
**National Wetland Inventory**  
**North**







Interlake Tunnel and  
Spillway Modification Project

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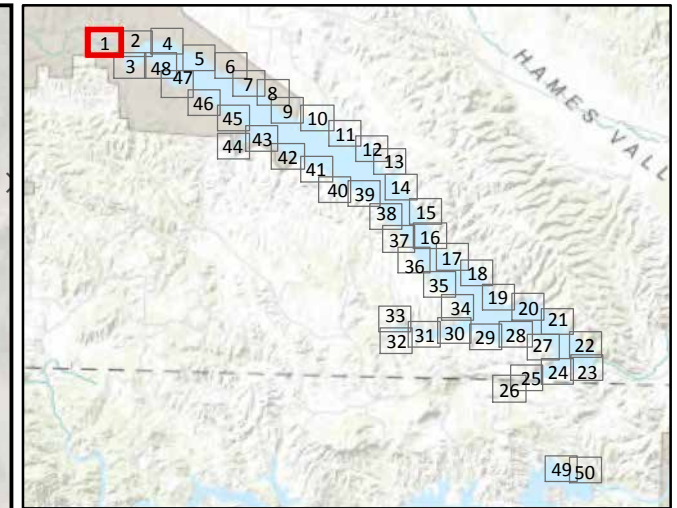


-  Study Area
-  Freshwater Emergent Wetland
-  Freshwater Forested/Shrub Wetland
-  Freshwater Pond
-  Lake
-  Riverine

Data source: USFWS. 2017. NWI Mapper.

**Figure 4b**  
**National Wetland Inventory**  
**South**

Interlake Tunnel and  
Spillway Modification Project



Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,

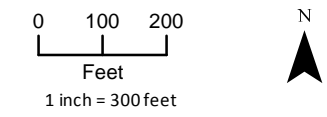
**Legend**

- Study Area (599 acres)
- Below Maximum Current San Antonio Reservoir Level (<780 ft)
- Sample Point
- 1-ft Contour Lines (780-788 ft)

**Potential Waters of the U.S.**

- Riverine, Ephemeral
- Riverine, Intermittent
- Lacustrine
- Palustrine
- X Control Points

Note: Opaque shading indicates land outside of the study area. The study area around San Antonio Reservoir includes the area between the 780- and 788-foot contours, as well as the footprint of construction & access.



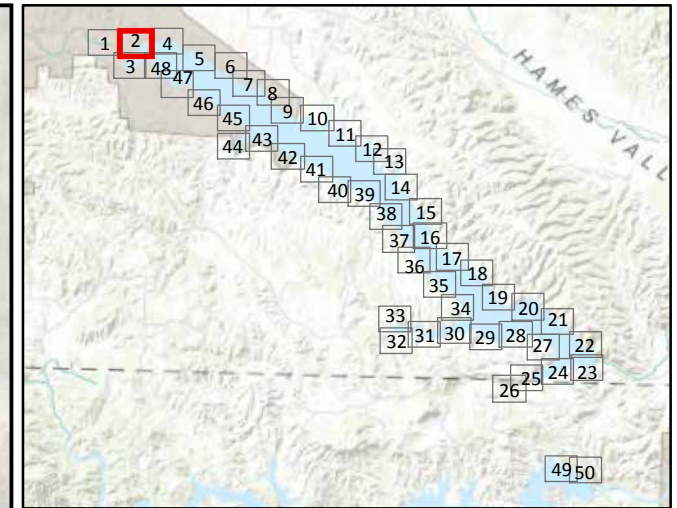
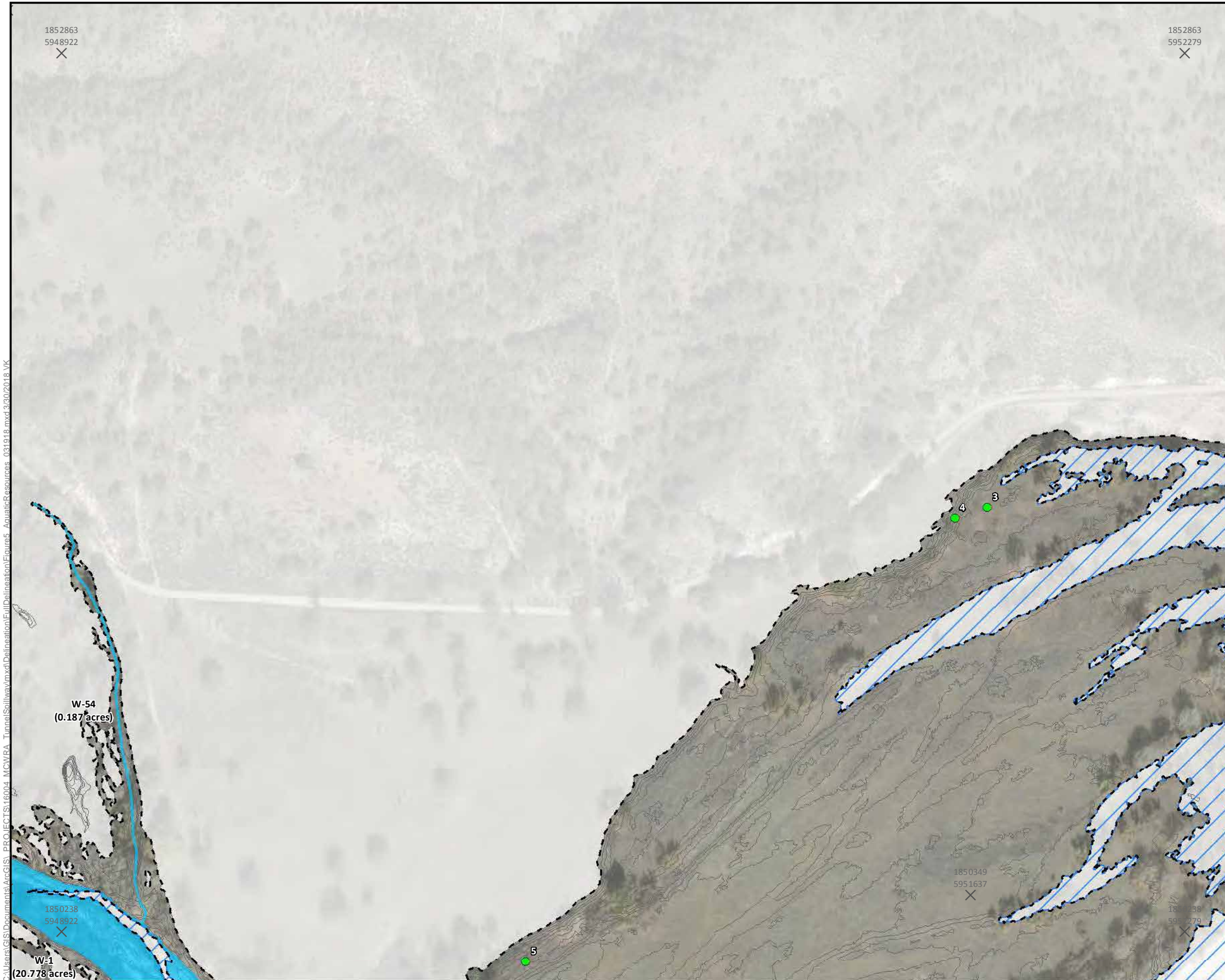
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 Vertical Datum: NGVD29  
 Imagery Source: ESRI

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DRAWN BY: R. Hunter R. Hunter, S. Walls, L. Burris & H. Moine DATE OF FIELD WORK: Apr. 24-27 & Nov 20-21, 2017, Mar. 8, 2018		DELINEATION BY: K. Fisher USACE REGULATORY FILE: VERIFIED BY: DATE OF VERIFICATION:		
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**Figure 5**  
**Sheet 1 of 50**  
**Aquatic Resources Delineation Map**

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Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,

**Study Area (599 acres)**

Below Maximum Current  
San Antonio Reservoir Level (<780 ft)

Sample Point

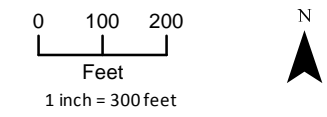
1-ft Contour Lines (780-788 ft)

**Potential Waters of the U.S.**

- Riverine, Ephemeral
- Riverine, Intermittent
- Lacustrine
- Palustrine

Control Points

Note: Opaque shading indicates land outside of the study area. The study area around San Antonio Reservoir includes the area between the 780- and 788-foot contours, as well as the footprint of construction & access.

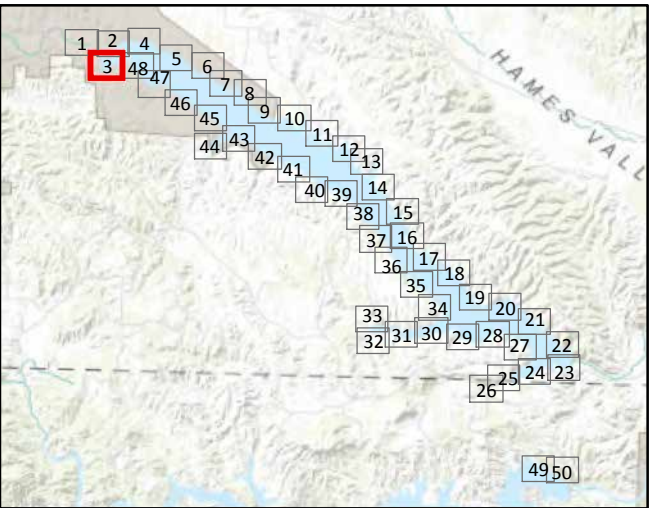
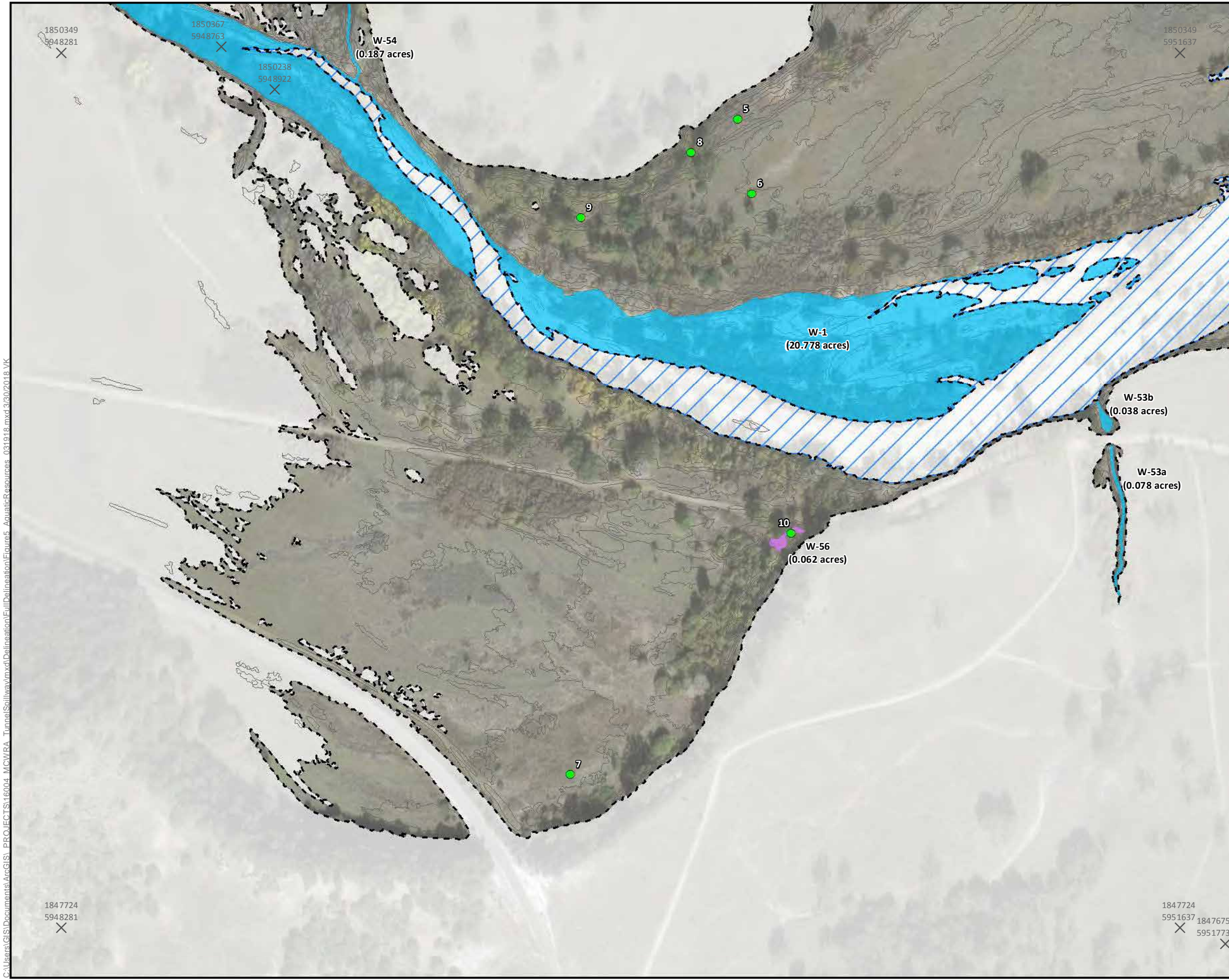


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**Figure 5**  
**Sheet 2 of 50**  
**Aquatic Resources Delineation Map**

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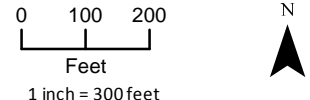
**Legend**

- Study Area (599 acres)
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- Sample Point
- 1-ft Contour Lines (780-788 ft)

**Potential Waters of the U.S.**

- Riverine, Ephemeral
- Riverine, Intermittent
- Lacustrine
- Palustrine
- × Control Points

Note: Opaque shading indicates land outside of the study area. The study area around San Antonio Reservoir includes the area between the 780- and 788-foot contours, as well as the footprint of construction & access.

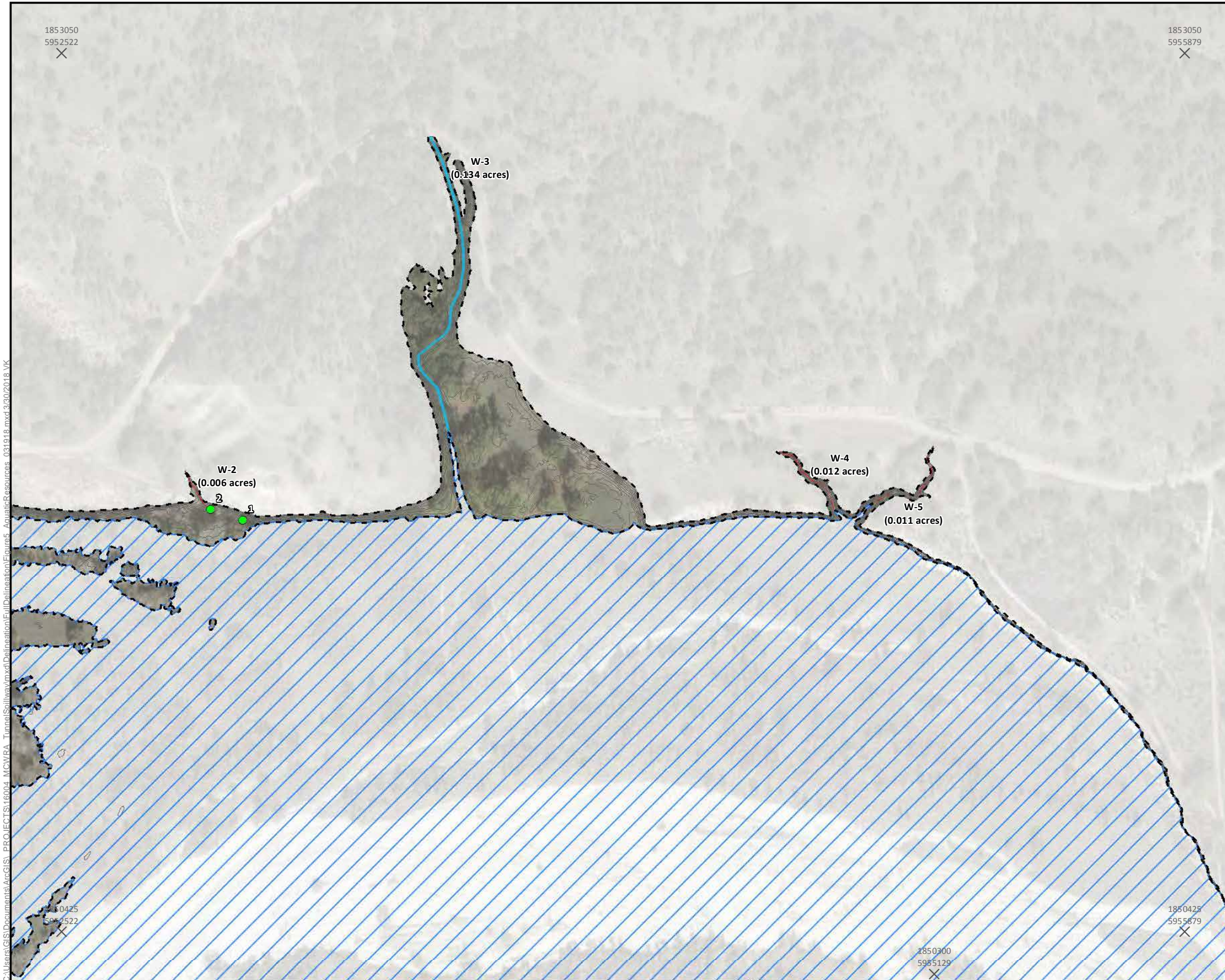


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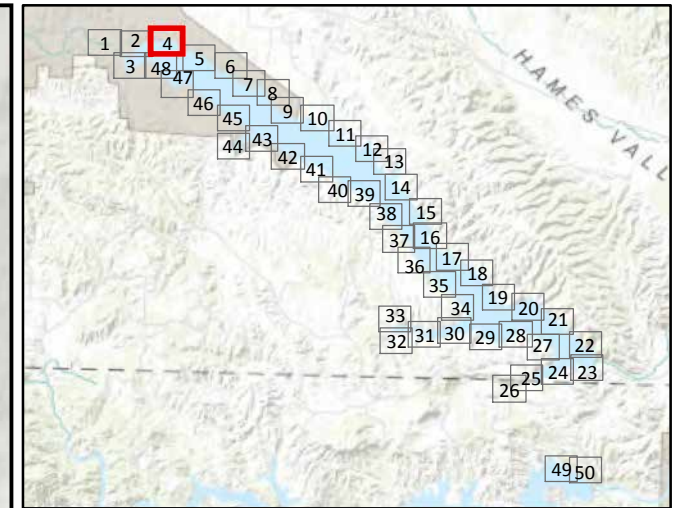
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**Figure 5**  
**Sheet 3 of 50**  
**Aquatic Resources Delineation Map**

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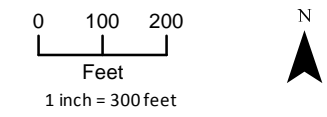
**Legend**

- Study Area (599 acres)
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- Sample Point
- 1-ft Contour Lines (780-788 ft)

**Potential Waters of the U.S.**

- Riverine, Ephemeral
- Riverine, Intermittent
- Lacustrine
- Palustrine
- X Control Points

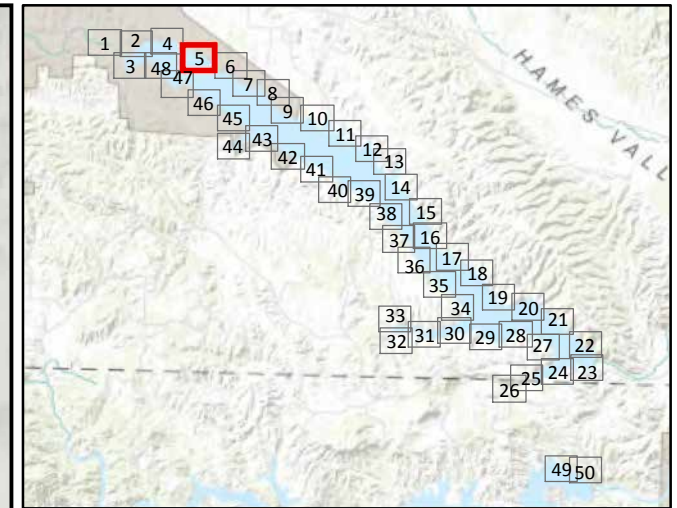
Note: Opaque shading indicates land outside of the study area. The study area around San Antonio Reservoir includes the area between the 780- and 788-foot contours, as well as the footprint of construction & access.



Spatial Reference System: California State Plane Zone 4, feet (NAD83) (2011)  
Vertical Datum: NGVD29  
Imagery Source: ESRI

<b>PREPARED BY:</b> <b>Horizon</b> <small>WATER and ENVIRONMENT</small>		266 Grand Ave Suite 210 Oakland CA 94610 510-986-1850	<b>PREPARED FOR:</b> Monterey County Water Resources Agency 1441 Schilling Place, North Building Salinas, CA 93901 (831) 755-4860
DRAWN BY: R. Hunter R. Hunter, S. Walls, L. Burris & H. Moine DATE OF FIELD WORK: Apr. 24-27 & Nov 20-21, 2017, Mar. 8, 2018		DELINEATION BY: K. Fisher VERIFIED BY: DATE OF VERIFICATION:	
<b>REVISIONS</b>			
DATE	DESCRIPTION	BY	

**Figure 5**  
**Sheet 4 of 50**  
**Aquatic Resources Delineation Map**



Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,

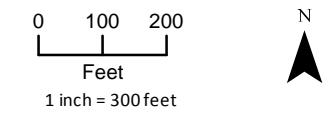
**Legend**

- Study Area (599 acres)
- Below Maximum Current San Antonio Reservoir Level (<780 ft)
- Sample Point
- 1-ft Contour Lines (780-788 ft)

**Potential Waters of the U.S.**

- Riverine, Ephemeral
- Riverine, Intermittent
- Lacustrine
- Palustrine
- X Control Points

Note: Opaque shading indicates land outside of the study area. The study area around San Antonio Reservoir includes the area between the 780- and 788-foot contours, as well as the footprint of construction & access.

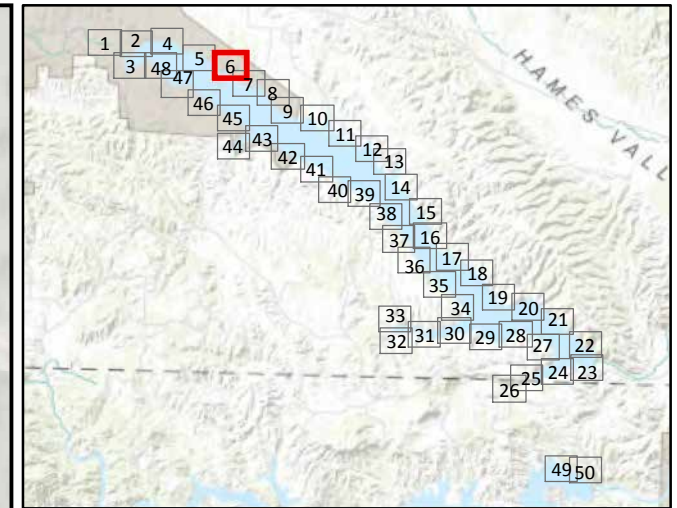
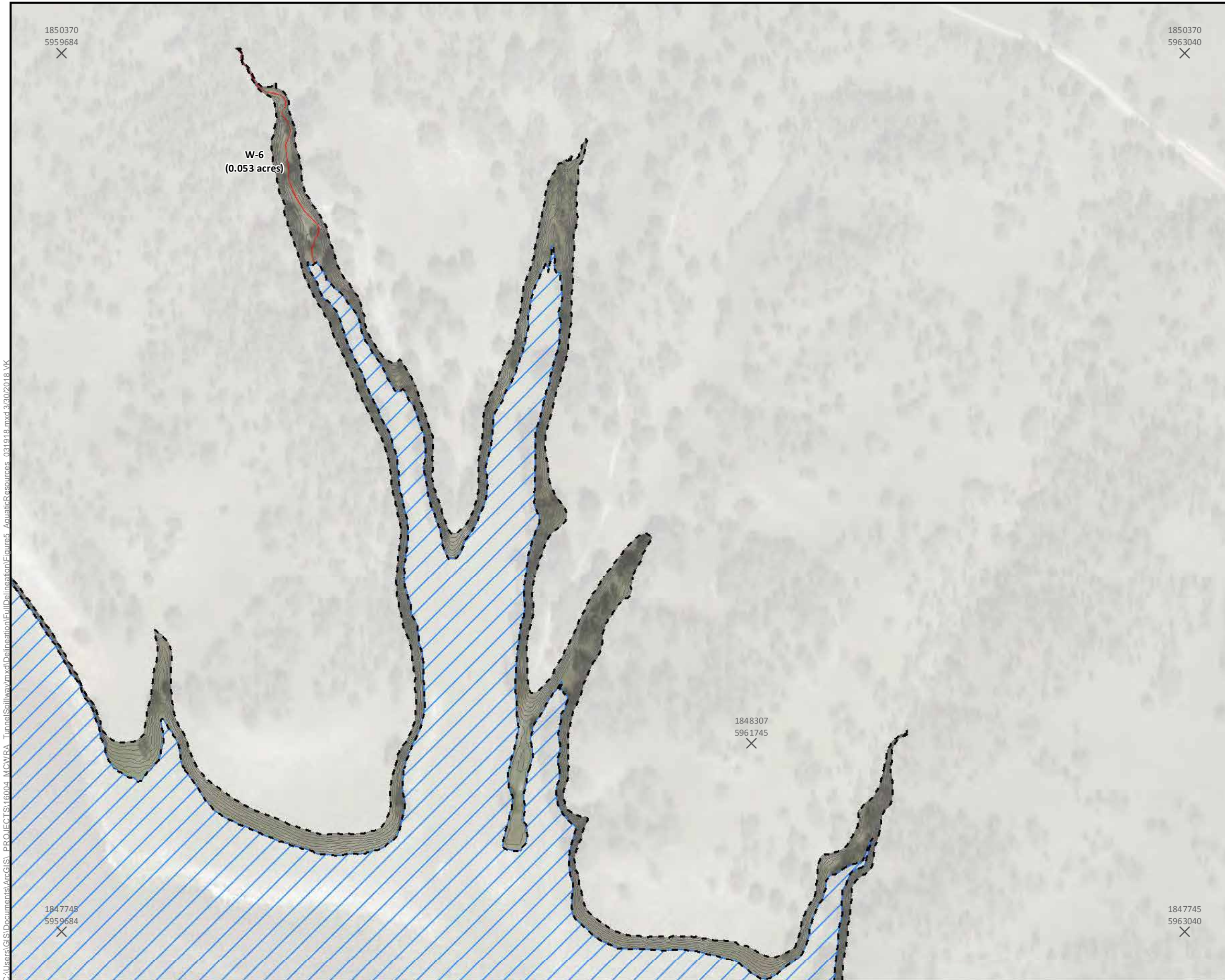


Spatial Reference System: California State Plane Zone 4, feet (NAD83) (2011)  
 Vertical Datum: NGVD29  
 Imagery Source: ESRI

<b>PREPARED BY:</b> 266 Grand Ave Suite 210 Oakland CA 94610 510-986-1850		<b>PREPARED FOR:</b> Monterey County Water Resources Agency 1441 Schilling Place, North Building Salinas, CA 93901 (831) 755-4860
DRAWN BY: R. Hunter R. Hunter, S. Walls, L. Burris & H. Moine DATE OF FIELD WORK: Apr. 24-27 & Nov 20-21, 2017, Mar. 8, 2018		DELINEATION BY: K. Fisher USACE REGULATORY FILE: VERIFIED BY: DATE OF VERIFICATION:
<b>REVISIONS</b>		
DATE	DESCRIPTION	BY

**Figure 5**  
**Sheet 5 of 50**  
**Aquatic Resources Delineation Map**

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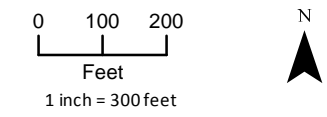
Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,

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**Potential Waters of the U.S.**

- Riverine, Ephemeral
- Riverine, Intermittent
- Lacustrine
- Palustrine
- Control Points

Note: Opaque shading indicates land outside of the study area. The study area around San Antonio Reservoir includes the area between the 780- and 788-foot contours, as well as the footprint of construction & access.

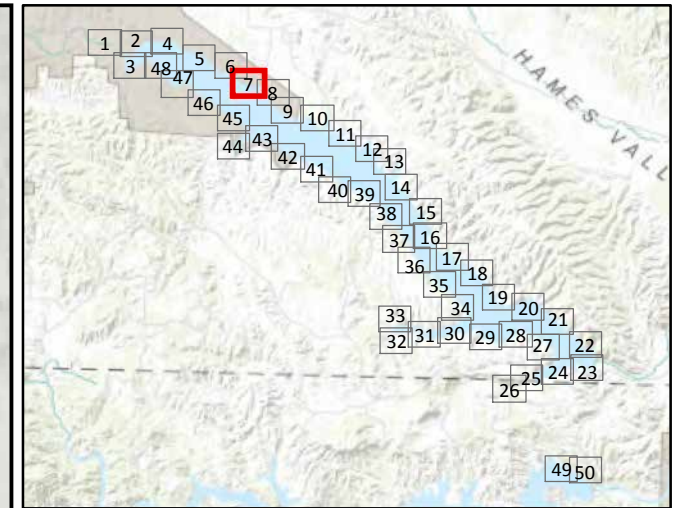


Spatial Reference System: California State Plane Zone 4, feet (NAD83) (2011)  
Vertical Datum: NGVD29  
Imagery Source: ESRI

<b>PREPARED BY:</b> <b>Horizon</b> <small>WATER and ENVIRONMENT</small>		266 Grand Ave Suite 210 Oakland CA 94610 510-986-1850	<b>PREPARED FOR:</b> Monterey County Water Resources Agency 1441 Schilling Place, North Building Salinas, CA 93901 (831) 755-4860
<b>DRAWN BY:</b> R. Hunter R. Hunter, S. Walls, L. Burris & H. Moine DATE OF FIELD WORK: Apr. 24-27 & Nov 20-21, 2017, Mar. 8, 2018		<b>DELINEATION BY:</b> K. Fisher DATE OF VERIFICATION: Mar. 8, 2018	
<b>USACE REGULATORY FILE:</b>		<b>VERIFIED BY:</b>	
<b>REVISIONS</b>		<b>DATE OF VERIFICATION:</b>	
DATE	DESCRIPTION	BY	

**Figure 5**  
**Sheet 6 of 50**  
**Aquatic Resources Delineation Map**

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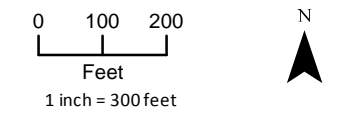
Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,

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- Sample Point
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**Potential Waters of the U.S.**

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- Riverine, Intermittent
- Lacustrine
- Palustrine
- Control Points

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Spatial Reference System: California State Plane Zone 4, feet (NAD83) (2011)  
Vertical Datum: NGVD29  
Imagery Source: ESRI

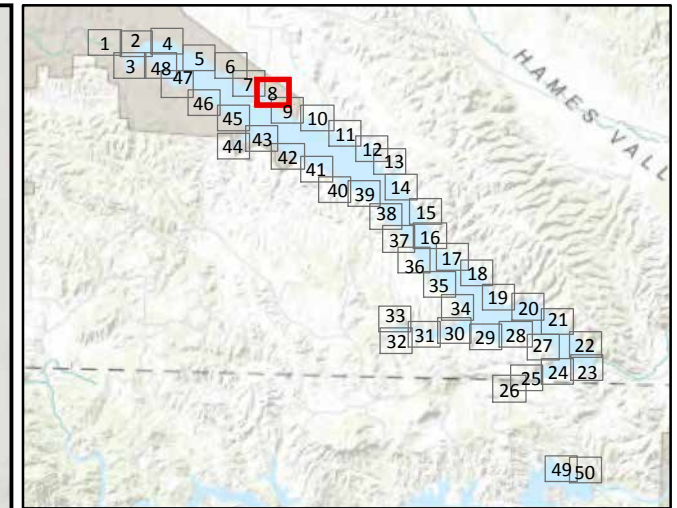
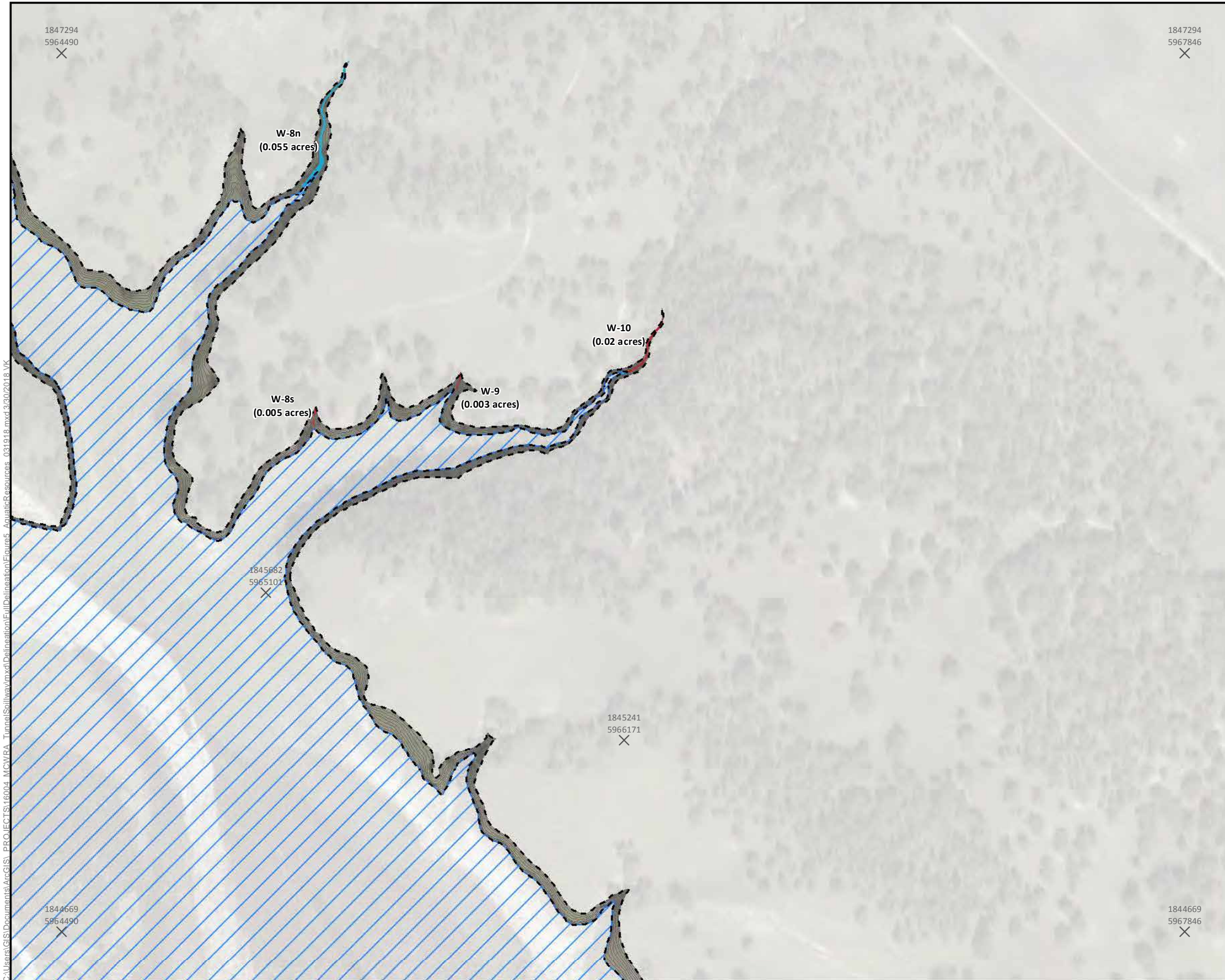
<b>PREPARED BY:</b> <b>Horizon</b> WATER and ENVIRONMENT	266 Grand Ave Suite 210 Oakland CA 94610 510-986-1850	<b>PREPARED FOR:</b> Monterey County Water Resources Agency 1441 Schilling Place, North Building Salinas, CA 93901 (831) 755-4860
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<b>DRAWN BY:</b> R. Hunter <b>DATE OF FIELD WORK:</b> Apr. 24-27 & Nov 20-21, 2017, Mar. 8, 2018	<b>DELINEATION BY:</b> K. Fisher <b>DATE OF VERIFICATION:</b>	<b>USACE REGULATORY FILE:</b> <b>VERIFIED BY:</b>
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**Figure 5**  
**Sheet 7 of 50**  
**Aquatic Resources Delineation Map**

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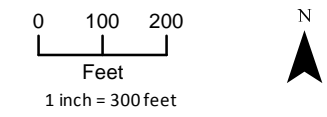
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**Potential Waters of the U.S.**

- Riverine, Ephemeral
- Riverine, Intermittent
- Lacustrine
- Palustrine
- Control Points

Note: Opaque shading indicates land outside of the study area. The study area around San Antonio Reservoir includes the area between the 780- and 788-foot contours, as well as the footprint of construction & access.

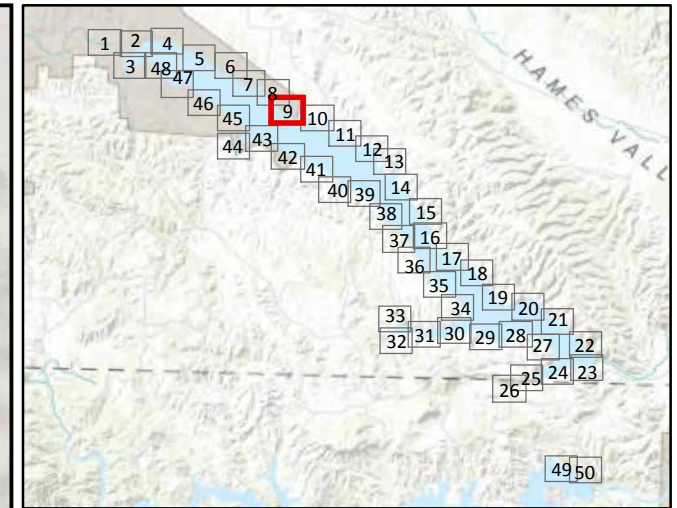


Spatial Reference System: California State Plane Zone 4, feet (NAD83) (2011)  
Vertical Datum: NGVD29  
Imagery Source: ESRI

<b>PREPARED BY:</b> <b>Horizon</b> WATER and ENVIRONMENT		266 Grand Ave Suite 210 Oakland CA 94610 510-986-1850		<b>PREPARED FOR:</b> Monterey County Water Resources Agency 1441 Schilling Place, North Building Salinas, CA 93901 (831) 755-4860	
<b>DRAWN BY:</b> R. Hunter R. Hunter, S. Walls, L. Burris & H. Moine DATE OF FIELD WORK: Apr. 24-27 & Nov 20-21, 2017, Mar. 8, 2018		<b>DELINEATION BY:</b> K. Fisher DATE OF VERIFICATION: Mar. 8, 2018		<b>USACE REGULATORY FILE:</b> VERIFIED BY: DATE OF VERIFICATION:	
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DATE	DESCRIPTION			BY	

**Figure 5**  
**Sheet 8 of 50**  
**Aquatic Resources Delineation Map**

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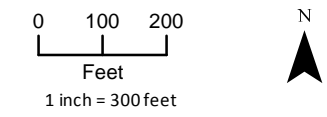
Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,

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**Potential Waters of the U.S.**

- Riverine, Ephemeral
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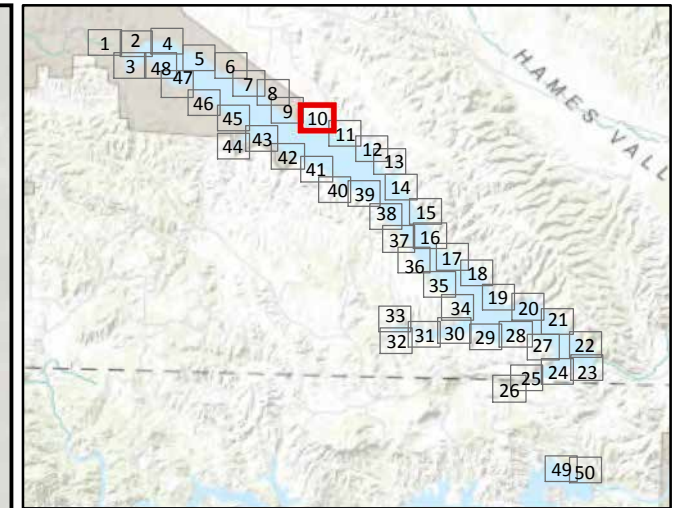
Spatial Reference System: California State Plane Zone 4, feet (NAD83) (2011)  
 Vertical Datum: NGVD29  
 Imagery Source: ESRI

<b>PREPARED BY:</b> <b>Horizon</b> <small>WATER and ENVIRONMENT</small>		266 Grand Ave Suite 210 Oakland CA 94610 510-986-1850	<b>PREPARED FOR:</b> Monterey County Water Resources Agency 1441 Schilling Place, North Building Salinas, CA 93901 (831) 755-4860
<b>DRAWN BY:</b> R. Hunter R. Hunter, S. Walls, L. Burris & H. Moine DATE OF FIELD WORK: Apr. 24-27 & Nov 20-21, 2017, Mar. 8, 2018		<b>DELINEATION BY:</b> K. Fisher <b>USACE REGULATORY FILE:</b> VERIFIED BY: DATE OF VERIFICATION:	
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**Figure 5**  
**Sheet 9 of 50**  
**Aquatic Resources Delineation Map**

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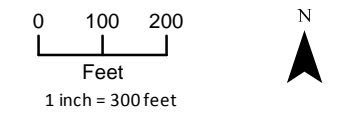
Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,

- Study Area (599 acres)
- Below Maximum Current San Antonio Reservoir Level (<780 ft)
- Sample Point
- 1-ft Contour Lines (780-788 ft)

**Potential Waters of the U.S.**

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- Control Points

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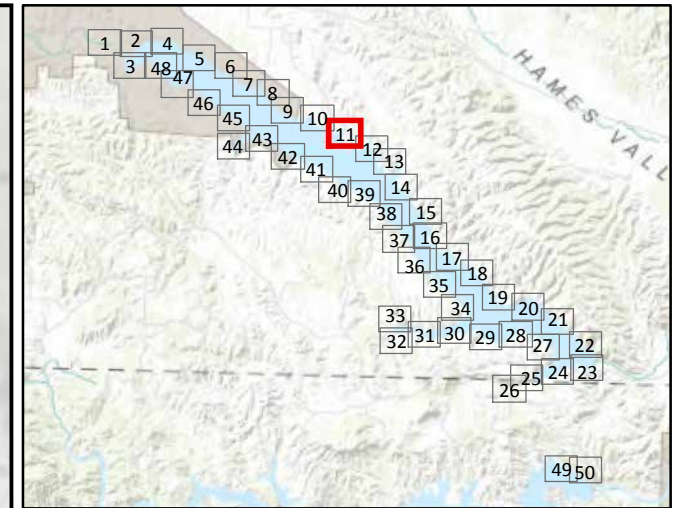


Spatial Reference System: California State Plane Zone 4, feet (NAD83) (2011)  
Vertical Datum: NGVD29  
Imagery Source: ESRI

<b>PREPARED BY:</b> <b>Horizon</b> <small>WATER and ENVIRONMENT</small>		<b>PREPARED FOR:</b> Monterey County Water Resources Agency 1441 Schilling Place, North Building Salinas, CA 93901 (831) 755-4860	
<b>DRAWN BY:</b> R. Hunter R. Hunter, S. Walls, L. Burris & H. Moine DATE OF FIELD WORK: Apr. 24-27 & Nov 20-21, 2017, Mar. 8, 2018		<b>USACE REGULATORY FILE:</b> DELINEATION BY: K. Fisher VERIFIED BY: DATE OF VERIFICATION:	
<b>REVISIONS</b>			
DATE	DESCRIPTION		BY

**Figure 5**  
**Sheet 10 of 50**  
**Aquatic Resources Delineation Map**

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Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,

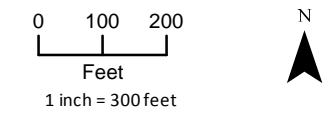
**Legend**

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- Sample Point
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**Potential Waters of the U.S.**

- Riverine, Ephemeral
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- Palustrine
- × Control Points

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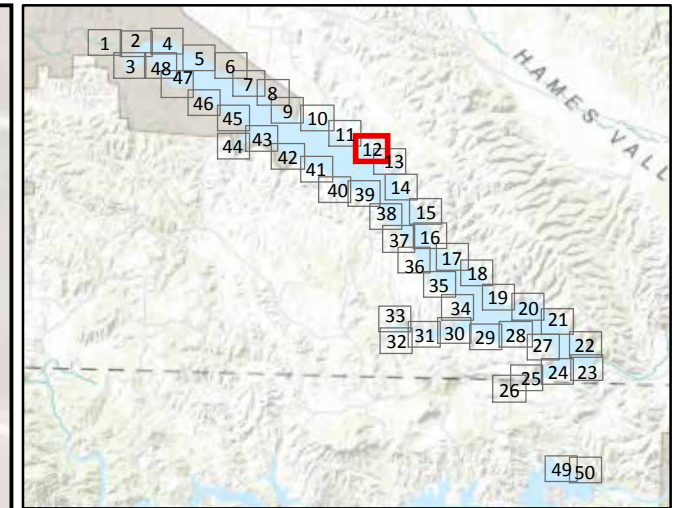


Spatial Reference System: California State Plane Zone 4, feet (NAD83) (2011)  
 Vertical Datum: NGVD29  
 Imagery Source: ESRI

PREPARED BY: 266 Grand Ave Suite 210 Oakland CA 94610 510-986-1850	PREPARED FOR: Monterey County Water Resources Agency 1441 Schilling Place, North Building Salinas, CA 93901 (831) 755-4860							
DRAWN BY: R. Hunter R. Hunter, S. Walls, L. Burris & H. Moine DATE OF FIELD WORK: Apr. 24-27 & Nov 20-21, 2017, Mar. 8, 2018	DELINEATION BY: K. Fisher VERIFIED BY: DATE OF VERIFICATION:	USACE REGULATORY FILE:						
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DATE	REVISIONS DESCRIPTION	BY						

**Figure 5**  
**Sheet 11 of 50**  
**Aquatic Resources Delineation Map**

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Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,

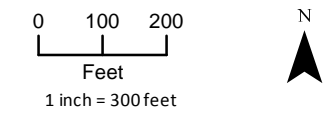
**Legend**

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- Riverine, Ephemeral
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- Palustrine
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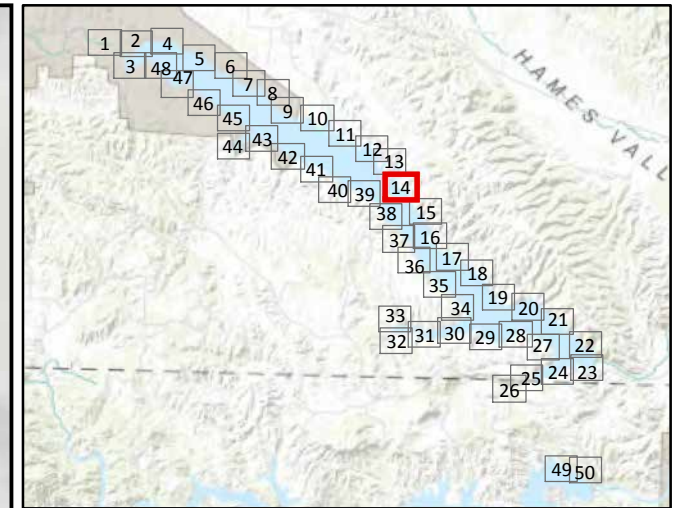
Spatial Reference System: California State Plane Zone 4, feet (NAD83) (2011)  
Vertical Datum: NGVD29  
Imagery Source: ESRI

<p>PREPARED BY:</p> <p><b>Horizon</b> WATER and ENVIRONMENT</p> <p>266 Grand Ave Suite 210 Oakland CA 94610 510-986-1850</p>	<p>PREPARED FOR:</p> <p>Monterey County Water Resources Agency 1441 Schilling Place, North Building Salinas, CA 93901 (831) 755-4860</p>	<p>DRAWN BY: R. Hunter    DELINEATION BY: K. Fisher    USACE REGULATORY FILE:</p> <p>R. Hunter, S. Walls, L. Burris &amp; H. Moine    VERIFIED BY:</p> <p>DATE OF FIELD WORK:    DATE OF VERIFICATION:</p> <p>Apr. 24-27 &amp; Nov 20-21, 2017, Mar. 8, 2018</p>
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DATE	DESCRIPTION	BY

**Figure 5**  
**Sheet 12 of 50**  
**Aquatic Resources Delineation Map**

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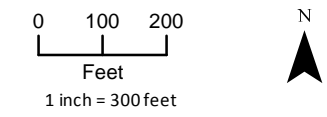
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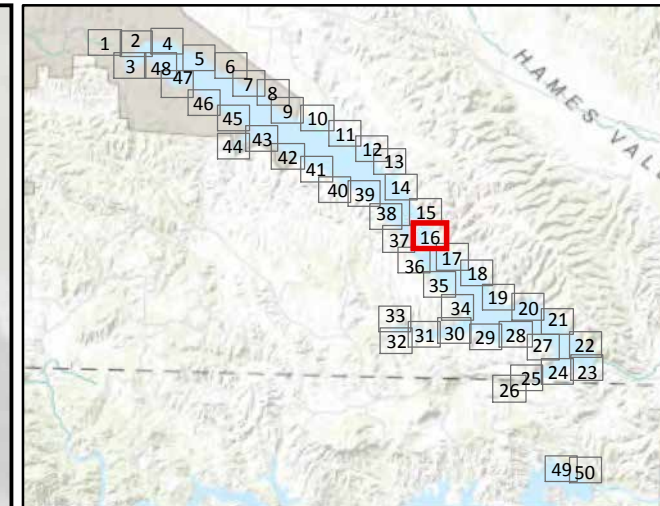
Spatial Reference System: California State Plane Zone 4, feet (NAD83) (2011)  
Vertical Datum: NGVD29  
Imagery Source: ESRI

<b>PREPARED BY:</b> <b>Horizon</b> WATER and ENVIRONMENT		<b>PREPARED FOR:</b> Monterey County Water Resources Agency 1441 Schilling Place, North Building Salinas, CA 93901 (831) 755-4860	
DRAWN BY: R. Hunter R. Hunter, S. Walls, L. Burris & H. Moine DATE OF FIELD WORK: Apr. 24-27 & Nov 20-21, 2017, Mar. 8, 2018		DELINEATION BY: K. Fisher VERIFIED BY: DATE OF VERIFICATION:	
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	<b>DESCRIPTION</b>		

**Figure 5**  
**Sheet 14 of 50**  
**Aquatic Resources Delineation Map**

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Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,

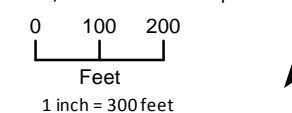
**Legend**

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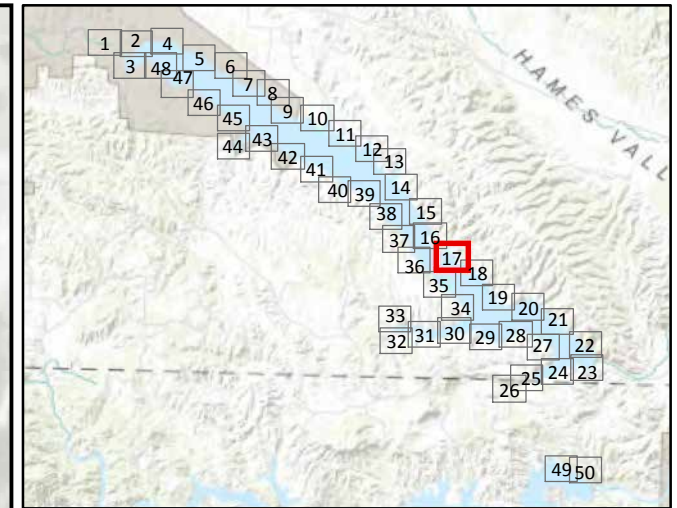


Spatial Reference System: California State Plane Zone 4, feet (NAD83) (2011)  
Vertical Datum: NGVD29  
Imagery Source: ESRI

<b>PREPARED BY:</b> <b>Horizon</b> <small>WATER and ENVIRONMENT</small>		266 Grand Ave Suite 210 Oakland CA 94610 510-986-1850	<b>PREPARED FOR:</b> Monterey County Water Resources Agency 1441 Schilling Place, North Building Salinas, CA 93901 (831) 755-4860
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**Figure 5**  
**Sheet 16 of 50**  
**Aquatic Resources Delineation Map**

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Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,

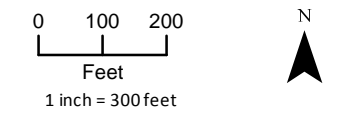
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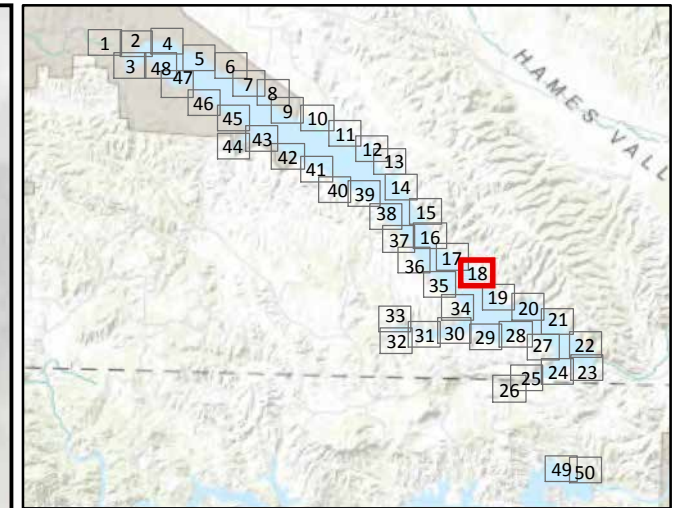
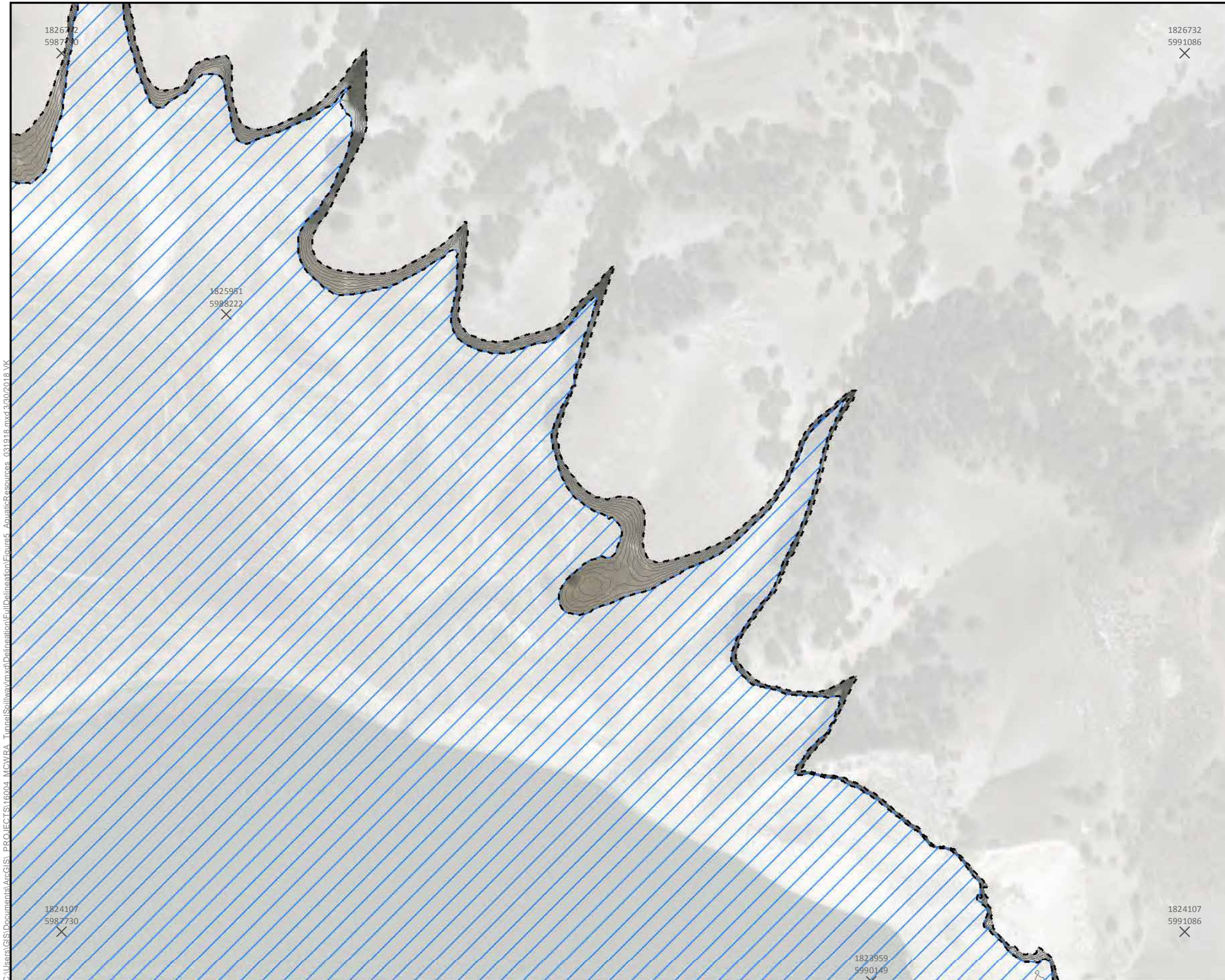
Spatial Reference System: California State Plane Zone 4, feet (NAD83) (2011)  
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<b>PREPARED BY:</b> <b>Horizon</b> WATER and ENVIRONMENT		266 Grand Ave Suite 210 Oakland CA 94610 510-986-1850	<b>PREPARED FOR:</b> Monterey County Water Resources Agency 1441 Schilling Place, North Building Salinas, CA 93901 (831) 755-4860
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<b>DATE</b>	<b>REVISIONS DESCRIPTION</b>	<b>BY</b>	

**Figure 5**  
**Sheet 17 of 50**  
**Aquatic Resources Delineation Map**

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Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,

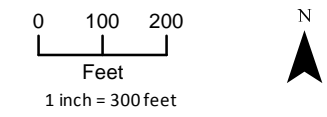
**Legend**

- Study Area (599 acres)
- Below Maximum Current San Antonio Reservoir Level (<780 ft)
- Sample Point
- 1-ft Contour Lines (780-788 ft)

**Potential Waters of the U.S.**

- Riverine, Ephemeral
- Riverine, Intermittent
- Lacustrine
- Palustrine
- Control Points

Note: Opaque shading indicates land outside of the study area. The study area around San Antonio Reservoir includes the area between the 780- and 788-foot contours, as well as the footprint of construction & access.

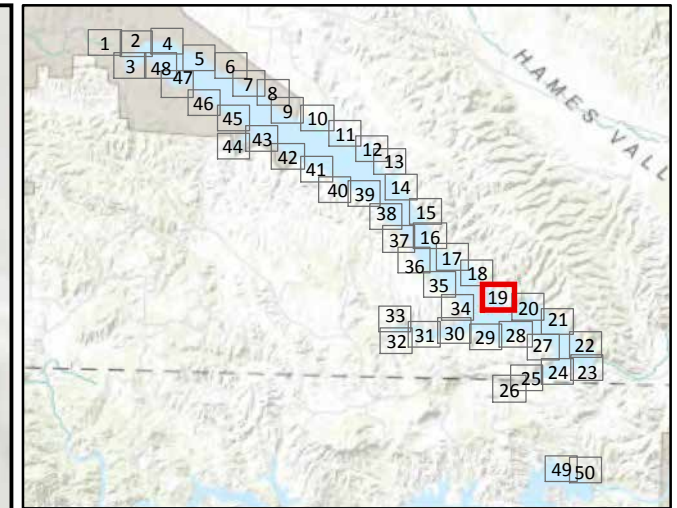


Spatial Reference System: California State Plane Zone 4, feet (NAD83) (2011)  
 Vertical Datum: NGVD29  
 Imagery Source: ESRI

<b>PREPARED BY:</b> <b>Horizon</b> <small>WATER and ENVIRONMENT</small>		266 Grand Ave Suite 210 Oakland CA 94610 510-986-1850	<b>PREPARED FOR:</b> Monterey County Water Resources Agency 1441 Schilling Place, North Building Salinas, CA 93901 (831) 755-4860
<b>DRAWN BY:</b> R. Hunter <b>DATE OF FIELD WORK:</b> Apr. 24-27 & Nov 20-21, 2017, Mar. 8, 2018		<b>DELINEATION BY:</b> K. Fisher <b>DATE OF VERIFICATION:</b>	
<b>USACE REGULATORY FILE:</b>		<b>VERIFIED BY:</b>	
<b>DATE</b>	<b>REVISIONS DESCRIPTION</b>	<b>BY</b>	

**Figure 5**  
**Sheet 18 of 50**  
**Aquatic Resources Delineation Map**

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Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,

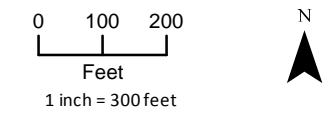
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- Riverine, Intermittent
- Lacustrine
- Palustrine
- X Control Points

Note: Opaque shading indicates land outside of the study area. The study area around San Antonio Reservoir includes the area between the 780- and 788-foot contours, as well as the footprint of construction & access.

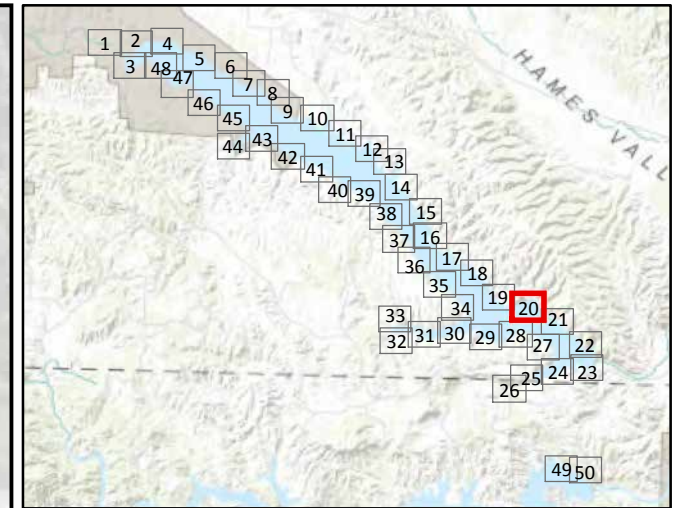


Spatial Reference System: California State Plane Zone 4, feet (NAD83) (2011)  
Vertical Datum: NGVD29  
Imagery Source: ESRI

<p>PREPARED BY:</p> <p><b>Horizon</b> WATER and ENVIRONMENT</p> <p>266 Grand Ave Suite 210 Oakland CA 94610 510-986-1850</p>	<p>PREPARED FOR:</p> <p>Monterey County Water Resources Agency 1441 Schilling Place, North Building Salinas, CA 93901 (831) 755-4860</p>	<p>DRAWN BY: R. Hunter    DELINEATION BY: K. Fisher</p> <p>R. Hunter, S. Walls, L. Burris &amp; H. Moine</p> <p>DATE OF FIELD WORK: Apr. 24-27 &amp; Nov 20-21, 2017, Mar. 8, 2018</p>	<p>USACE REGULATORY FILE:</p> <p>VERIFIED BY:</p> <p>DATE OF VERIFICATION:</p>									
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**Figure 5**  
**Sheet 19 of 50**  
**Aquatic Resources Delineation Map**

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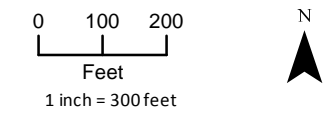
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- Palustrine
- Control Points

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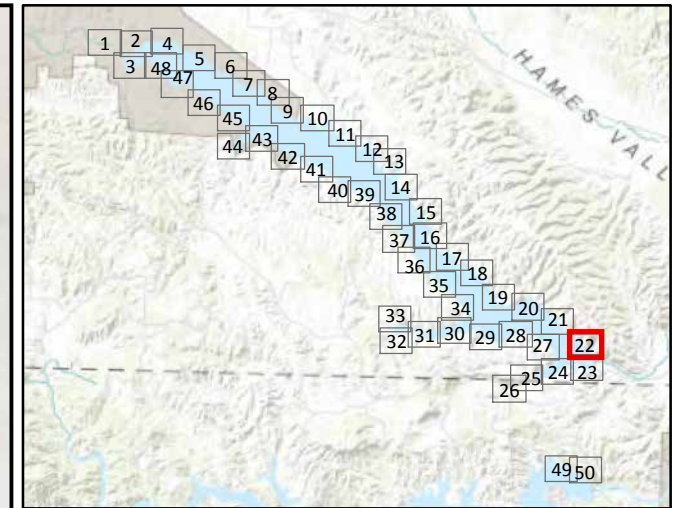
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**Figure 5**  
**Sheet 20 of 50**  
**Aquatic Resources Delineation Map**

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Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,

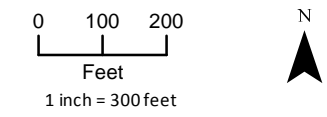
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- Palustrine
- X Control Points

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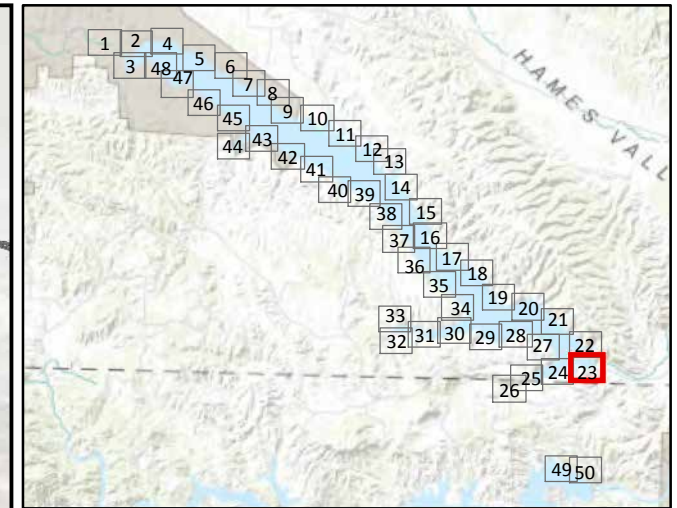


Spatial Reference System: California State Plane Zone 4, feet (NAD83) (2011)  
 Vertical Datum: NGVD29  
 Imagery Source: ESRI

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DRAWN BY: R. Hunter R. Hunter, S. Walls, L. Burris & H. Moine DATE OF FIELD WORK: Apr. 24-27 & Nov 20-21, 2017, Mar. 8, 2018	DELINEATION BY: K. Fisher VERIFIED BY: DATE OF VERIFICATION:	USACE REGULATORY FILE:									
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REVISIONS											
DATE	DESCRIPTION	BY									

**Figure 5**  
**Sheet 22 of 50**  
**Aquatic Resources Delineation Map**

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Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,

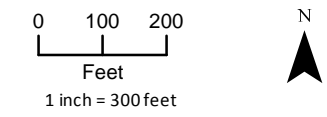
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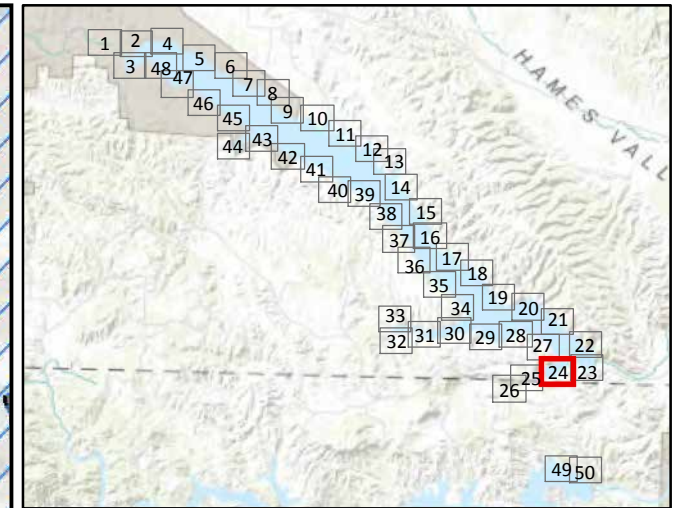
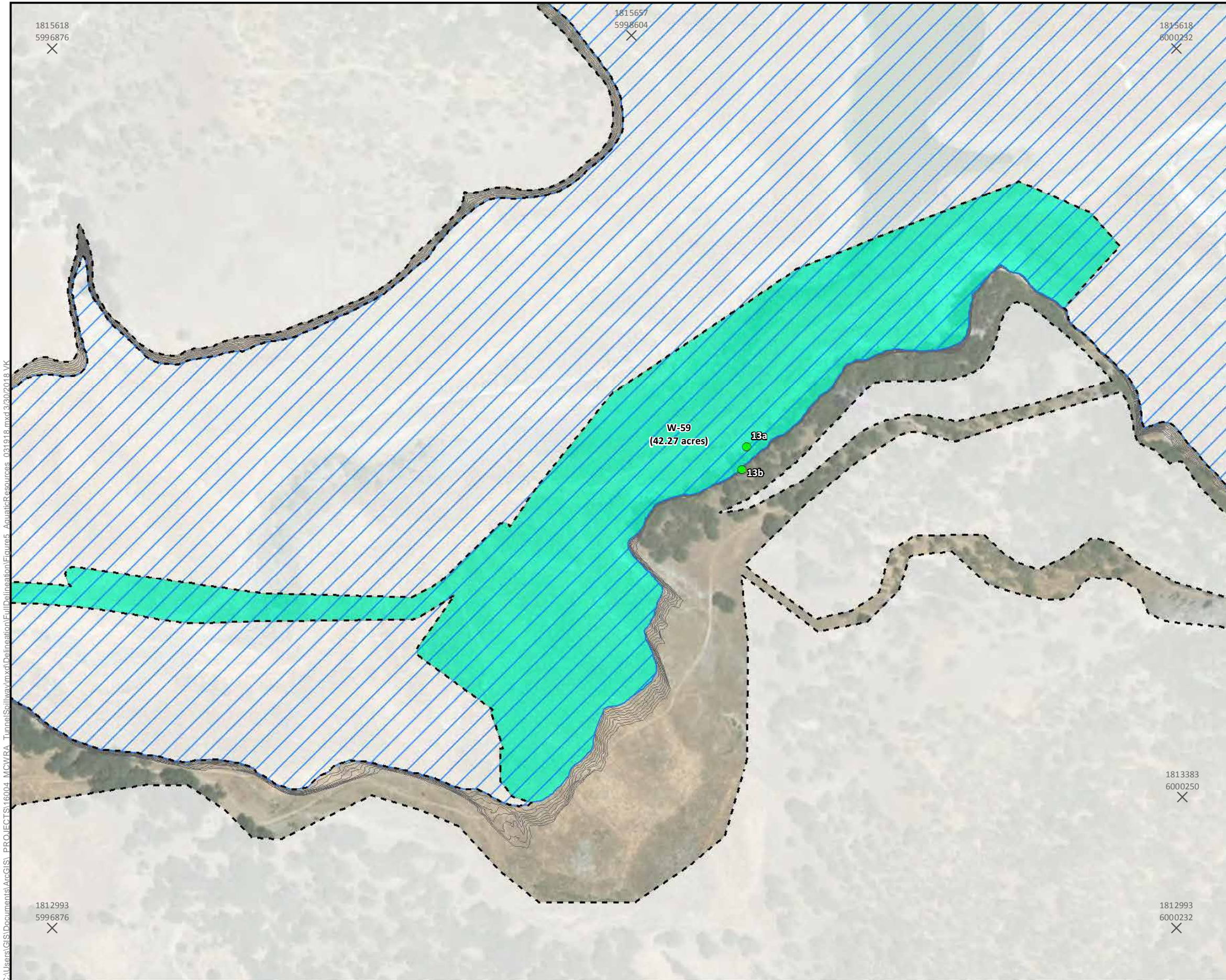


Spatial Reference System: California State Plane Zone 4, feet (NAD83) (2011)  
Vertical Datum: NGVD29  
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<b>PREPARED BY:</b> <b>Horizon</b> WATER and ENVIRONMENT		266 Grand Ave Suite 210 Oakland CA 94610 510-986-1850	<b>PREPARED FOR:</b> Monterey County Water Resources Agency 1441 Schilling Place, North Building Salinas, CA 93901 (831) 755-4860
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<b>REVISIONS</b>			
DATE	DESCRIPTION	BY	

**Figure 5**  
**Sheet 23 of 50**  
**Aquatic Resources Delineation Map**

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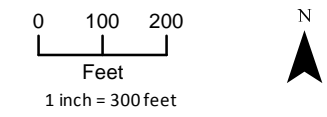
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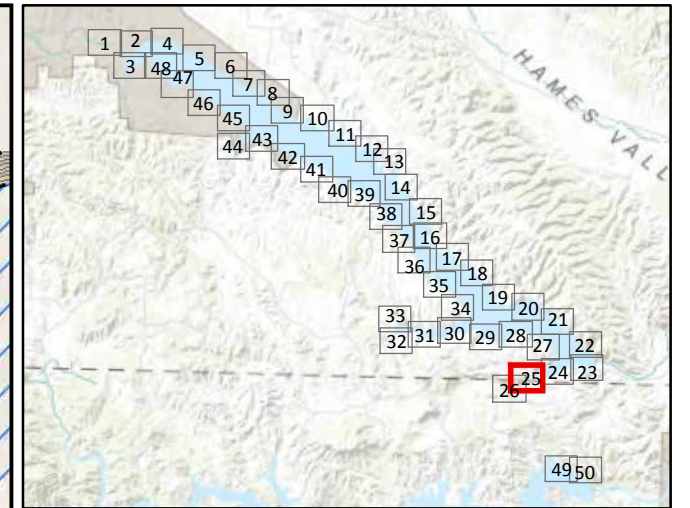
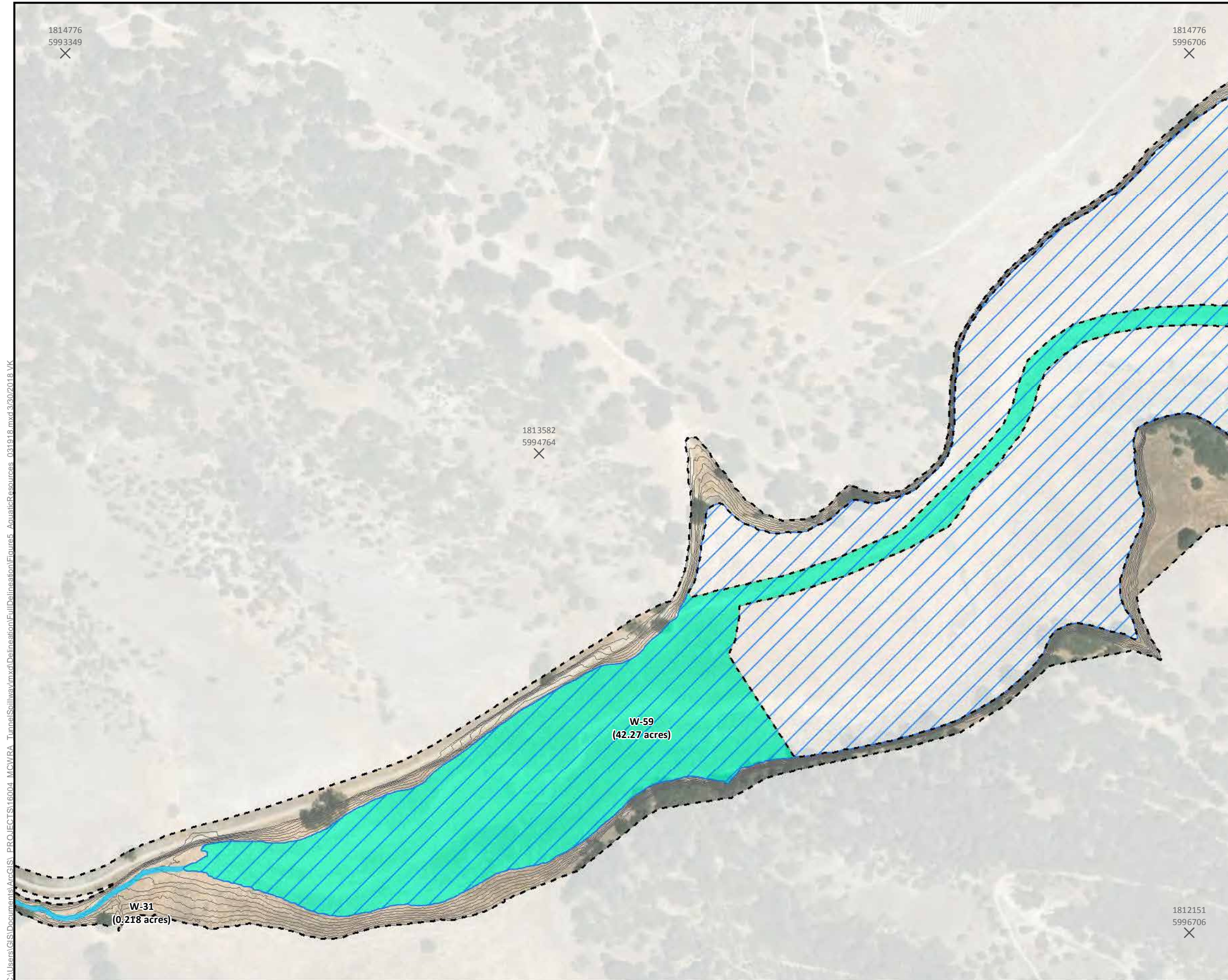


Spatial Reference System: California State Plane Zone 4, feet (NAD83) (2011)  
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DATE	REVISIONS DESCRIPTION	BY									

**Figure 5**  
**Sheet 24 of 50**  
**Aquatic Resources Delineation Map**

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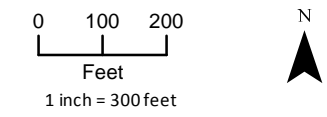
Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,

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Vertical Datum: NGVD29  
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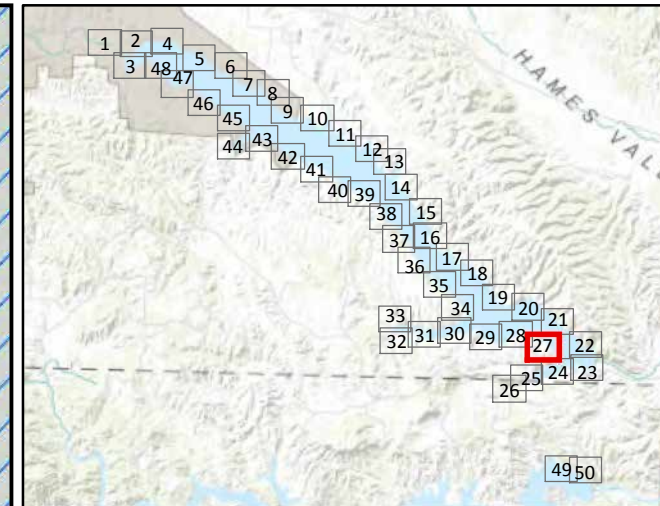
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**Figure 5**  
**Sheet 25 of 50**  
**Aquatic Resources Delineation Map**

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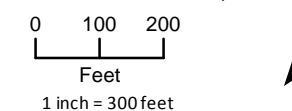
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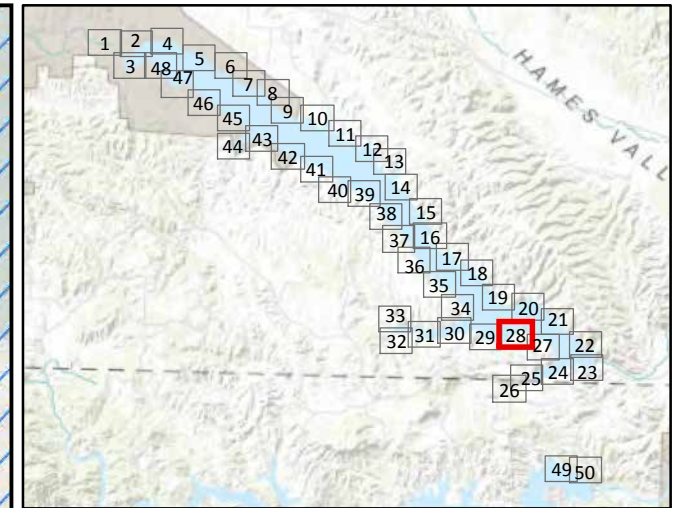
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DATE	REVISIONS DESCRIPTION	BY							

**Figure 5**  
**Sheet 27 of 50**  
**Aquatic Resources Delineation Map**

**Interlake Tunnel and**  
**Spillway Modification Project**

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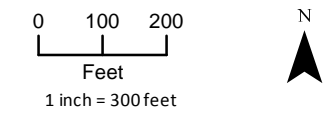
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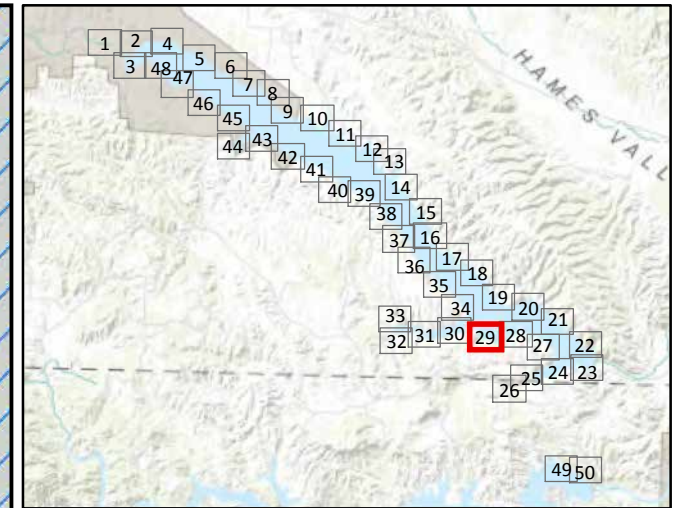
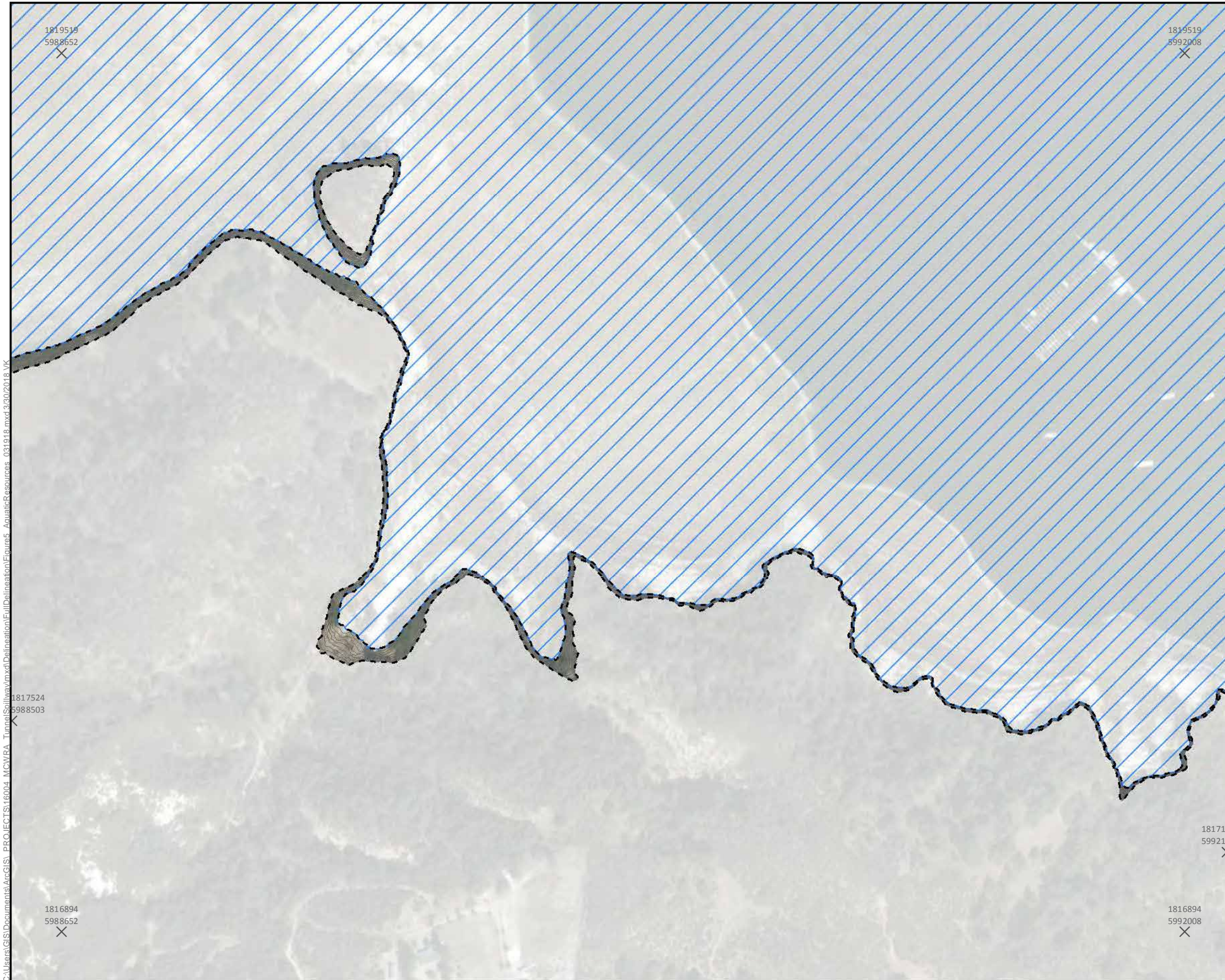


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Imagery Source: ESRI

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<b>REVISIONS</b>			
DATE	DESCRIPTION		BY

**Figure 5**  
**Sheet 28 of 50**  
**Aquatic Resources Delineation Map**

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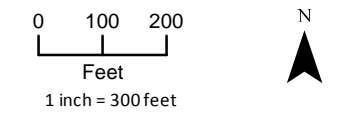
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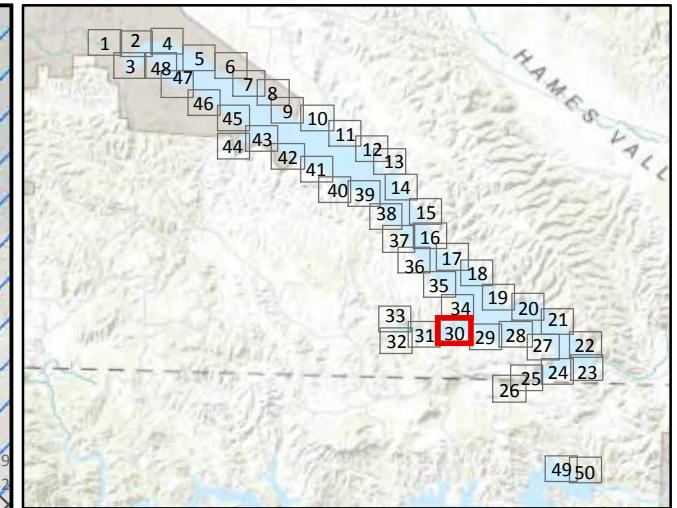


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**Figure 5**  
**Sheet 29 of 50**  
**Aquatic Resources Delineation Map**

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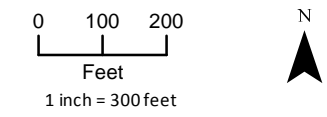
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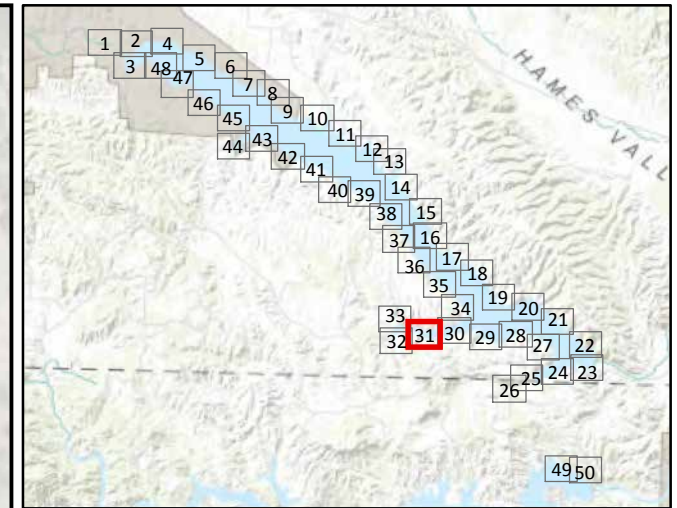
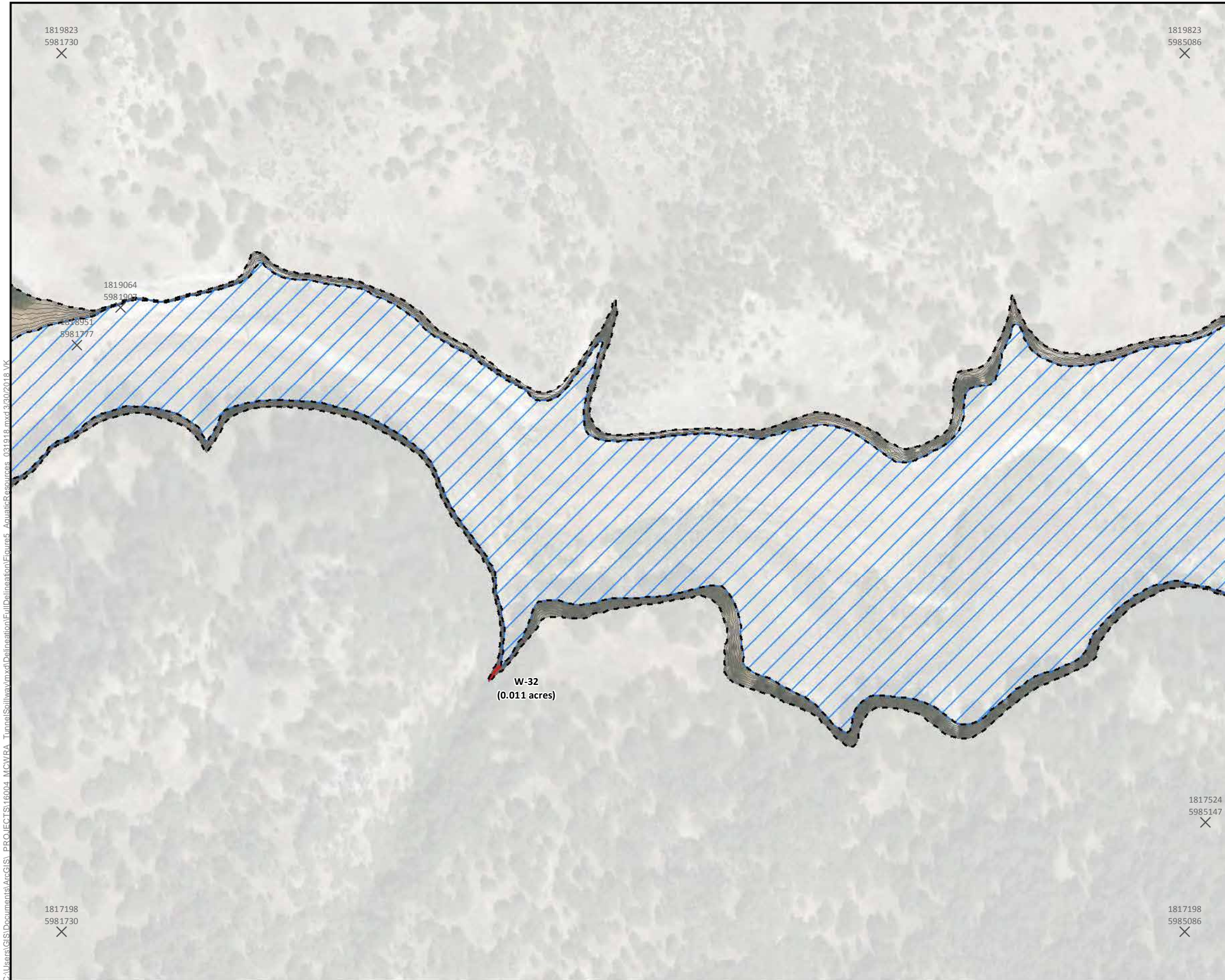


Spatial Reference System: California State Plane Zone 4, feet (NAD83) (2011)  
 Vertical Datum: NGVD29  
 Imagery Source: ESRI

<b>PREPARED BY:</b> <b>Horizon</b> <small>WATER and ENVIRONMENT</small>		266 Grand Ave Suite 210 Oakland CA 94610 510-986-1850		<b>PREPARED FOR:</b> Monterey County Water Resources Agency 1441 Schilling Place, North Building Salinas, CA 93901 (831) 755-4860	
<b>DRAWN BY:</b> R. Hunter R. Hunter, S. Walls, L. Burris & H. Moine <b>DATE OF FIELD WORK:</b> Apr. 24-27 & Nov 20-21, 2017, Mar. 8, 2018		<b>DELINEATION BY:</b> K. Fisher K. Fisher, S. Walls, L. Burris & H. Moine <b>DATE OF VERIFICATION:</b> Apr. 24-27 & Nov 20-21, 2017, Mar. 8, 2018		<b>USACE REGULATORY FILE:</b> <b>VERIFIED BY:</b> <b>DATE OF VERIFICATION:</b>	
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<b>DATE</b>	<b>DESCRIPTION</b>			<b>BY</b>	

**Figure 5**  
**Sheet 30 of 50**  
**Aquatic Resources Delineation Map**

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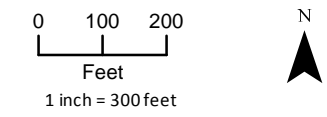
Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,

- Study Area (599 acres)
- Below Maximum Current San Antonio Reservoir Level (<780 ft)
- Sample Point
- 1-ft Contour Lines (780-788 ft)

**Potential Waters of the U.S.**

- Riverine, Ephemeral
- Riverine, Intermittent
- Lacustrine
- Palustrine
- Control Points

Note: Opaque shading indicates land outside of the study area. The study area around San Antonio Reservoir includes the area between the 780- and 788-foot contours, as well as the footprint of construction & access.

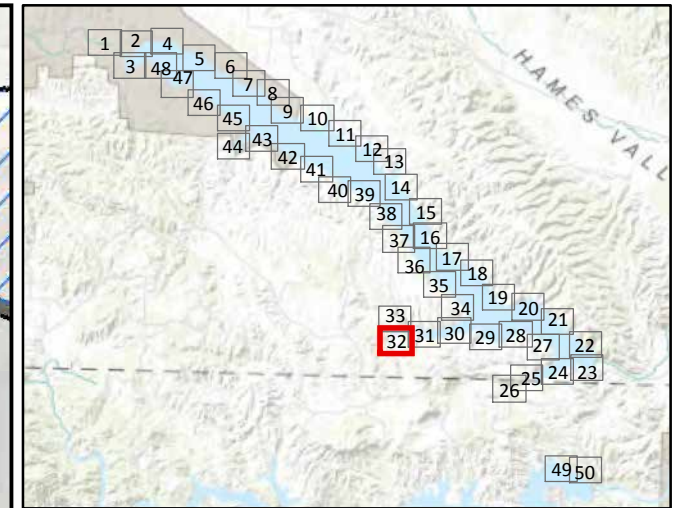


Spatial Reference System: California State Plane Zone 4, feet (NAD83) (2011)  
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<b>PREPARED BY:</b> <b>Horizon</b> <small>WATER and ENVIRONMENT</small>		266 Grand Ave Suite 210 Oakland CA 94610 510-986-1850		<b>PREPARED FOR:</b> Monterey County Water Resources Agency 1441 Schilling Place, North Building Salinas, CA 93901 (831) 755-4860	
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**Figure 5**  
**Sheet 31 of 50**  
**Aquatic Resources Delineation Map**

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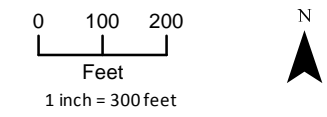
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- Control Points

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Spatial Reference System: California State Plane Zone 4, feet (NAD83) (2011)  
 Vertical Datum: NGVD29  
 Imagery Source: ESRI

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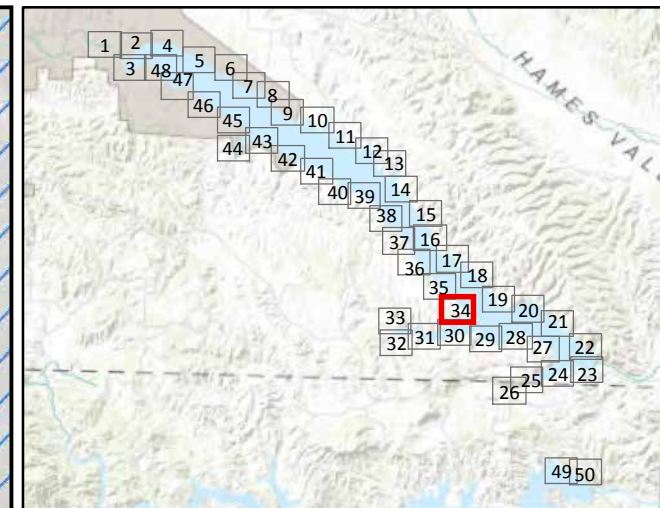
**Figure 5**  
**Sheet 32 of 50**  
**Aquatic Resources Delineation Map**

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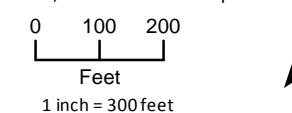
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- Palustrine
- X Control Points

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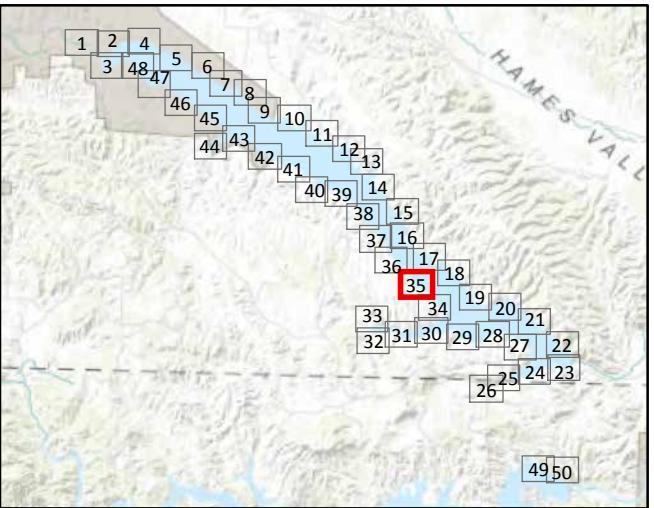
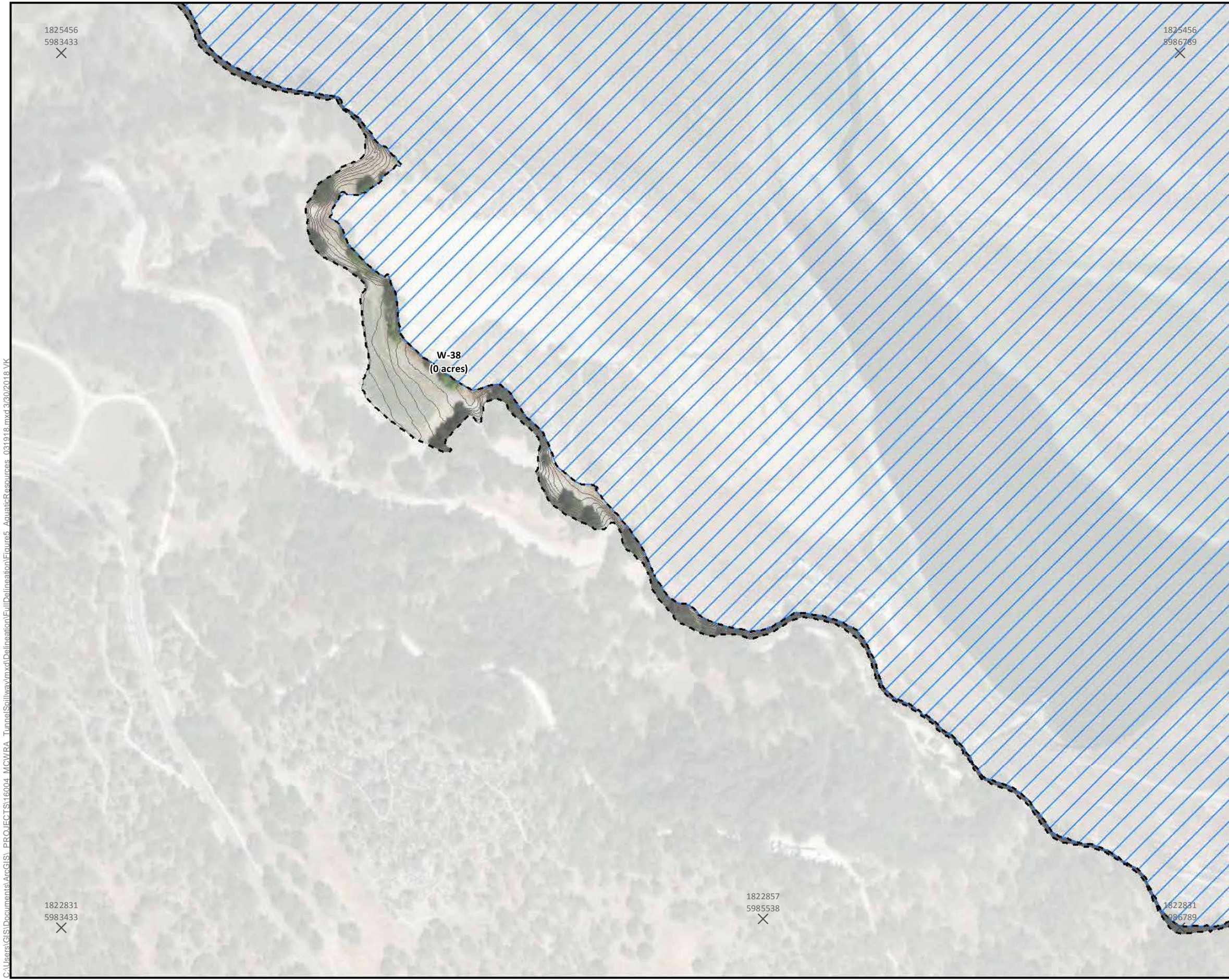


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<b>PREPARED BY:</b> <b>Horizon</b> <small>WATER and ENVIRONMENT</small>		266 Grand Ave Suite 210 Oakland CA 94610 510-986-1850	<b>PREPARED FOR:</b> Monterey County Water Resources Agency 1441 Schilling Place, North Building Salinas, CA 93901 (831) 755-4860
DRAWN BY: R. Hunter R. Hunter, S. Walls, L. Burris & H. Moine DATE OF FIELD WORK: Apr. 24-27 & Nov 20-21, 2017, Mar. 8, 2018		DELINEATION BY: K. Fisher USACE REGULATORY FILE: VERIFIED BY: DATE OF VERIFICATION:	
<b>REVISIONS</b>			
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**Figure 5**  
**Sheet 34 of 50**  
**Aquatic Resources Delineation Map**

**Interlake Tunnel and Spillway Modification Project**



Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,

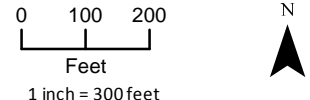
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**Potential Waters of the U.S.**

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- Riverine, Intermittent
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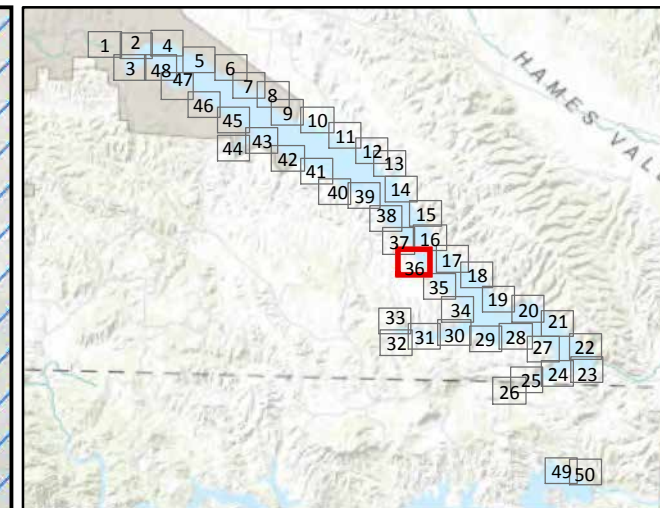
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 Vertical Datum: NGVD29  
 Imagery Source: ESRI

<b>PREPARED BY:</b> <b>Horizon</b> WATER and ENVIRONMENT		<b>PREPARED FOR:</b> Monterey County Water Resources Agency 1441 Schilling Place, North Building Salinas, CA 93901 (831) 755-4860	
DRAWN BY: R. Hunter R. Hunter, S. Walls, L. Burris & H. Moine DATE OF FIELD WORK: Apr. 24-27 & Nov 20-21, 2017, Mar. 8, 2018		DELINEATION BY: K. Fisher VERIFIED BY: DATE OF VERIFICATION:	
<b>USACE REGULATORY FILE:</b>		<b>USACE REGULATORY FILE:</b>	
DATE	REVISIONS DESCRIPTION	BY	

**Figure 5**  
**Sheet 35 of 50**  
**Aquatic Resources Delineation Map**

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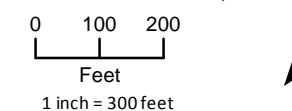
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**Potential Waters of the U.S.**

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- Lacustrine
- Palustrine
- X Control Points

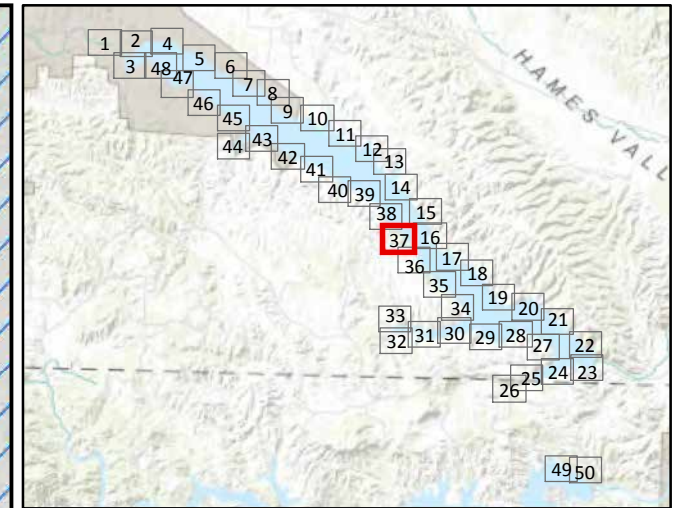
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Vertical Datum: NGVD29  
Imagery Source: ESRI

<b>PREPARED BY:</b> 266 Grand Ave Suite 210 Oakland CA 94610 510-986-1850		<b>PREPARED FOR:</b> Monterey County Water Resources Agency 1441 Schilling Place, North Building Salinas, CA 93901 (831) 755-4860	
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DATE	DESCRIPTION	BY	

**Figure 5**  
**Sheet 36 of 50**  
**Aquatic Resources Delineation Map**



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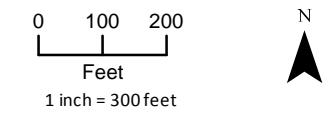
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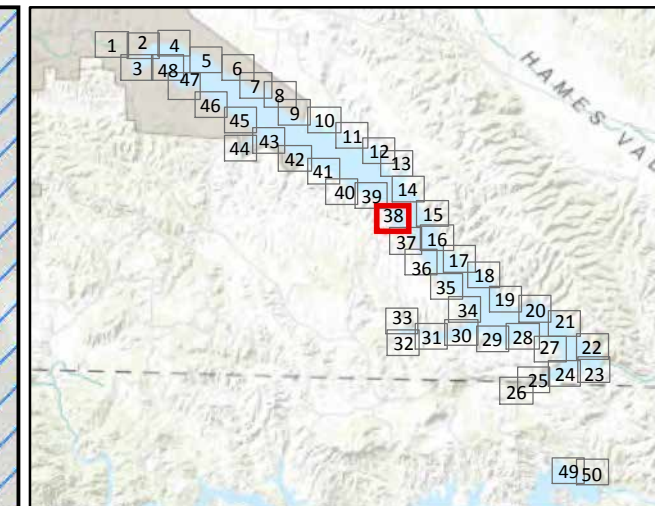
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<b>PREPARED BY:</b> <b>Horizon</b> WATER and ENVIRONMENT		266 Grand Ave Suite 210 Oakland CA 94610 510-986-1850		<b>PREPARED FOR:</b> Monterey County Water Resources Agency 1441 Schilling Place, North Building Salinas, CA 93901 (831) 755-4860	
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**Figure 5**  
**Sheet 37 of 50**  
**Aquatic Resources Delineation Map**

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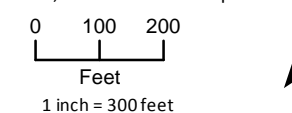
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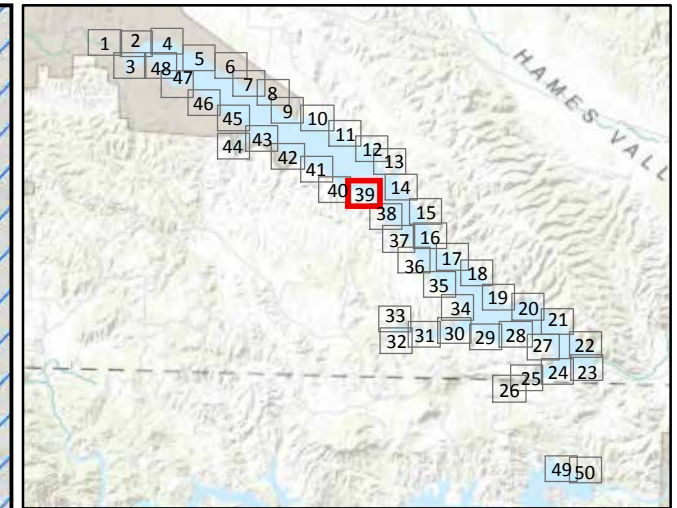
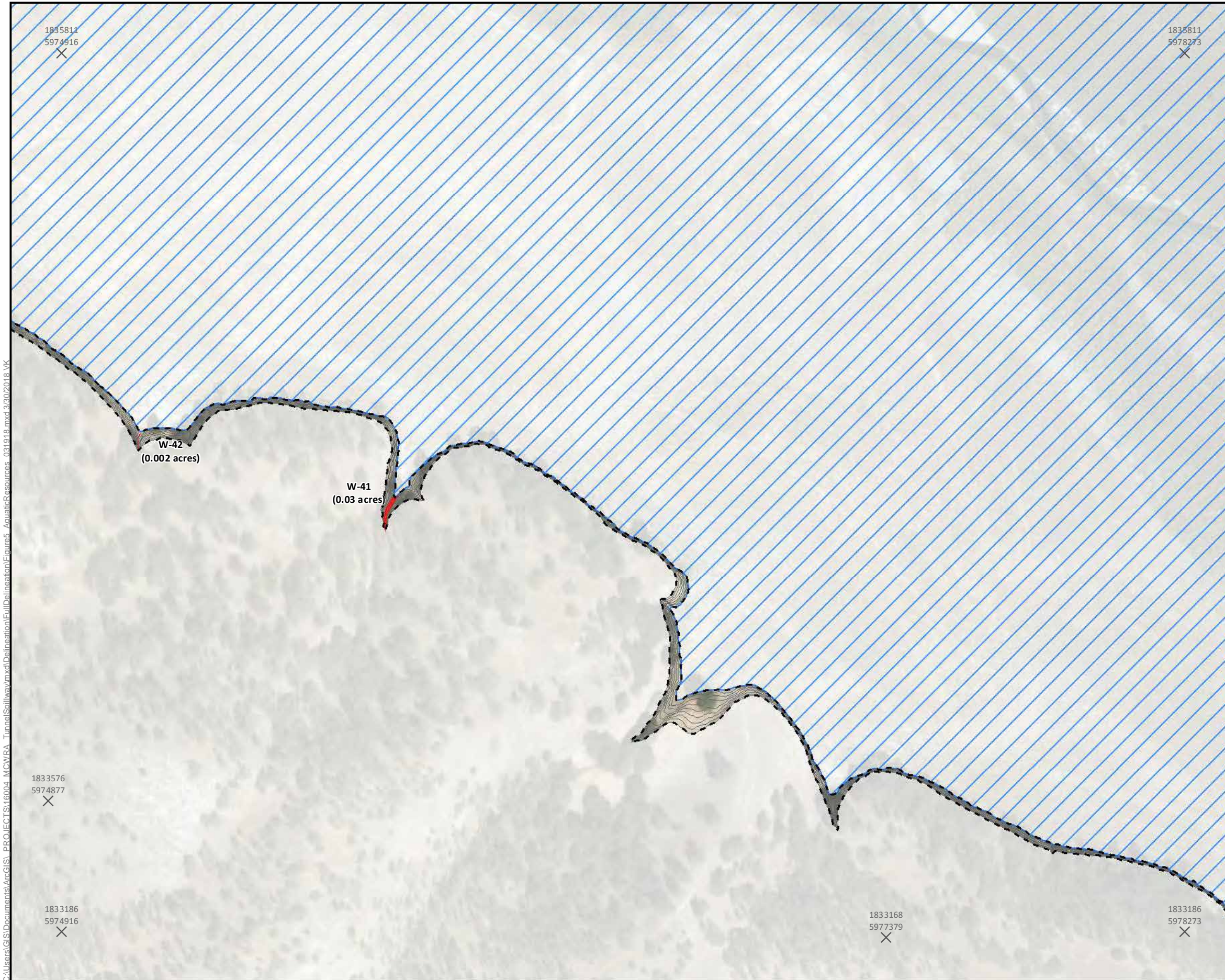
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<p>PREPARED BY:</p> <p><b>Horizon</b> WATER and ENVIRONMENT</p>	<p>266 Grand Ave Suite 210 Oakland CA 94610 510-986-1850</p>	<p>PREPARED FOR:</p> <p>Monterey County Water Resources Agency 1441 Schilling Place, North Building Salinas, CA 93901 (831) 755-4860</p>									
<p>DRAWN BY: R. Hunter R. Hunter, S. Walls, L. Burris &amp; H. Moine DATE OF FIELD WORK: Apr. 24-27 &amp; Nov 20-21, 2017, Mar. 8, 2018</p>	<p>DELINEATION BY: K. Fisher USACE REGULATORY FILE: VERIFIED BY: DATE OF VERIFICATION:</p>										
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">REVISIONS</th> </tr> <tr> <th style="width: 20%;">DATE</th> <th style="width: 60%;">DESCRIPTION</th> <th style="width: 20%;">BY</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>			REVISIONS			DATE	DESCRIPTION	BY			
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**Figure 5**  
**Sheet 38 of 50**  
**Aquatic Resources Delineation Map**



Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,

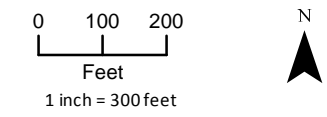
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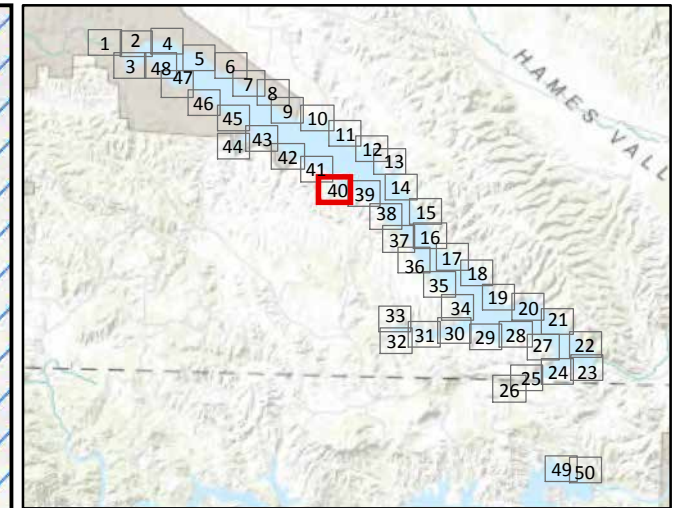
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**Figure 5**  
**Sheet 39 of 50**  
**Aquatic Resources Delineation Map**

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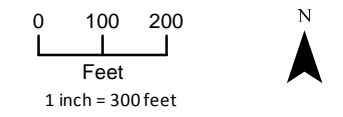
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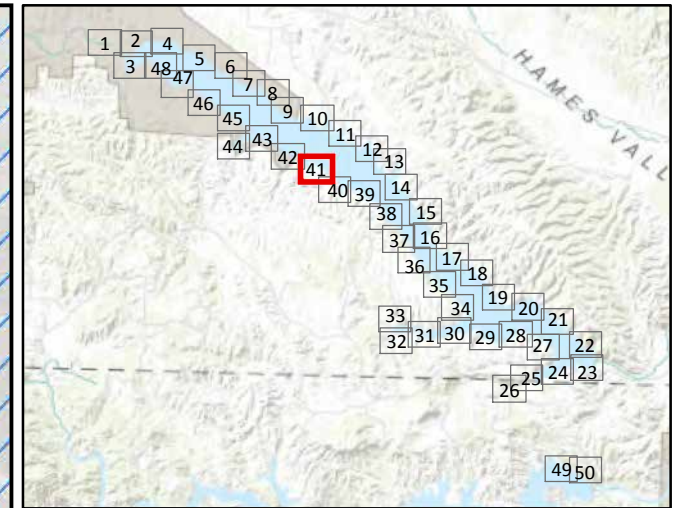
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**Figure 5**  
**Sheet 40 of 50**  
**Aquatic Resources Delineation Map**



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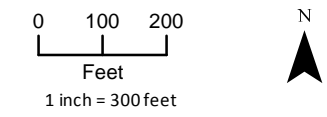
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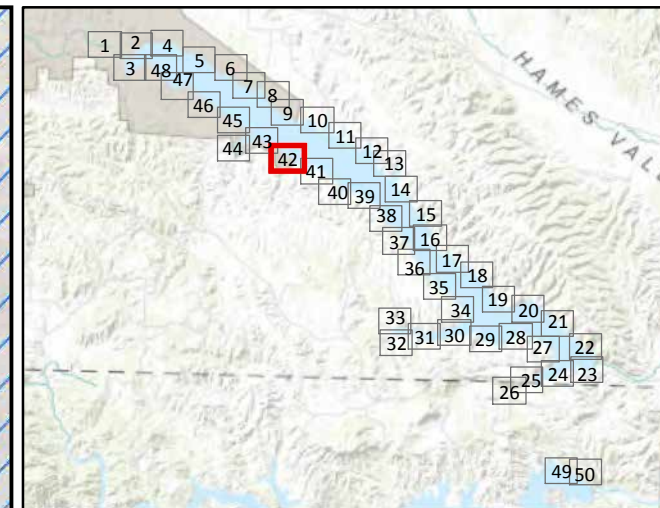
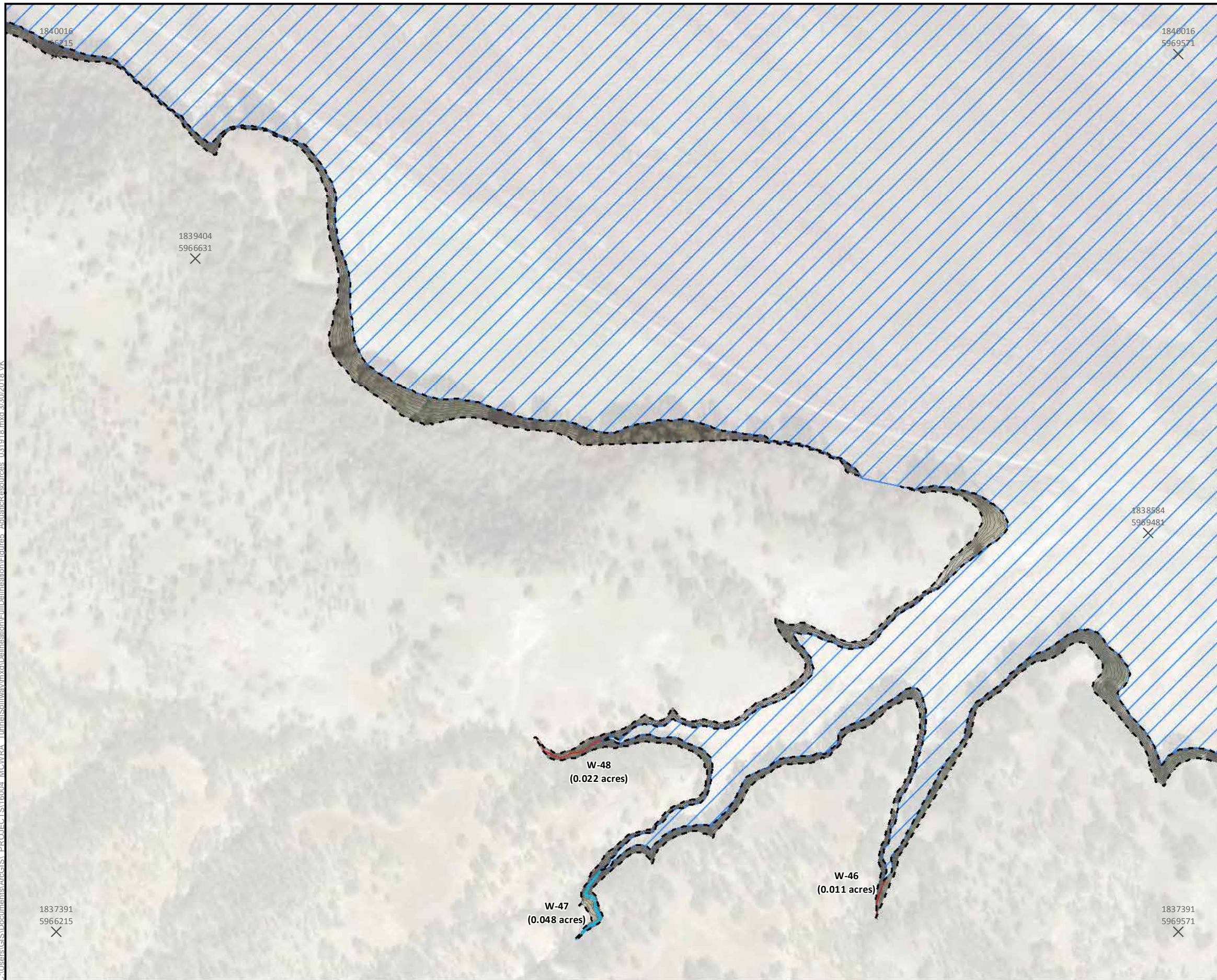
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**Figure 5**  
**Sheet 41 of 50**  
**Aquatic Resources Delineation Map**

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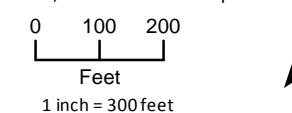
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- X Control Points

Note: Opaque shading indicates land outside of the study area. The study area around San Antonio Reservoir includes the area between the 780- and 788-foot contours, as well as the footprint of construction & access.

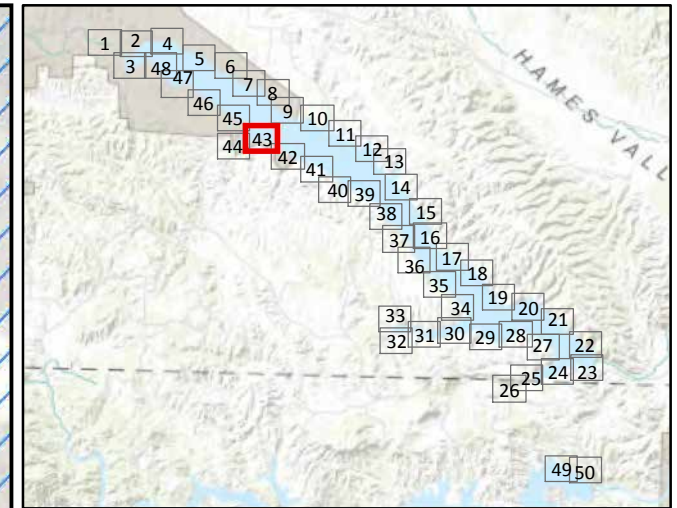
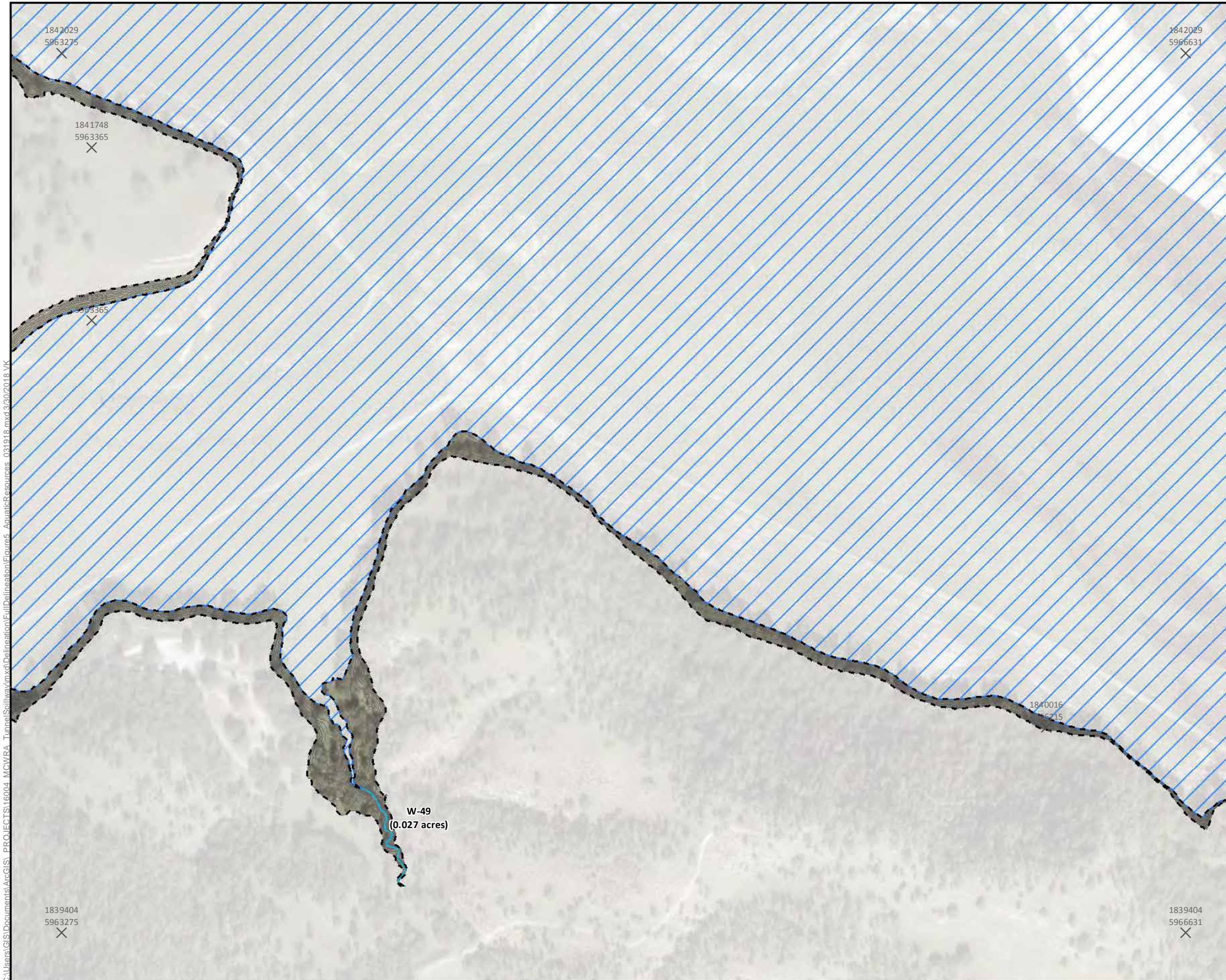


Spatial Reference System: California State Plane Zone 4, feet (NAD83) (2011)  
Vertical Datum: NGVD29  
Imagery Source: ESRI

<p>PREPARED BY:</p> <p><b>Horizon</b> WATER and ENVIRONMENT</p>	<p>266 Grand Ave Suite 210 Oakland CA 94610 510-986-1850</p>	<p>PREPARED FOR:</p> <p>Monterey County Water Resources Agency 1441 Schilling Place, North Building Salinas, CA 93901 (831) 755-4860</p>									
<p>DRAWN BY: R. Hunter R. Hunter, S. Walls, L. Burris &amp; H. Moine DATE OF FIELD WORK: Apr. 24-27 &amp; Nov 20-21, 2017, Mar. 8, 2018</p>	<p>DELINEATION BY: K. Fisher USACE REGULATORY FILE: VERIFIED BY: DATE OF VERIFICATION:</p>										
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">REVISIONS</th> </tr> <tr> <th style="width: 20%;">DATE</th> <th style="width: 60%;">DESCRIPTION</th> <th style="width: 20%;">BY</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>			REVISIONS			DATE	DESCRIPTION	BY			
REVISIONS											
DATE	DESCRIPTION	BY									

**Figure 5**  
**Sheet 42 of 50**  
**Aquatic Resources Delineation Map**

**Interlake Tunnel and  
Spillway Modification Project**



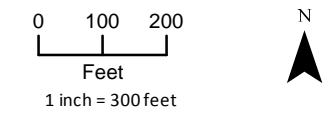
Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,

- Study Area (599 acres)
- Below Maximum Current San Antonio Reservoir Level (<780 ft)
- Sample Point
- 1-ft Contour Lines (780-788 ft)

**Potential Waters of the U.S.**

- Riverine, Ephemeral
- Riverine, Intermittent
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- Palustrine
- Control Points

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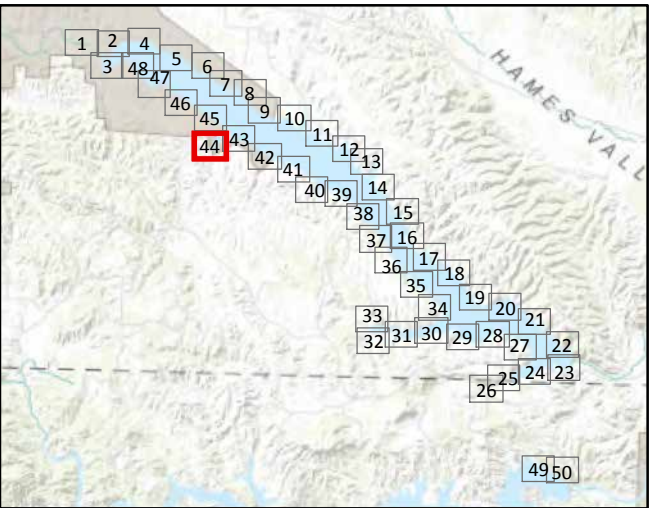
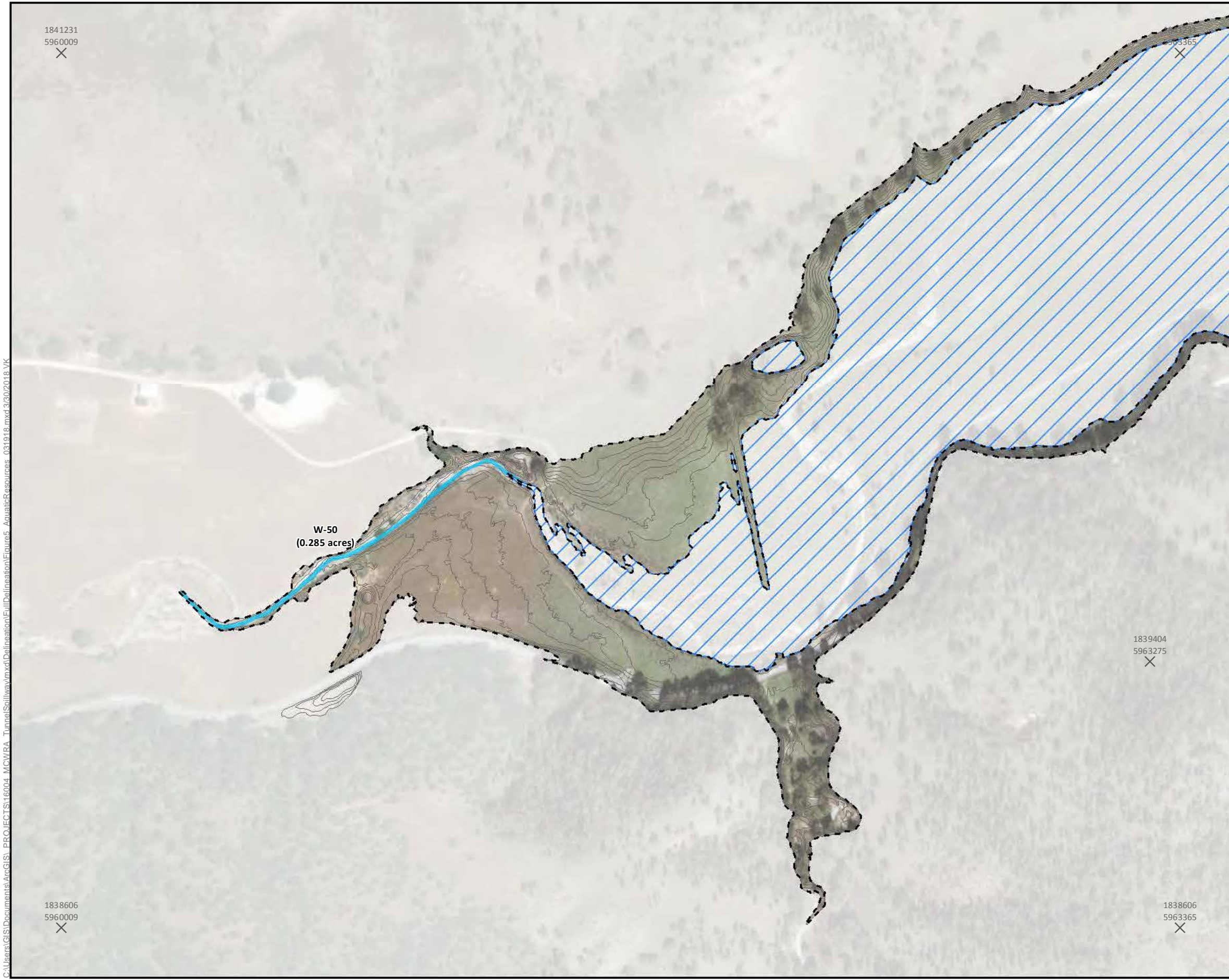


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 Vertical Datum: NGVD29  
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<b>PREPARED BY:</b> <b>Horizon</b> <small>WATER and ENVIRONMENT</small>		<b>PREPARED FOR:</b> Monterey County Water Resources Agency 1441 Schilling Place, North Building Salinas, CA 93901 (831) 755-4860	
<b>DRAWN BY:</b> R. Hunter R. Hunter, S. Walls, L. Burris & H. Moine		<b>USACE REGULATORY FILE:</b> VERIFIED BY: DATE OF VERIFICATION:	
<b>DATE OF FIELD WORK:</b> Apr. 24-27 & Nov 20-21, 2017, Mar. 8, 2018			
REVISIONS			
DATE	DESCRIPTION	BY	

**Figure 5**  
**Sheet 43 of 50**  
**Aquatic Resources Delineation Map**

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Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,

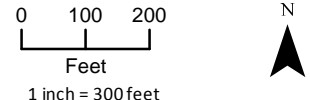
**Legend**

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- Palustrine
- X Control Points

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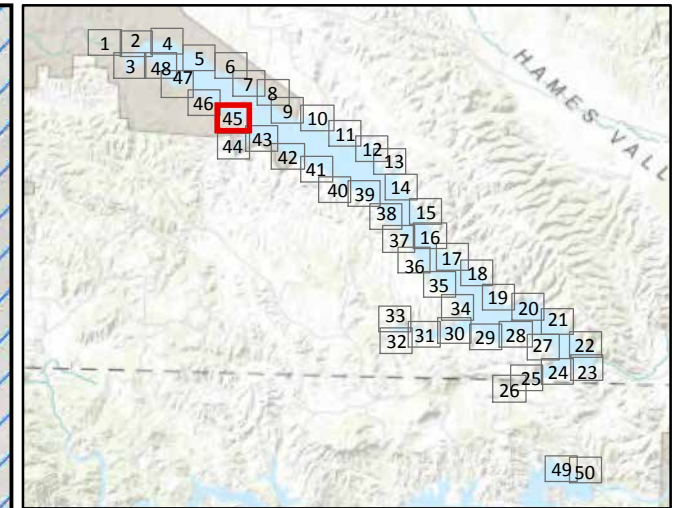
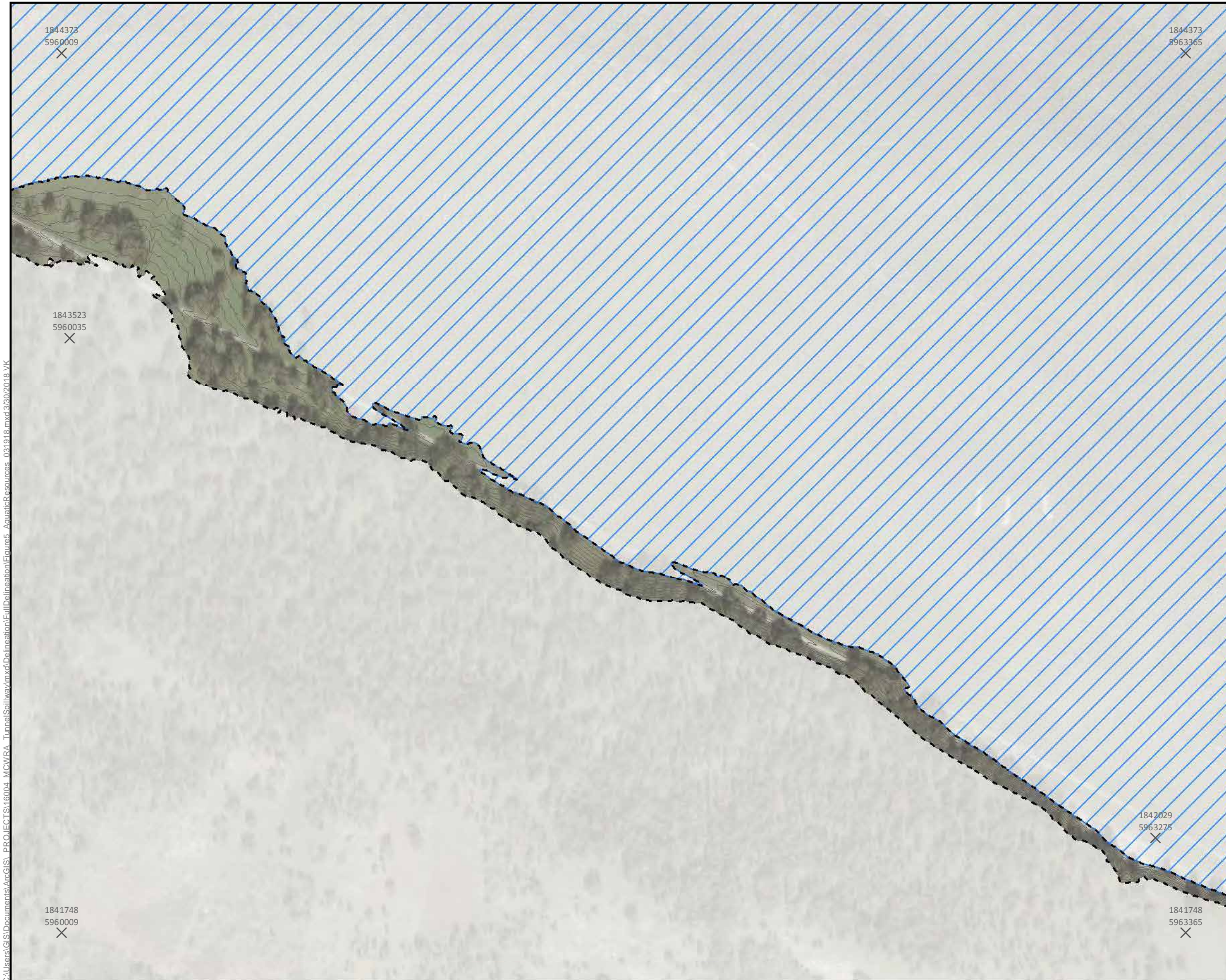


Spatial Reference System: California State Plane Zone 4, feet (NAD83) (2011)  
 Vertical Datum: NGVD29  
 Imagery Source: ESRI

<b>PREPARED BY:</b> <b>Horizon</b> <small>WATER and ENVIRONMENT</small>		266 Grand Ave Suite 210 Oakland CA 94610 510-986-1850	<b>PREPARED FOR:</b> Monterey County Water Resources Agency 1441 Schilling Place, North Building Salinas, CA 93901 (831) 755-4860
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<b>REVISIONS</b>			
DATE	DESCRIPTION	BY	

**Figure 5**  
**Sheet 44 of 50**  
**Aquatic Resources Delineation Map**

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Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,

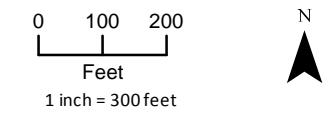
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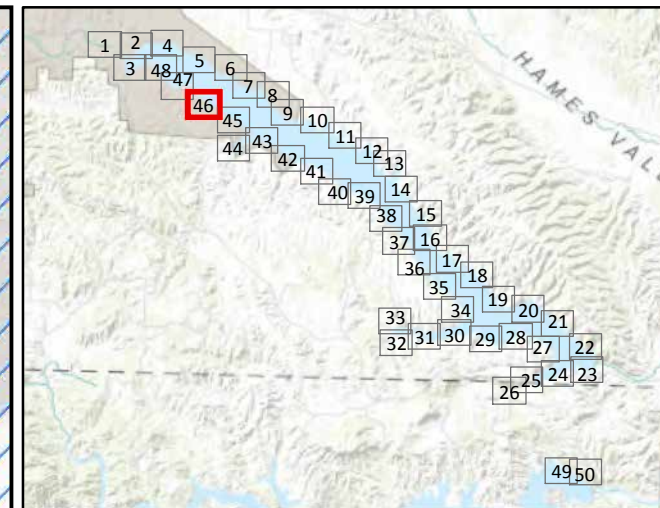
Spatial Reference System: California State Plane Zone 4, feet (NAD83) (2011)  
Vertical Datum: NGVD29  
Imagery Source: ESRI

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<b>DRAWN BY:</b> R. Hunter R. Hunter, S. Walls, L. Burris & H. Moine <b>DATE OF FIELD WORK:</b> Apr. 24-27 & Nov 20-21, 2017, Mar. 8, 2018		<b>USACE REGULATORY FILE:</b> <b>VERIFIED BY:</b> <b>DATE OF VERIFICATION:</b>	
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DATE	DESCRIPTION		BY

**Figure 5**  
**Sheet 45 of 50**  
**Aquatic Resources Delineation Map**

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Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,

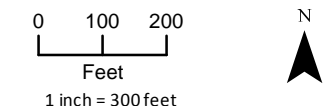
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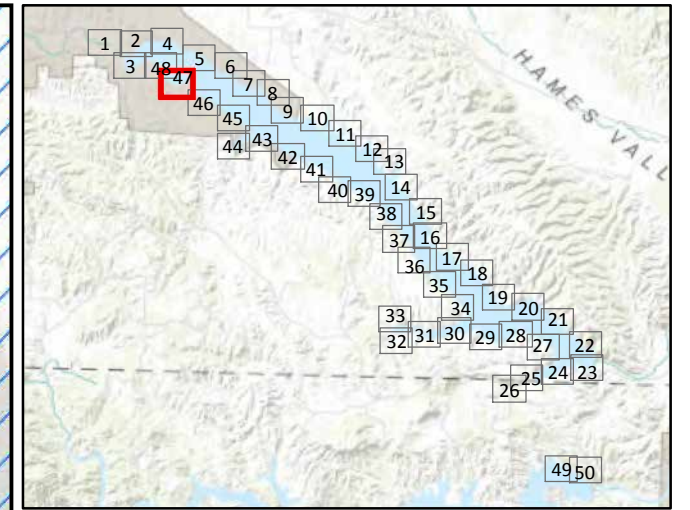


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Vertical Datum: NGVD29  
Imagery Source: ESRI

<b>PREPARED BY:</b> <b>Horizon</b> <small>WATER and ENVIRONMENT</small>		266 Grand Ave Suite 210 Oakland CA 94610 510-986-1850	<b>PREPARED FOR:</b> Monterey County Water Resources Agency 1441 Schilling Place, North Building Salinas, CA 93901 (831) 755-4860
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<b>REVISIONS</b>			
DATE	DESCRIPTION	BY	

**Figure 5**  
**Sheet 46 of 50**  
**Aquatic Resources Delineation Map**

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Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,

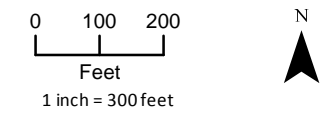
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- Palustrine
- X Control Points

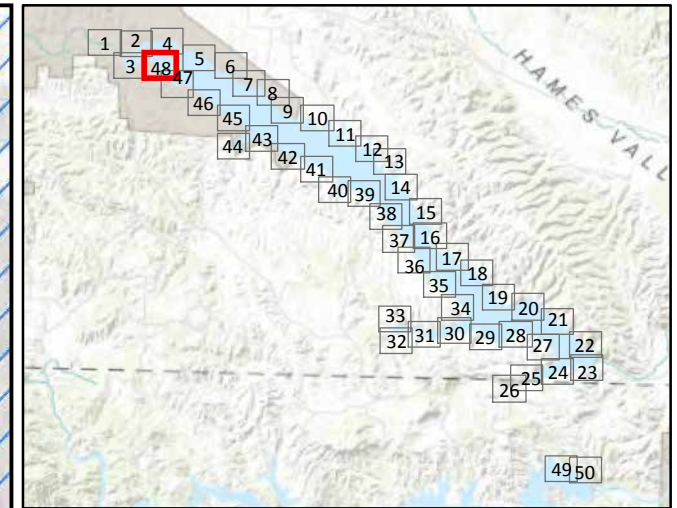
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**Figure 5**  
**Sheet 47 of 50**  
**Aquatic Resources Delineation Map**



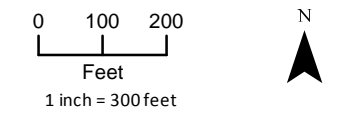
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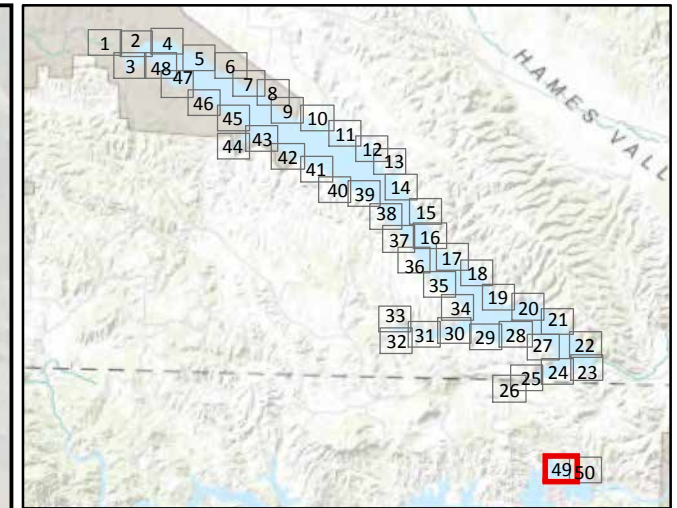
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DATE	DESCRIPTION	BY										

**Figure 5**  
**Sheet 48 of 50**  
**Aquatic Resources Delineation Map**

**Interlake Tunnel and Spillway Modification Project**

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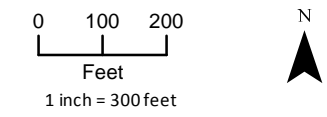
Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,

- Study Area (599 acres)
- Below Maximum Current San Antonio Reservoir Level (<780 ft)
- Sample Point
- Contour Line (800 ft)

**Potential Waters of the U.S.**

- Riverine, Ephemeral
- Riverine, Intermittent
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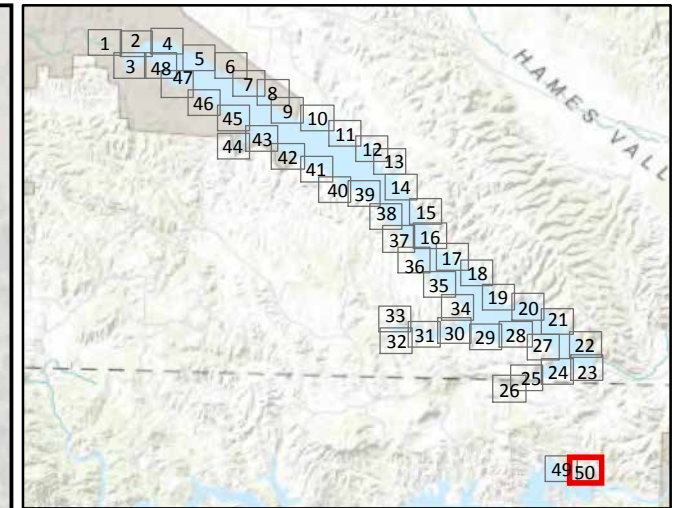
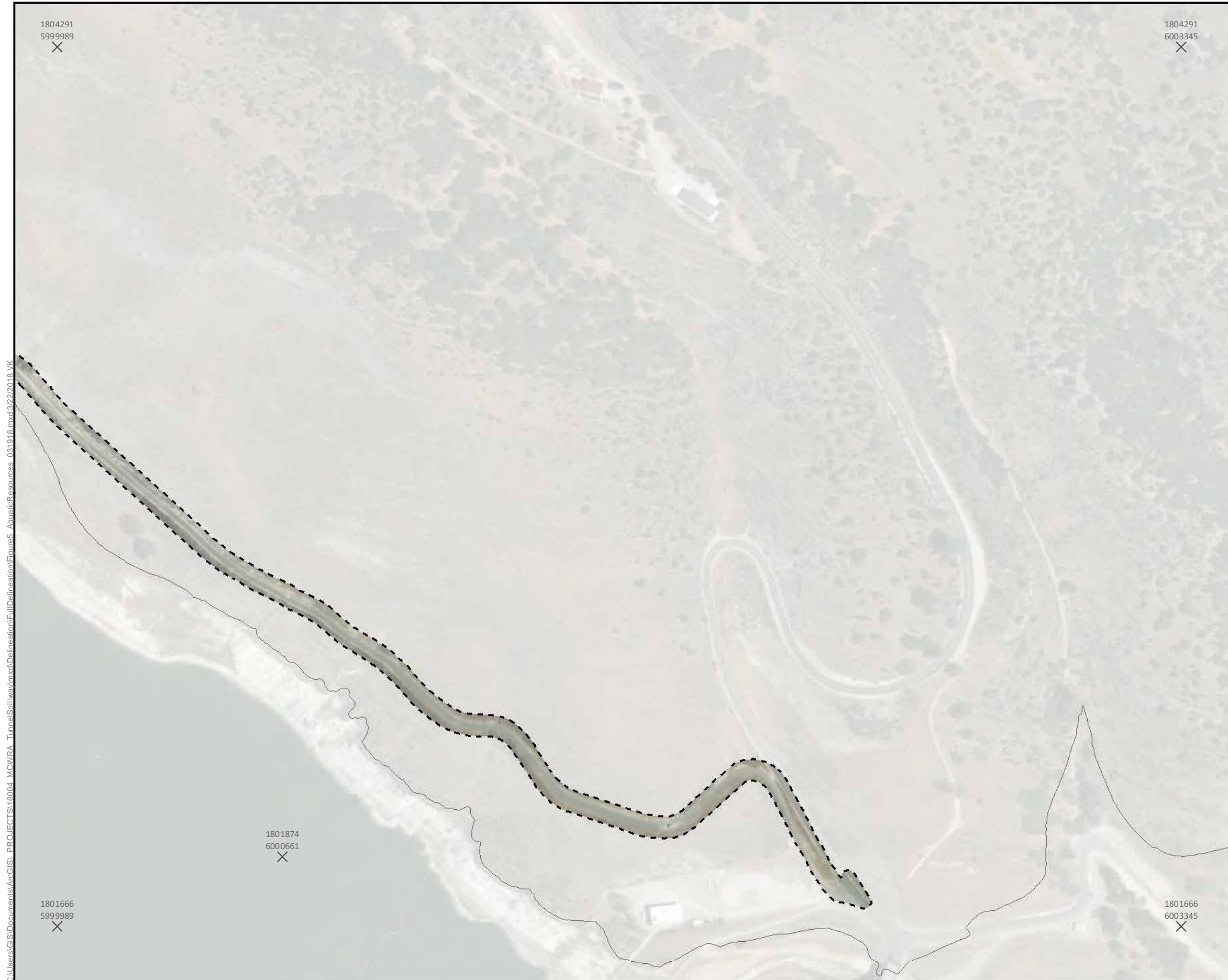
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		<b>REVISIONS</b>			
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**Figure 5**  
**Sheet 49 of 50**  
**Aquatic Resources Delineation Map**

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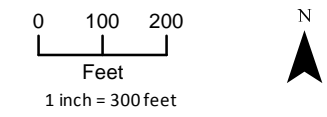
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**Figure 5**  
**Sheet 50 of 50**  
**Aquatic Resources Delineation Map**

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**Appendix A**

**Wetland Determination Data Forms and**

**List of Aquatic Resources**

**WETLAND DETERMINATION DATA FORM - Arid West Region**

Project/Site: Interlake Tunnel City/County: Monterey Sampling Date: 4/25/2017  
 Applicant/Owner: MCWRA State: CA Sampling Point: 01  
 Investigator(s): L. Burris, HLM Section, Township, Range: 25, 23S, 8E  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): slightly concave Slope (%): 0  
 Subregion (LRR): C - Mediterranean California Lat: 35.895696 Long: -121.054803 Datum: WGS84  
 Soil Map Unit Name: Water NWI classification: PSSCh

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <i>Salix lasiandra</i>	2	Yes	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <span style="background-color: #cccccc;">4</span> (A)  Total Number of Dominant Species Across All Strata: <span style="background-color: #cccccc;">5</span> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <span style="background-color: #cccccc;">80.0 %</span> (A/B)																																
2. <i>Salix gooddingii</i>	5	Yes	FACW																																	
3.																																				
4.																																				
Total Cover:	7 %																																			
<b>Sapling/Shrub Stratum</b>				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center" style="background-color: #cccccc;">17</td> <td align="center">x 1 =</td> <td align="center" style="background-color: #cccccc;">0</td> </tr> <tr> <td>FACW species</td> <td align="center" style="background-color: #cccccc;">85</td> <td align="center">x 2 =</td> <td align="center" style="background-color: #cccccc;">34</td> </tr> <tr> <td>FAC species</td> <td align="center" style="background-color: #cccccc;">1</td> <td align="center">x 3 =</td> <td align="center" style="background-color: #cccccc;">255</td> </tr> <tr> <td>FACU species</td> <td align="center" style="background-color: #cccccc;">30</td> <td align="center">x 4 =</td> <td align="center" style="background-color: #cccccc;">4</td> </tr> <tr> <td>UPL species</td> <td align="center" style="background-color: #cccccc;">1</td> <td align="center">x 5 =</td> <td align="center" style="background-color: #cccccc;">150</td> </tr> <tr> <td>Column Totals:</td> <td align="center" style="background-color: #cccccc;">133</td> <td align="center">(A)</td> <td align="center" style="background-color: #cccccc;">443</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <span style="background-color: #cccccc;">3.33</span></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	17	x 1 =	0	FACW species	85	x 2 =	34	FAC species	1	x 3 =	255	FACU species	30	x 4 =	4	UPL species	1	x 5 =	150	Column Totals:	133	(A)	443	Prevalence Index = B/A = <span style="background-color: #cccccc;">3.33</span>			
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Prevalence Index = B/A = <span style="background-color: #cccccc;">3.33</span>																																				
1. <i>Baccharis pilularis</i>	15	Yes	Not Listed																																	
2. <i>Baccharis salicifolia</i>	15	Yes	FAC																																	
3. <i>Sambucus nigra</i>	1	No	FACU																																	
4.																																				
5.																																				
Total Cover:	31 %																																			
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.																																
1. <i>Centaurea melitensis</i>	15	No	Not Listed																																	
2. <i>Conium maculatum</i>	10	No	FACW																																	
3. <i>Dipsacus fullonum</i>	70	Yes	FAC																																	
4.																																				
5.																																				
6.																																				
7.																																				
8.																																				
Total Cover:	95 %																																			
<b>Woody Vine Stratum</b>				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>																																
1.																																				
2.																																				
Total Cover:	%																																			
% Bare Ground in Herb Stratum	5 %	% Cover of Biotic Crust	0 %																																	

Remarks:

**SOIL**

Sampling Point: 01

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-14	10YR4/3	98	10YR5/6	2	C	M	Clayey	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix.    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.  
<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)		<b>Indicators for Problematic Hydric Soils:<sup>4</sup></b> <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

<b>Restrictive Layer (if present):</b> Type: <u>None</u> Depth (inches): _____ Remarks: _____	<b>Hydric Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
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**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (any one indicator is sufficient) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<b>Secondary Indicators (2 or more required)</b> <input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input checked="" type="checkbox"/> Drift Deposits (B3) (Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
--	---	---

<b>Field Observations:</b> Surface Water Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe)    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Arid West Region**

Project/Site: MCWRA City/County: Monterey Sampling Date: 4/25/2017  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: 02  
 Investigator(s): L. Burris, HLM Section, Township, Range: 25, 23S, 8E  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR): C - Mediterranean California Lat: 35.895778 Long: -121.05513 Datum: WGS84  
 Soil Map Unit Name: water NWI classification: PSSCh

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>In Elymus triticoides patch at base of slope</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <u>Populus fremontii</u>	2	Yes	Not Listed	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0 %</u> (A/B)																																
2. _____																																				
3. _____																																				
4. _____																																				
Total Cover: <u>2 %</u>				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td>x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>1</u></td> <td>x 2 =</td> <td align="center"><u>2</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>0</u></td> <td>x 3 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>0</u></td> <td>x 4 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>113</u></td> <td>x 5 =</td> <td align="center"><u>565</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>114</u> (A)</td> <td></td> <td align="center"><u>567</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>4.97</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>1</u>	x 2 =	<u>2</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>113</u>	x 5 =	<u>565</u>	Column Totals:	<u>114</u> (A)		<u>567</u> (B)	Prevalence Index = B/A = <u>4.97</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>0</u>	x 1 =	<u>0</u>																																	
FACW species	<u>1</u>	x 2 =	<u>2</u>																																	
FAC species	<u>0</u>	x 3 =	<u>0</u>																																	
FACU species	<u>0</u>	x 4 =	<u>0</u>																																	
UPL species	<u>113</u>	x 5 =	<u>565</u>																																	
Column Totals:	<u>114</u> (A)		<u>567</u> (B)																																	
Prevalence Index = B/A = <u>4.97</u>																																				
<b>Sapling/Shrub Stratum</b>																																				
1. <u>Quercus douglasii</u>	2	No	Not Listed																																	
2. <u>Baccharis pilularis</u>	5	Yes	Not Listed																																	
3. <u>Eriogonum fasciculatum</u>	5	Yes	Not Listed																																	
4. _____																																				
5. _____																																				
Total Cover: <u>12 %</u>																																				
<b>Herb Stratum</b>																																				
1. <u>Elymus triticoides</u>	97	Yes	Not Listed																																	
2. <u>Brassica nigra</u>	2	No	Not Listed																																	
3. <u>Conium maculatum</u>	1	No	FACW																																	
4. _____																																				
5. _____																																				
6. _____																																				
7. _____																																				
8. _____																																				
Total Cover: <u>100%</u>																																				
<b>Woody Vine Stratum</b>																																				
1. _____																																				
2. _____																																				
Total Cover: _____ %																																				
% Bare Ground in Herb Stratum <u>0 %</u> % Cover of Biotic Crust <u>0 %</u>																																				

**Hydrophytic Vegetation Indicators:**

Dominance Test is >50%  
 Prevalence Index is ≤3.0<sup>1</sup>  
 Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: \_\_\_\_\_

**SOIL**

Sampling Point: 02

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR4/4	96					Silty clay	Top more loamy
	10 YR 6/6	2						
	7.5 YR 3/3	2						

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix.    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.  
<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

<b>Hydic Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <b>(LRR C)</b> <input type="checkbox"/> 1 cm Muck (A9) <b>(LRR D)</b> <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<b>Indicators for Problematic Hydic Soils:<sup>4</sup></b> <input type="checkbox"/> 1 cm Muck (A9) <b>(LRR C)</b> <input type="checkbox"/> 2 cm Muck (A10) <b>(LRR B)</b> <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

<b>Restrictive Layer (if present):</b> Type: <u>None</u> Depth (inches): _____	<b>Hydic Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
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Remarks: Earthworms in soil, cobble layer approximately 6" down - rocks rounded, riverine

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (any one indicator is sufficient) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <b>(Nonriverine)</b> <input type="checkbox"/> Sediment Deposits (B2) <b>(Nonriverine)</b> <input type="checkbox"/> Drift Deposits (B3) <b>(Nonriverine)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<b>Secondary Indicators (2 or more required)</b> <input type="checkbox"/> Water Marks (B1) <b>(Riverine)</b> <input type="checkbox"/> Sediment Deposits (B2) <b>(Riverine)</b> <input type="checkbox"/> Drift Deposits (B3) <b>(Riverine)</b> <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe)    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Arid West Region**

Project/Site: Interlake Tunnel City/County: Monterey Sampling Date: 4/25/2017  
 Applicant/Owner: MCWRA State: CA Sampling Point: 03  
 Investigator(s): L. Burris, HLM Section, Township, Range: 25, 23S, 8E  
 Landform (hillslope, terrace, etc.): river bottom terrace Local relief (concave, convex, none): slightly convex Slope (%): 1  
 Subregion (LRR): C - Mediterranean California Lat: 35.895204 Long: -121.059442 Datum: WGS84  
 Soil Map Unit Name: Water NWI classification: L2EM2Fh

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1.				
2.				
3.				
4.				
Total Cover:				
<b>Sapling/Shrub Stratum</b>				
1.				
2.				
3.				
4.				
5.				
Total Cover:				
<b>Herb Stratum</b>				
1. <i>Conium maculatum</i>	90	Yes	FACW	
2. <i>Juncus mexicanus</i>	3	No	FACW	
3. <i>Elymus triticoides</i>	2	No	Not Listed	
4. <i>Brassica nigra</i>	3	No	Not Listed	
5. <i>Melilotus indicus</i>	2	No	FACU	
6.				
7.				
8.				
Total Cover:	100%			
<b>Woody Vine Stratum</b>				
1.				
2.				
Total Cover:				
% Bare Ground in Herb Stratum	0 %	% Cover of Biotic Crust	0 %	

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

**Prevalence Index worksheet:**

Total % Cover of:		Multiply by:	
OBL species	<u>1</u>	x 1 =	<u>1</u>
FACW species	<u>93</u>	x 2 =	<u>186</u>
FAC species	<u>0</u>	x 3 =	<u>0</u>
FACU species	<u>2</u>	x 4 =	<u>8</u>
UPL species	<u>5</u>	x 5 =	<u>25</u>
Column Totals:	<u>100</u> (A)		<u>219</u> (B)
Prevalence Index = B/A =			<u>2.19</u>

**Hydrophytic Vegetation Indicators:**

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:

**SOIL**

Sampling Point: 03

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>		
0-14	10YR4/3	100				Silty loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix.    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.  
<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<b>Indicators for Problematic Hydric Soils:<sup>4</sup></b> <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____ Remarks: _____	<b>Hydric Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
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**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (any one indicator is sufficient) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<b>Secondary Indicators (2 or more required)</b> <input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input type="checkbox"/> Drift Deposits (B3) (Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe)    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



**WETLAND DETERMINATION DATA FORM - Arid West Region**

Project/Site: Interlake Tunnel City/County: Monterey Sampling Date: 4/25/2017  
 Applicant/Owner: MCWRA State: CA Sampling Point: 04  
 Investigator(s): L. Burris, HLM Section, Township, Range: 25, 23S, 8E  
 Landform (hillslope, terrace, etc.): river lowland floodplain Local relief (concave, convex, none): concave Slope (%): 1  
 Subregion (LRR): C - Mediterranean California Lat: 35.89511 Long: -121.059764 Datum: WGS84  
 Soil Map Unit Name: Water NWI classification: L2EM2Fh

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1.				
2.				
3.				
4.				
Total Cover:				
<b>Sapling/Shrub Stratum</b>				
1.				
2.				
3.				
4.				
5.				
Total Cover:				
<b>Herb Stratum</b>				
1. <i>Juncus mexicanus</i>	90		FACW	
2. <i>Centaurea solstitialis</i>	4		Not Listed	
3. <i>Bromus tectorum</i>	2		Not Listed	
4. <i>Dipsacus fullonum</i>	2		FAC	
5. <i>Conium maculatum</i>	1		FACW	
6. <i>Elymus triticoides</i>	1		Not Listed	
7.				
8.				
Total Cover:	100%			
<b>Woody Vine Stratum</b>				
1.				
2.				
Total Cover:				
% Bare Ground in Herb Stratum	0 %	% Cover of Biotic Crust	0 %	

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 % (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:	
OBL species	x 1 =	<u>0</u>
FACW species	x 2 =	<u>182</u>
FAC species	x 3 =	<u>6</u>
FACU species	x 4 =	<u>0</u>
UPL species	x 5 =	<u>35</u>
Column Totals:		<u>223</u> (B)
Prevalence Index = B/A =		<u>2.23</u>

**Hydrophytic Vegetation Indicators:**

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:

**SOIL**

Sampling Point: 04

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	2.5Y3/3	50					Silty Loam	Soil has two matrix colors
	10YR4/4	50					Silty Loam	Soil has two matrix colors

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.  
<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)		<b>Indicators for Problematic Hydric Soils:<sup>4</sup></b> <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)	
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<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks: Dense mat of JUNMEX roots within first couple inches

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (any one indicator is sufficient)		Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input type="checkbox"/> Drift Deposits (B3) (Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)	

**Field Observations:**

Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____
Water Table Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____

**Wetland Hydrology Present?** Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Arid West Region**

Project/Site: Interlake Tunnel City/County: Monterey Sampling Date: 4/26/2017  
 Applicant/Owner: MCWRA State: CA Sampling Point: 6  
 Investigator(s): L. Burris, HLM Section, Township, Range: 36, 23S, 8E  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR): C - Mediterranean California Lat: 35.891398 Long: -121.063994 Datum: WGS84  
 Soil Map Unit Name: water NWI classification: PSS/EM1Ch

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>Within swale area west of SP05. Area dominated by Salix exigua shrubland.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1.				
2.				
3.				
4.				
Total Cover:				
<b>Sapling/Shrub Stratum</b>				
1. <i>Salix exigua</i>	65	Yes	FACW	
2.				
3.				
4.				
5.				
Total Cover:	65 %			
<b>Herb Stratum</b>				
1. <i>Artemisia douglasiana</i>	35	Yes	FAC	
2. <i>Elymus triticoides</i>	5	No	FAC	
3. <i>Anthriscus caucalis</i>	35	Yes	Not Listed	
4. <i>Festuca myuros</i>	5	No	FACU	
5. <i>Bromus hordeaceus</i>	2	No	FACU	
6.				
7.				
8.				
Total Cover:	82 %			
<b>Woody Vine Stratum</b>				
1.				
2.				
Total Cover:				
% Bare Ground in Herb Stratum	6 %	% Cover of Biotic Crust	12 %	

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 % (A/B)

**Prevalence Index worksheet:**

Total % Cover of:		Multiply by:	
OBL species	<u>        </u>	x 1 =	<u>0</u>
FACW species	<u>65</u>	x 2 =	<u>130</u>
FAC species	<u>40</u>	x 3 =	<u>120</u>
FACU species	<u>7</u>	x 4 =	<u>28</u>
UPL species	<u>35</u>	x 5 =	<u>175</u>
Column Totals:	<u>147</u>	(A)	<u>453</u> (B)
Prevalence Index = B/A =			<u>3.08</u>

**Hydrophytic Vegetation Indicators:**

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:

**SOIL**

Sampling Point: 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-8	7.5YR3/3	100					Sandy loam	
8-14	7.5YR3/3	95	5YR4/6	5	C	M	Sandy loam	Location M & PL

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix.    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.  
<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<p><b>Indicators for Problematic Hydric Soils:<sup>4</sup></b></p> <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

<p><b>Restrictive Layer (if present):</b></p> Type: <u>None</u> Depth (inches): _____ Remarks: _____	<p><b>Hydric Soil Present?</b>    Yes <input type="radio"/>    No <input checked="" type="radio"/></p>
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**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p>Primary Indicators (any one indicator is sufficient)</p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<p>Secondary Indicators (2 or more required)</p> <input type="checkbox"/> Water Marks (B1) (Riverine) <input checked="" type="checkbox"/> Sediment Deposits (B2) (Riverine) <input type="checkbox"/> Drift Deposits (B3) (Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
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<p><b>Field Observations:</b></p> Surface Water Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe)    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	<p><b>Wetland Hydrology Present?</b>    Yes <input type="radio"/>    No <input checked="" type="radio"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Arid West Region**

Project/Site: Interlake Tunnel City/County: Monterey Sampling Date: 4/26/2017  
 Applicant/Owner: MCWRA State: CA Sampling Point: 07  
 Investigator(s): L. Burris, HLM Section, Township, Range: 36, 23S, 8E  
 Landform (hillslope, terrace, etc.): Lowland River Bed Local relief (concave, convex, none): Concave Slope (%): 1  
 Subregion (LRR): C - Mediterranean California Lat: 35.890784 Long: -121.063834 Datum: WGS84  
 Soil Map Unit Name: Water NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>Small mammal burrows</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	0 (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	0 (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	0 % (A/B)
4. _____	_____	_____	_____		
Total Cover: _____ %					
Sapling/Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Prevalence Index worksheet:</b>	
1. _____	_____	_____	_____	Total % Cover of:	Multiply by:
2. _____	_____	_____	_____	OBL species _____	x 1 = 0
3. _____	_____	_____	_____	FACW species _____	x 2 = 0
4. _____	_____	_____	_____	FAC species 10	x 3 = 30
5. _____	_____	_____	_____	FACU species 40	x 4 = 160
Total Cover: _____ %					
			UPL species 30		
			Column Totals: 80 (A) 340 (B)		
			Prevalence Index = B/A = 4.25		
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b>	
1. <i>Lasthenia californica</i>	40		FACU	<input checked="" type="checkbox"/> Dominance Test is >50%	
2. <i>Lupinus nanus</i>	5		Not Listed	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
3. <i>Acmispon wrangelianus</i>	5		Not Listed	<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
4. <i>Pseudognaphalium luteoalbum</i>	10		FAC	<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
5. <i>Hypochaeris glabra</i>	5		Not Listed	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
6. <i>Erodium cicutarium</i>	5		Not Listed		
7. <i>Bromus madritensis</i>	10		UPL		
8. _____	_____	_____	_____		
Total Cover: 80 %					
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Present?</b>	
1. _____	_____	_____	_____	Yes <input type="radio"/>	No <input checked="" type="radio"/>
2. _____	_____	_____	_____		
Total Cover: _____ %					
% Bare Ground in Herb Stratum 0 %		% Cover of Biotic Crust 25 %			

Remarks:

**SOIL**

Sampling Point: 07

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR3/3	100					Sandy loam	
6-16	10YR3/4	100					Sandy	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix.    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.  
<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <b>(LRR C)</b> <input type="checkbox"/> 1 cm Muck (A9) <b>(LRR D)</b> <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<p><b>Indicators for Problematic Hydric Soils:<sup>4</sup></b></p> <input type="checkbox"/> 1 cm Muck (A9) <b>(LRR C)</b> <input type="checkbox"/> 2 cm Muck (A10) <b>(LRR B)</b> <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present?    Yes     No

Remarks: Top layer more consolidated, more difficult to dig pit

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p>Primary Indicators (any one indicator is sufficient)</p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <b>(Nonriverine)</b> <input type="checkbox"/> Sediment Deposits (B2) <b>(Nonriverine)</b> <input type="checkbox"/> Drift Deposits (B3) <b>(Nonriverine)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input checked="" type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary Indicators (2 or more required)</u></p> <input type="checkbox"/> Water Marks (B1) <b>(Riverine)</b> <input type="checkbox"/> Sediment Deposits (B2) <b>(Riverine)</b> <input type="checkbox"/> Drift Deposits (B3) <b>(Riverine)</b> <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
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**Field Observations:**

Surface Water Present?    Yes     No     Depth (inches): \_\_\_\_\_

Water Table Present?    Yes     No     Depth (inches): \_\_\_\_\_

Saturation Present? (includes capillary fringe)    Yes     No     Depth (inches): \_\_\_\_\_

**Wetland Hydrology Present?**    Yes     No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Arid West Region**

Project/Site: Interlake Tunnel City/County: Monterey Sampling Date: 4/27/2017  
 Applicant/Owner: MCWRA State: CA Sampling Point: 08  
 Investigator(s): L. Burris, HLM Section, Township, Range: 35, 23S, 8E  
 Landform (hillslope, terrace, etc.): Bottomland Local relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR): C - Mediterranean California Lat: 35.885971 Long: -121.065546 Datum: WGS84  
 Soil Map Unit Name: Mocho silt loam, 0 to 2 percent slopes, MLRA 14 NWI classification: PEM1/SSCh

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>In CONMAC Patch south of River, north of Interlake Road</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: _____ %				
Herb Stratum				
1. <u>Conium maculatum</u>	95	Yes	FACW	
2. <u>Brassica nigra</u>	10	No	Not Listed	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: <b>105%</b>				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum <u>0 %</u>	%		% Cover of Biotic Crust <u>0 %</u>	%

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

**Prevalence Index worksheet:**

	Total % Cover of:		Multiply by:	
OBL species	_____	x 1 =	_____	0
FACW species	95	x 2 =	190	
FAC species	_____	x 3 =	0	
FACU species	_____	x 4 =	0	
UPL species	10	x 5 =	50	
Column Totals:	105	(A)	240	(B)
Prevalence Index = B/A =				2.29

**Hydrophytic Vegetation Indicators:**

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:

**SOIL**

Sampling Point: 08

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-14	10YR3/3	98	7.5YR6/8	2	C	PL	Silty loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix.    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.  
<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<b>Indicators for Problematic Hydric Soils:<sup>4</sup></b> <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

<b>Restrictive Layer (if present):</b> Type: <u>None</u> Depth (inches): _____ Remarks: _____	<b>Hydric Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
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**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (any one indicator is sufficient) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<b>Secondary Indicators (2 or more required)</b> <input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input type="checkbox"/> Drift Deposits (B3) (Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe)    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Interlake Tunnel City/County: Monterey Sampling Date: 11/20/17  
 Applicant/Owner: MCWRA State: CA Sampling Point: 9  
 Investigator(s): Kevin Fisher, Scott Walls, Robin Hunter Section, Township, Range: 36, 23S, 8E  
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): <1  
 Subregion (LRR): C Lat: 35.891117 Long: -121.064456 Datum: WGS84  
 Soil Map Unit Name: Water NWI classification: PSS/EM1Ch

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:	

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: <u>3m radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Quercus lobata</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>30</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>3m radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Rosa californica</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
2. <u>Salix exigua</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>40</u> = Total Cover				
Herb Stratum (Plot size: <u>1m radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Carex barbarae</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>50</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>3m radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>NA</u>	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>50</u> % Cover of Biotic Crust _____				
Remarks:				

**SOIL**

Sampling Point: 9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-2	10 YR 3/2	100					loam	
2-13	10 YR 3/3	100					sandy loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Saturation Present? (includes capillary fringe) Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes \_\_\_\_\_ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Interlake Tunnel City/County: Monterey Sampling Date: 11/20/17  
 Applicant/Owner: MCWRA State: CA Sampling Point: 9  
 Investigator(s): Kevin Fisher, Scott Walls, Robin Hunter Section, Township, Range: 35, 23S, 8E  
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): <1  
 Subregion (LRR): C Lat: 35.890556 Long: -121.065559 Datum: WGS84  
 Soil Map Unit Name: water NWI classification: PSS/EM1Ch

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Pig activity	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>3m radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>NA</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____				
3. _____				
4. _____				
<u>30</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum (Plot size: <u>3m radius</u>)</b>				
1. <u>Rosa californica</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>	
2. _____				
3. _____				
4. _____				
5. _____				
<u>2</u> = Total Cover				
<b>Herb Stratum (Plot size: <u>1m radius</u>)</b>				
1. <u>Carex barbarae</u>	<u>70</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. <u>Artemisia douglasiana</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
<u>75</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>3m radius</u>)</b>				
1. <u>NA</u>				
2. _____				
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>25</u> % Cover of Biotic Crust _____				
Remarks:				

Remarks:



**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Interlake Tunnel City/County: Monterey Sampling Date: 11/20/17  
 Applicant/Owner: MCWRA State: CA Sampling Point: 10  
 Investigator(s): Kevin Fisher, Scott Walls, Robin Hunter Section, Township, Range: 36, 23S, 8E  
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1  
 Subregion (LRR): C Lat: 35.887996 Long: -121.063363 Datum: WGS84  
 Soil Map Unit Name: Corducci-Typic Xerofluvents, 0 to 5 percent slopes, occasionally flooded NWI classification: PSSCh

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Signs of inundation, seasonal ponding. Depression.	

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: <u>3m radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Qercus lobata</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>10</u> = Total Cover				
<b>Sapling/Shrub Stratum (Plot size: <u>3m radius</u>)</b>				
1. <u>NA</u>	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species _____ x 5 = _____ Column Totals: <u>15</u> (A) <u>55</u> (B) Prevalence Index = B/A = <u>3.6</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
<b>Herb Stratum (Plot size: <u>1m radius</u>)</b>				
1. <u>Apocynum cannabinum</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>5</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>3m radius</u>)</b>				
1. <u>NA</u>	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>95</u> % Cover of Biotic Crust _____				

Remarks:  
 Apocynum cannabinum lost leaves for the season.



## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Interlake Tunnel City/County: Monterey Sampling Date: 11/21/17  
 Applicant/Owner: MCWRA State: CA Sampling Point: 11  
 Investigator(s): Kevin Fisher, Robin Hunter Section, Township, Range: 15. 24S, 9E  
 Landform (hillslope, terrace, etc.): borrow area Local relief (concave, convex, none): concave Slope (%): <1  
 Subregion (LRR): C Lat: 35.849375 Long: -120.983669 Datum: WGS84  
 Soil Map Unit Name: Los Osos clay loam, 30 to 50 percent slopes, MLRA 15 NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Soils heavily disturbed by cattle. Borrow area subject to ponding.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>3m radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>NA</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2. _____				
3. _____				
4. _____				
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>2</u> x 2 = <u>4</u> FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species <u>5</u> x 5 = <u>25</u> Column Totals: <u>7</u> (A) <u>29</u> (B) Prevalence Index = B/A = <u>4.1</u>
<u>0</u> = Total Cover				
<b>Sapling/Shrub Stratum (Plot size: <u>3m radius</u>)</b>				
1. <u>NA</u>				
2. _____				
3. _____				
4. _____				
5. _____				
<u>0</u> = Total Cover				
<b>Herb Stratum (Plot size: <u>1m radius</u>)</b>				
1. <u>Croton setiger</u>	<u>5</u>	<u>Y</u>	<u>NL</u>	
2. <u>Phyla nodiflora</u>	<u>2</u>	<u>Y</u>	<u>FACW</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
<u>7</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>3m radius</u>)</b>				
1. <u>NA</u>				
2. _____				
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>93</u>		% Cover of Biotic Crust _____		
Remarks: Vegetation disturbed by trampling.				
<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)				
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				

**SOIL**

Sampling Point: 11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-9.5	10 YR 4/2	>99	2.5 YR 3/6	<1	C	M	loamy clay	pebbles 20%

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)
	<input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes _____ No <input checked="" type="checkbox"/>
--	--

Remarks:  
Soil disturbed by cattle and pigs.

**HYDROLOGY**

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input type="checkbox"/> Drift Deposits (B3) (Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)

<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  
  
Remarks:



## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Interlake Tunnel City/County: San Luis Obispo Sampling Date: 3/8/2018  
 Applicant/Owner: MCWRA State: CA Sampling Point: 12a  
 Investigator(s): Robin Hunter Section, Township, Range: S9 T25S R10E  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 5  
 Subregion (LRR): C Lat: 35.766159 Long: -120.898294 Datum: WGS84  
 Soil Map Unit Name: water NWI classification: L2UBFh

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Beneath maximum reservoir level of Nacimiento Reservoir	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>3m radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>NA</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2. _____				
3. _____				
4. _____				
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>10</u> x 3 = <u>30</u> FACU species _____ x 4 = _____ UPL species <u>20</u> x 5 = <u>100</u> Column Totals: <u>30</u> (A) <u>130</u> (B) Prevalence Index = B/A = <u>4.3</u>
<b>Sapling/Shrub Stratum (Plot size: <u>3m radius</u>)</b>				
1. <u>NA</u>				
2. _____				
3. _____				
4. _____				
5. _____				
<u>0</u> = Total Cover				
<b>Herb Stratum (Plot size: <u>1m radius</u>)</b>				
1. <u>Hirschfeldia incana</u>	<u>20</u>	<u>Y</u>	<u>NL</u>	
2. <u>Medicago lupulina</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
<u>30</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>3m radius</u>)</b>				
1. <u>NA</u>				
2. _____				
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>70</u>		% Cover of Biotic Crust <u>0</u>		

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:



**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Interlake Tunnel City/County: San Luis Obispo Sampling Date: 3/8/2018  
 Applicant/Owner: MCWRA State: CA Sampling Point: 12b  
 Investigator(s): Robin Hunter Section, Township, Range: S9 T25S R10E  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 1  
 Subregion (LRR): C Lat: 35.766226 Long: -120.898262 Datum: WGS84  
 Soil Map Unit Name: Balcom-Calleguas complex, 50-75% slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Above maximum reservoir level of Nacimiento Reservoir	

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: <u>3m radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>NA</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2. _____				
3. _____				
4. _____				
	<u>0</u>	= Total Cover		
<b>Sapling/Shrub Stratum (Plot size: <u>3m radius</u>)</b>				
1. <u>NA</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____				
3. _____				
4. _____				
5. _____				
<b>Herb Stratum (Plot size: <u>1m radius</u>)</b>				
1. <u>Hirschfeldia incana</u>	<u>25</u>	<u>Y</u>	<u>NL</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. <u>Medicago lupulina</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Bromus diandrus</u>	<u>20</u>	<u>Y</u>	<u>NL</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
	<u>55</u>	= Total Cover		
<b>Woody Vine Stratum (Plot size: <u>3m radius</u>)</b>				
1. <u>NA</u>				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____				
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>45</u> % Cover of Biotic Crust <u>0</u>				
Remarks:				

**Hydrophytic Vegetation Present?** Yes  No



**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Interlake Tunnel City/County: San Luis Obispo Sampling Date: 3/8/2018  
 Applicant/Owner: MCWRA State: CA Sampling Point: 13a  
 Investigator(s): Robin Hunter Section, Township, Range: S33 T24S R10E  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 1  
 Subregion (LRR): C Lat: 35.796054 Long: -120.897449 Datum: WGS84  
 Soil Map Unit Name: water NWI classification: L2UBFh

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Below maximum reservoir level of San Antonio Reservoir	

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: <u>3m radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>NA</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)
2. _____				
3. _____				
4. _____				
	<u>0</u>	= Total Cover		
<b>Sapling/Shrub Stratum (Plot size: <u>3m radius</u>)</b>				
1. <u>Baccharis salicifolia</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
2. _____				
3. _____				
4. _____				
5. _____				
	<u>5</u>	= Total Cover		
<b>Herb Stratum (Plot size: <u>1m radius</u>)</b>				
1. <u>Melilotus indicus</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. <u>Cirsium vulgare</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Rumex crispus</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
	<u>17</u>	= Total Cover		
<b>Woody Vine Stratum (Plot size: <u>3m radius</u>)</b>				
1. <u>NA</u>				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____				
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>83</u> % Cover of Biotic Crust <u>0</u>				
<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				
Remarks:				



**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Interlake Tunnel City/County: San Luis Obispo Sampling Date: 3/8/2018  
 Applicant/Owner: MCWRA State: CA Sampling Point: 13b  
 Investigator(s): Robin Hunter Section, Township, Range: S33 T24S R10E  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 1  
 Subregion (LRR): C Lat: 35.795866 Long: -120.897491 Datum: WGS84  
 Soil Map Unit Name: Santa Lucia-Reliz association NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Above maximum reservoir level of San Antonio Reservoir	

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: <u>3m radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Quercus douglasii</u>	<u>10</u>	<u>Y</u>	<u>NL</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>10</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>3m radius</u> )				
1. <u>NA</u>	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>1m radius</u> )				
1. <u>Festuca myuros = Vulpia myuros</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Pseudognaphalium microcephalum</u>	<u>20</u>	<u>Y</u>	<u>NL</u>	
3. <u>Sanicula sp.</u>	<u>3</u>	<u>N</u>	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>33</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>3m radius</u> )				
1. <u>NA</u>	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>67</u> % Cover of Biotic Crust <u>0</u>				

Remarks:





**Appendix A**  
ORM Upload Sheet

Waters_Name	State	Cowardin_Code	HGM_Code	Meas_Type	Amount	Units	Waters_Type	Latitude	Longitude
W-1	CALIFORNIA	R4SB		Area	20.777878	ACRE	DELINEATE	35.891583	-121.067616
W-2	CALIFORNIA	R6		Area	0.006068	ACRE	DELINEATE	35.895930	-121.055285
W-3	CALIFORNIA	R4SB		Area	0.134103	ACRE	DELINEATE	35.897625	-121.052809
W-4	CALIFORNIA	R6		Area	0.01246	ACRE	DELINEATE	35.896148	-121.049106
W-5	CALIFORNIA	R6		Area	0.010987	ACRE	DELINEATE	35.896115	-121.048073
W-6	CALIFORNIA	R6		Area	0.052952	ACRE	DELINEATE	35.891791	-121.030095
W-7	CALIFORNIA	R6		Area	0.047688	ACRE	DELINEATE	35.886253	-121.017068
W-8n	CALIFORNIA	R4SB		Area	0.054624	ACRE	DELINEATE	35.883683	-121.013298
W-8s	CALIFORNIA	R6		Area	0.004661	ACRE	DELINEATE	35.881426	-121.013305
W-9	CALIFORNIA	R6		Area	0.003143	ACRE	DELINEATE	35.881745	-121.011864
W-10	CALIFORNIA	R6		Area	0.019959	ACRE	DELINEATE	35.882080	-121.009959
W-11	CALIFORNIA	R6		Area	0.02388	ACRE	DELINEATE	35.876225	-121.004975
W-12	CALIFORNIA	R6		Area	0.021837	ACRE	DELINEATE	35.877005	-121.002950
W-13a	CALIFORNIA	R6		Area	0.005542	ACRE	DELINEATE	35.871536	-120.985193
W-13b	CALIFORNIA	R6		Area	0.001449	ACRE	DELINEATE	35.871259	-120.985429
W-14	CALIFORNIA	R6		Area	0.003015	ACRE	DELINEATE	35.870946	-120.983015
W-15	CALIFORNIA	R6		Area	0.00091	ACRE	DELINEATE	35.870577	-120.982226
W-16	CALIFORNIA	R6		Area	0.005424	ACRE	DELINEATE	35.868886	-120.980247
W-17a	CALIFORNIA	R6		Area	0.002888	ACRE	DELINEATE	35.867813	-120.978316
W-17b	CALIFORNIA	R6		Area	0.000018	ACRE	DELINEATE	35.867532	-120.978583
W-18a	CALIFORNIA	R6		Area	0.005535	ACRE	DELINEATE	35.867361	-120.974667
W-18b	CALIFORNIA	R6		Area	0.012539	ACRE	DELINEATE	35.867136	-120.974786
W-18c	CALIFORNIA	R6		Area	0.004459	ACRE	DELINEATE	35.866826	-120.975030
W-19	CALIFORNIA	R4SB		Area	0.005942	ACRE	DELINEATE	35.866879	-120.971230
W-20a	CALIFORNIA	R6		Area	0.032045	ACRE	DELINEATE	35.863537	-120.967829
W-20b	CALIFORNIA	R6		Area	0.007735	ACRE	DELINEATE	35.862775	-120.968261
W-21	CALIFORNIA	R6		Area	0.003392	ACRE	DELINEATE	35.849626	-120.954477
W-22	CALIFORNIA	R6		Area	0.010427	ACRE	DELINEATE	35.844993	-120.952957
W-23	CALIFORNIA	R6		Area	0.001253	ACRE	DELINEATE	35.821401	-120.922764
W-24	CALIFORNIA	R6		Area	0.003004	ACRE	DELINEATE	35.818463	-120.921544
W-25	CALIFORNIA	R6		Area	0.000946	ACRE	DELINEATE	35.817651	-120.906620
W-26	CALIFORNIA	R6		Area	0.000289	ACRE	DELINEATE	35.815943	-120.905683
W-27	CALIFORNIA	R6		Area	0.00114	ACRE	DELINEATE	35.813215	-120.902170

**Appendix A**  
ORM Upload Sheet



W-28	CALIFORNIA R6	Area	0.001247 ACRE	DELINEATE	35.811429	-120.899929
W-29	CALIFORNIA R6	Area	0.015445 ACRE	DELINEATE	35.811144	-120.898887
W-30	CALIFORNIA R6	Area	0.000609 ACRE	DELINEATE	35.809416	-120.897395
W-31	CALIFORNIA R4SB	Area	0.217772 ACRE	DELINEATE	35.789811	-120.916043
W-32	CALIFORNIA R6	Area	0.011283 ACRE	DELINEATE	35.804910	-120.951369
W-33	CALIFORNIA R4SB	Area	0.160468 ACRE	DELINEATE	35.801895	-120.961377
W-34	CALIFORNIA R6	Area	0.005617 ACRE	DELINEATE	35.807097	-120.962065
W-35	CALIFORNIA R4SB	Area	0.293359 ACRE	DELINEATE	35.810844	-120.963686
W-36	CALIFORNIA R6	Area	0.010436 ACRE	DELINEATE	35.809649	-120.961975
W-37	CALIFORNIA R6	Area	0.000456 ACRE	DELINEATE	35.816251	-120.936493
W-38	CALIFORNIA R6	Area	0.000192 ACRE	DELINEATE	35.823005	-120.946733
W-39	CALIFORNIA R6	Area	0.003732 ACRE	DELINEATE	35.839372	-120.965934
W-40	CALIFORNIA R6	Area	0.029139 ACRE	DELINEATE	35.841105	-120.966865
W-41	CALIFORNIA R6	Area	0.030102 ACRE	DELINEATE	35.849748	-120.976552
W-42	CALIFORNIA R6	Area	0.00248 ACRE	DELINEATE	35.850275	-120.979086
W-43	CALIFORNIA R6	Area	0.042187 ACRE	DELINEATE	35.847604	-120.983837
W-44	CALIFORNIA R4SB	Area	0.034567 ACRE	DELINEATE	35.855240	-120.992337
W-45	CALIFORNIA R6	Area	0.011158 ACRE	DELINEATE	35.856801	-120.997636
W-46	CALIFORNIA R6	Area	0.010533 ACRE	DELINEATE	35.857721	-121.001114
W-47	CALIFORNIA R4SB	Area	0.048163 ACRE	DELINEATE	35.857591	-121.004014
W-48	CALIFORNIA R6	Area	0.022168 ACRE	DELINEATE	35.858869	-121.004288
W-49	CALIFORNIA R4SB	Area	0.0267 ACRE	DELINEATE	35.863505	-121.016207
W-50	CALIFORNIA R4SB	Area	0.284966 ACRE	DELINEATE	35.863421	-121.027626
W-51	CALIFORNIA R6	Area	0.006072 ACRE	DELINEATE	35.880465	-121.040913
W-52	CALIFORNIA R4SB	Area	0.142833 ACRE	DELINEATE	35.881813	-121.043129
W-53a	CALIFORNIA R4SB	Area	0.07786 ACRE	DELINEATE	35.888179	-121.060057
W-53b	CALIFORNIA R4SB	Area	0.038365 ACRE	DELINEATE	35.888986	-121.060216
W-54	CALIFORNIA R4SB	Area	0.186724 ACRE	DELINEATE	35.893439	-121.068256
W-55	CALIFORNIA R6	Area	0.013561 ACRE	DELINEATE	35.794508	-120.890603
W-56	CALIFORNIA PUB	Area	0.062135 ACRE	DELINEATE	35.887950	-121.063432
W-57	CALIFORNIA L1UB	Area	2.268039 ACRE	DELINEATE	35.796066	-120.886773
W-58	CALIFORNIA L1UB	Area	0.081683 ACRE	DELINEATE	35.794901	-120.891413
W-59	CALIFORNIA L1UB	Area	42.27028 ACRE	DELINEATE	35.79400000	-120.90327000
W-60	CALIFORNIA L1UB	Area	2.05886 ACRE	DELINEATE	35.76609400	-120.89813200

**Appendix B**

**Site Photographs**



## Appendix B. Site Photographs



<b>Photo No. 1</b>	<b>Date:</b> April 2017	 A wide-angle landscape photograph showing a large reservoir in the distance, surrounded by rolling hills and sparse vegetation. The sky is overcast with grey clouds. The foreground shows a dirt path and some green shrubs.
<b>Description:</b> Looking southwest towards San Antonio Reservoir.		
<b>Photo No. 2</b>	<b>Date:</b> April 2017	 A landscape photograph of a reservoir, likely Lake San Antonio, viewed from a hillside. The water is a deep blue-green color. The surrounding hills are covered in dry, brownish vegetation. The sky is clear and blue with a few wispy clouds.
<b>Description:</b> Looking north at the south end of Lake San Antonio. On this date the lake level is approximately 745 feet elevation and 35 feet below maximum lake level. The study area extends from the maximum lake level + 8 feet in elevation.		



## Appendix B. Site Photographs



<b>Photo No. 3</b>	<b>Date:</b> April 2017	 A wide-angle photograph of the San Antonio Dam. The dam is a long, light-colored concrete structure extending across a valley. The water level is low, revealing the dry, brownish soil of the reservoir bed. The surrounding hills are covered in sparse green vegetation and some bare earth. The sky is clear and blue.
<b>Photo No. 4</b>	<b>Date:</b> April 2017	 A photograph of the San Antonio spillway. The spillway is a curved concrete structure with a series of steps or basins. It is surrounded by steep, rocky hillsides. The sky is blue with some wispy clouds. The overall scene is arid and dry.



## Appendix B. Site Photographs





<b>Photo No. 5</b>	<b>Date:</b> June 2017	 A photograph showing a spillway work area. In the foreground, there is a concrete spillway structure on the right side, with a rocky and grassy slope leading up to it. A person is standing on the slope in the middle ground, looking towards a large reservoir in the background. The reservoir is surrounded by hills and a clear blue sky.
<b>Photo No. 6</b>	<b>Date:</b> June 2017	 A wide-angle photograph of a study area near Nacimiento Reservoir. The reservoir is the central focus, with a parking lot and some greenery in the foreground. The background shows rolling hills and a clear blue sky. The water is a deep blue color.

## Appendix B. Site Photographs





<b>Photo No. 7</b>	<b>Date:</b> November 2017	
<b>Photo No. 8</b>	<b>Date:</b> November 2017	

<p><b>Photo No. 9</b></p>	<p><b>Date:</b> April 2017</p>	
<p><b>Description:</b> Sampling point 1, downslope of feature W-2. This point had hydrophytic vegetation but lacked hydric soils and wetland hydrology.</p>		
<p><b>Photo No. 10</b></p>	<p><b>Date:</b> April 2017</p>	
<p><b>Description:</b> Upland sampling point 2, near feature W-2. This point had hydrophytic vegetation but lacked hydric soils and wetland hydrology.</p>		



## Appendix B. Site Photographs



<b>Photo No. 11</b>	<b>Date:</b> April 2017	 <p><b>Description:</b> Sample point 3. Facing southeast. Hydrophytic vegetation present, but hydric soils and wetland hydrology absent. This point and sampling point 4 are located in a swale.</p>
<b>Photo No. 12</b>	<b>Date:</b> April 2017	 <p><b>Description:</b> Sample point 4. Facing southeast. Hydrophytic vegetation present, but hydric soils and wetland hydrology absent. The soil at this point had two matrix colors (10YR4/4 and 2.5Y3/3).</p>

## Appendix B. Site Photographs





<b>Photo No. 13</b>	<b>Date:</b> November 2017	A photograph showing two individuals in a field. One person, wearing a blue t-shirt and dark pants, is holding a red-handled shovel. Another person, wearing a white shirt and a hat, is partially visible on the left. The ground is covered with dry grass and some green plants.
<b>Description:</b> Sampling point 09. This point is located within the same swale as sampling point 10. Facing southeast.		
<b>Photo No. 14</b>	<b>Date:</b> November 2017	A photograph of a field with tall, dry grass. A yellow circle is drawn around a specific area in the middle ground. In the background, there are several trees and a clear blue sky.
<b>Description:</b> Sampling point 10 (circled in yellow). Hydric vegetation present but hydric soils and indicators of wetland hydrology absent. The soil at this point was loamy fine sand, with 100% color 7.5 YR 3/2 and no redox features.		

## Appendix B. Site Photographs



<b>Photo No. 15</b>	<b>Date:</b> November 2017	
<b>Description:</b> Feature W-13, facing upstream (north). This feature was delineated as potential non-wetland waters based on indicators of an OHWM.		
<b>Photo No. 16</b>	<b>Date:</b> November 2017	
<b>Description:</b> Feature W-14, facing downstream (southeast).		

## Appendix B. Site Photographs

<b>Photo No.</b> 17	<b>Date:</b> November 2017	
<b>Description:</b> Feature W-29, looking southwest.		
<b>Photo No.</b> 18	<b>Date:</b> April 2017	
<b>Description:</b> Feature W-30, looking southwest.		



## Appendix B. Site Photographs




<b>Photo No.</b> 19	<b>Date:</b> June 2017	 A photograph of a grassy hillside under a clear blue sky. The foreground is filled with dry, yellowish-brown grass and some green shrubs. In the middle ground, a red arrow points to a small, dark feature on the slope. The background shows a larger hill with scattered trees and a few vehicles parked on a road.
<b>Photo No.</b> 20	<b>Date:</b> November 2017	 A photograph of a rocky stream bed in a wooded area. The stream is shallow and flows over a bed of grey and white rocks. The surrounding vegetation is dense, with tall grasses and various trees. The lighting suggests a sunny day with dappled shadows on the ground.

## Appendix B. Site Photographs





<b>Photo No.</b> 21	<b>Date:</b> November 2017	 A photograph showing a wooded area with a grassy slope. A large tree trunk is prominent in the foreground on the left. The ground is covered with dry, yellowish-brown grass and some green patches. The background shows more trees and a clear sky.
<b>Photo No.</b> 22	<b>Date:</b> November 2017	 A photograph of a grassy area with a large tree trunk in the foreground on the right. The ground is covered with dry, yellowish-brown grass. In the background, there are more trees and a path leading into the distance.

## Appendix B. Site Photographs

<b>Photo No.</b> 23	<b>Date:</b> November 2017	
<b>Description:</b> Sampling Point 12. Sample point located in borrow pit with compacted subsoil. Evidence of wetland hydrology (water marks, cracking) was observed, but no evidence of hydric soils. This area was not delineated as a wetland because it lacked hydric soils and “normal circumstances” are not present.		
<b>Photo No.</b> 24	<b>Date:</b> November 2017	
<b>Description:</b> Sampling Point 12. Soils heavily disturbed by grading and cattle.		

## Appendix B. Site Photographs

<b>Photo No.</b> 25	<b>Date:</b> November 2017	
<b>Description:</b> Sampling point 11. Located in palustrine feature W-55, which is subject to seasonal ponding. No hydric soil indicators were observed.		
<b>Photo No.</b> 26	<b>Date:</b> November 2017	
<b>Description:</b> Soil profile at sampling point 11. No indicators of hydric soil observed.		



## Appendix B. Site Photographs



<b>Photo No. 27</b>	<b>Date:</b> March 2018
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**Description:**  
Sampling point 13a.  
Located in  
lacustrine feature  
W-59 (San Antonio  
Reservoir).



**Appendix C**

**Plant Species List**

## Appendix C. Plant List

Scientific Name	Common Name	Indicator Status
<i>Acmispon americanus</i>	Spanish clover	UPL
<i>Acmispon wrangelianus</i>	Chilean bird's-foot trefoil	NL
<i>Adenostoma fasciculatum</i>	chamise	NL
<i>Aesculus californica</i>	California buckeye	NL
<i>Amsinckia intermedia</i>	common fiddleneck	NL
<i>Amsinckia menziesii</i>	Menzies' fiddleneck	NL
<i>Anthriscus caucalis</i>	bur chervil	NL
<i>Artemisia californica</i>	California sagebrush	NL
<i>Artemisia douglasiana</i>	Douglas' sagewort	FAC
<i>Baccharis pilularis</i>	coyote brush	NL
<i>Baccharis salicifolia</i>	mulefat	FAC
<i>Brassica nigra</i>	black mustard	NL
<i>Brodiaea terrestris</i> ssp. <i>terrestris</i>	dwarf brodiaea	NL
<i>Bromus diandrus</i>	ripgut brome	NL
<i>Bromus hordeaceus</i>	soft brome	FACU
<i>Bromus madritensis</i> ssp. <i>rubens</i>	red brome	UPL
<i>Bromus tectorum</i>	cheatgrass	NL
<i>Capsella bursa-pastoris</i>	shepherd's purse	FACU
<i>Carex barbae</i>	white-root beds	FAC
<i>Castilleja densiflora</i>	denseflower Indian paintbrush	NL
<i>Centaurea melitensis</i>	Maltese star-thistle	NL
<i>Centaurea solstitialis</i>	yellow star-thistle	NL
<i>Chenopodium album</i>	lambquarters	FACU
<i>Conium maculatum</i>	poison hemlock	FACW
<i>Croton setiger</i>	turkey-mullein	NL
<i>Delphinium hesperium</i>	foothill larkspur	FAC
<i>Delphinium variegatum</i>	royal larkspur	NL
<i>Dichelostemma capitatum</i>	bluedicks	FACU
<i>Dipsacus fullonum</i>	Fuller's teasel	FAC
<i>Elymus triticoides</i> = <i>Leymus triticoides</i>	creeping rye grass	FAC
<i>Equisetum laevigatum</i>	smooth horsetail	FACW
<i>Eremothera boothii</i>	Booth's evening primrose	NL
<i>Eriogonum elongatum</i>	longstem buckwheat	NL
<i>Eriogonum fasciculatum</i>	California buckwheat	NL
<i>Eriogonum gracile</i>	slender woolly buckwheat	NL
<i>Erodium cicutarium</i>	redstem stork's bill	NL
<i>Eschscholzia californica</i>	California poppy	NL
<i>Eucalyptus globulus</i>	Tasmanian bluegum	NL
<i>Euthamia occidentalis</i>	western goldentop	FACW
<i>Festuca microstachys</i>	six-weeks fescue	NL
<i>Festuca myuros</i>	rat-tail fescue	NL
<i>Galium aparine</i>	stickywilly	FACU
<i>Geranium dissectum</i>	cutleaf geranium	NL
<i>Hirschfeldia incana</i>	shortpod mustard	NL
<i>Hordeum marinum</i>	seaside barley	FAC
<i>Hordeum murinum</i>	mouse barley	FACU

## Appendix C. Plant List

Scientific Name	Common Name	Indicator Status
<i>Hypochaeris glabra</i>	smooth cat's ear	NL
<i>Juncus mexicanus</i>	Mexican rush	FACW
<i>Lasthenia californica</i>	California goldfields	FACU
<i>Lupinus benthamii</i>	spider lupine	NL
<i>Lupinus bicolor</i>	miniature lupine	NL
<i>Lupinus nanus</i>	sky lupine	NL
<i>Lysimachia arvensis</i>	scarlet pimpernel	FAC
<i>Marah fabacea</i>	California man-root	NL
<i>Marrubium vulgare</i>	horehound	FACU
<i>Melilotus indicus</i>	annual yellow sweetclover	FACU
<i>Mimulus guttatus</i>	common monkey flower	OBL
<i>Phyla nodiflora</i>	turkey tangle fogfruit	FACW
<i>Pinus sabiniana</i>	ghost pine	NL
<i>Plagiobothrys bracteatus</i>	bracted popcornflower	FACW
<i>Platanus racemosa</i>	California sycamore	FAC
<i>Polypogon monspeliensis</i>	annual rabbitsfoot grass	FACW
<i>Populus fremontii</i>	Fremont cottonwood	NL
<i>Populus trichocarpa</i>	black cottonwood	NL
<i>Quercus agrifolia</i>	coast live oak	NL
<i>Quercus douglasii</i>	blue oak	NL
<i>Quercus dumosa</i>	Nuttall's scrub oak	NL
<i>Quercus lobata</i>	valley oak	FACU
<i>Rosa californica</i>	California rose briar	FAC
<i>Rumex crispus</i>	curly dock	FAC
<i>Salix exigua</i>	sandbar willow	FACW
<i>Salix gooddingii</i>	black willow	FACW
<i>Salix laevigata</i>	red willow	FACW
<i>Salix lasiandra</i>	shining willow	FACW
<i>Salvia columbariae</i>	chia	NL
<i>Sambucus nigra</i> ssp. <i>caerulea</i>	blue elderberry	FACU
<i>Stipa pulchra</i>	purple needle grass	NL
<i>Symphoricarpos mollis</i>	creeping snowberry	FACU
<i>Toxicodendron diversilobum</i>	poison oak	FACU
<i>Trifolium campestre</i>	field clover	NL
<i>Trifolium ciliolatum</i>	foothill clover	NL
<i>Trifolium depauperatum</i>	cowbag clover	FAC
<i>Trifolium variegatum</i>	white-tip clover	FAC
<i>Urtica dioica</i>	stinging nettle	FAC
<i>Xanthium strumarium</i>	cocklebur	FAC

Appendix F

## Air Quality & Greenhouse Gas Model Assumptions and Results

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## **Unmitigated Construction Emissions- Proposed Project**

Project Name: MCWRA ILT Project MBARD Portion - Mitigated  
Construction days per week

5

7/10/2023 11/15/2024 355

Construction Schedule<sup>1</sup>

Phase feature <sup>2</sup>	Phase Name <sup>3</sup>	Combined Phase Name <sup>3</sup>	Code <sup>5</sup>	Start Date <sup>6</sup>	End Date <sup>6</sup>	# of Workdays <sup>7</sup>
Energy Dissipation	Site clearing and grading	Energy Dissipation - Site Clearing and Grading	020	8/11/2024	4/5/2024	20
Energy Dissipation	Construct energy dissipation structure	Energy Dissipation - Construct energy dissipation structure	021	4/8/2024	4/28/2024	60
Energy Dissipation	Construct connection between tunnel and Energy Dissipator	Energy Dissipation - Construct connection between tunnel and Energy Dissipator	022	11/18/2024	12/13/2024	20
Energy Dissipation	Re-vegetation and site demob	Energy Dissipation - Re-vegetation and site demob	023	12/16/2024	1/24/2025	30
Energy Dissipation	Construct ATV Trail to south portal	Energy Dissipation - Construct ATV Trail to south portal	024	10/2/2023	11/10/2023	30
Dam stability investigation of San Antonio Dam		Spillway modification - Dam stability investigation of San Antonio Dam	024	4/17/2023	6/26/2023	30
Spillway modification	Improve access road	Spillway modification - Improve access road	035	8/21/2023	9/8/2023	15
Spillway modification	Site clearing/grading of staging areas	Spillway modification - Site clearing/grading of staging areas	036	9/11/2023	10/6/2023	20
Spillway modification	Installation of erosion control/silt fencing	Spillway modification - Installation of erosion control/silt fencing	037	9/11/2023	9/22/2023	10
Spillway modification	Removal of existing spillway crest and existing concrete structures	Spillway modification - Removal of existing spillway crest and existing concrete structures	038	11/6/2023	1/26/2024	60
Spillway modification	Excavation to grade for new spillway walls and structure	Spillway modification - Excavation to grade for new spillway walls and structure	039	1/29/2024	4/19/2024	60
Spillway modification	Installation/upgrade of subsurface drainage systems	Spillway modification - Installation/upgrade of subsurface drainage systems	040	1/29/2024	4/19/2024	20
Spillway modification	Construction of new spillway structure, walls and labyrinth controls structure	Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	041	4/22/2024	10/4/2024	170
Spillway modification	Improvements to spillway chute and connection to new spillway structure	Spillway modification - Improvements to spillway chute and connection to new spillway structure	042	6/17/2024	10/4/2024	80
Spillway modification	Site cleanup and demobilization	Spillway modification - Site cleanup and demobilization	043	10/7/2024	11/1/2024	20
Energy Dissipation Structure Tunnel Portal	Improve access road	Energy Dissipation Structure Tunnel Portal - Improve access road	044	7/10/2023	7/28/2023	15
Energy Dissipation Structure Tunnel Portal	Site clearing and grubbing	Energy Dissipation Structure Tunnel Portal - Site clearing and grubbing	045	7/31/2023	8/18/2023	15
Energy Dissipation Structure Tunnel Portal	Install erosion/sediment control and silt fencing	Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	046	7/31/2023	8/18/2023	15
Energy Dissipation Structure Tunnel Portal	Site grading, staging, laydown and much disposal area prep	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	047	8/21/2023	9/29/2023	30
Energy Dissipation Structure Tunnel Portal	Install temporary utilities, water, power, sewage handling, communications	Energy Dissipation Structure Tunnel Portal - Install temporary utilities, water, power, sewage handling, communications	048	10/2/2023	11/10/2023	30
Energy Dissipation Structure Tunnel Portal	Portal excavation and support	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	049	11/13/2023	12/8/2023	20
Energy Dissipation Structure Tunnel Portal	Mobilize tunnel equipment and materials to site	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	050	10/2/2023	11/10/2023	30
Energy Dissipation Structure Tunnel Portal	Fabricate pre-cast tunnel liner segments and transport to site	Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	051	10/10/2023	4/12/2024	200
Energy Dissipation Structure Tunnel Portal	ERBM and tunnel equipment (utilities setup and Thrust frame install)	Energy Dissipation Structure Tunnel Portal - ERBM and tunnel equipment (utilities setup and Thrust frame install)	052	12/11/2023	1/19/2024	30
Tunneling	Drive 100' of tunnel at 20 fpd	Tunneling - Drive 100' of tunnel at 20 fpd	053	1/22/2024	1/26/2024	5
Tunneling	Tunnel excavation and support @ 60' per day	Tunneling - Tunnel excavation and support @ 60' per day	054	1/29/2024	10/4/2024	180
Tunneling	TBM trailing gear and plant removal	Tunneling - TBM trailing gear and plant removal	055	10/7/2024	11/15/2024	30
Tunneling	Tunnel punch list/clearing	Tunneling - Tunnel punch list/clearing	056	7/10/2023	7/30/2023	15
Tunneling	Muck disposal on site/grading	Tunneling - Muck disposal on site/grading	057	1/29/2024	10/4/2024	180
Tunneling	Demobilization tunnel plant	Tunneling - Demobilization tunnel plant	058	10/7/2024	11/15/2024	30

SOIL VOLUMES

Soil Export Energy Station

Parameter	Value
Total Export Volume (CY) <sup>1</sup>	19,432.00
Haul Truck Capacity (CY/truck) <sup>2</sup>	45.00
Haul Trucks Required	1,214.50
Total One-Way Haul Trucks	2,430.00

Soil Import Energy Station

Parameter	Value
Total Import Volume (CY) <sup>1</sup>	3,376.00
Haul Truck Capacity (CY/truck) <sup>2</sup>	16.00
Haul Trucks Required	211.00
Total One-Way Haul Trucks	422.00

Aggregate and Chipseal<sup>3</sup>

Aggregate

Parameter	Value
Total Import Volume (CY) <sup>1</sup>	6,429.00
Haul Truck Capacity (CY/truck) <sup>2</sup>	16.00
Haul Trucks Required	401.81
Total One-Way Haul Trucks	804.00

Aggregate

Parameter	Value
Total One-Way Truck Trips	804.00

Total Import/Export Truck Trips

Parameter	Value
Total One-Way Truck Trips	2,852.00

CONCRETE POUR

Concrete Volume

Parameter	Value
Total Concrete Volume (CY) <sup>1</sup>	449.00
Max Daily Concrete Volume (CY) <sup>2</sup>	22.45
Concrete Truck Capacity (CY/truck) <sup>3</sup>	8.00
Max Daily Concrete Trucks	2.81
Total One-Way Truck Trips	6.00

SOIL VOLUMES

Soil Export Spillway Modification

Parameter	Value
Total Excavation Volume (CY) <sup>1</sup>	66,667.00
Haul Truck Capacity (CY/truck) <sup>2</sup>	45.00
Haul Trucks Required	4,166.09
Total One-Way Haul Trucks	8,334.00

Demo Volumes

Spillway Modification Demolished materials

Parameter	Value
Total Demo H <sup>3</sup>	10,426.06
Total Demo Volume (Tons)	480.00
Total Demo Volume (CY)	960.00
Haul Truck Capacity (CY/Truck)	16.00
Haul trucks required	60.00
Total One-Way Haul Trucks	120.00

SOIL VOLUMES

Soil Import Spillway Modification

Parameter	Value
Total Fill Volume (CY) <sup>1</sup>	18,478.00
Haul Truck Capacity (CY/truck) <sup>2</sup>	45.00
Haul Trucks Required	1,154.88
Total One-Way Haul Trucks	2,310.00

Total Trips to Soil Disposal Area (export minus import)

Parameter	Value
Total One-Way Truck Trips	6,024.00

CONCRETE POUR

Concrete Volume

Parameter	Value
Total Concrete Volume (CY) <sup>1</sup>	11,289.00
Max Daily Concrete Volume (CY) <sup>2</sup>	94.08
Concrete Truck Capacity (CY/truck) <sup>3</sup>	8.00
Max Daily Concrete Trucks	11.76
Total One-Way Truck Trips	24.00

AMM GEN-8 Avoidance/Minimization Measure

Water 2x a day/ every four hours (unpaved roads) <sup>4</sup>	55%		
Street sweeping (paved roads) <sup>4</sup>	7%		
Cover storage piles (material handling) <sup>4</sup>	90%		
	<b>Mitigation Measures</b>		
	<b>PM10 Reductions</b>		
1 Water Truck/Watering PM Reduction <sup>4</sup>	reduction		
every three hours + 12% Moisture	69%	61.00%	
every two hours	74%	74.00%	
Gravel Road /Trackout for connection to paved roads	46%		
Chemical Dust Suppression (unpaved roads) <sup>5</sup> pgs-12	84%		
SIDAPCO BACT Requirement			Offroad Engine Emission Reductions
			Tier 4 Final Equipment or better where feasible assumed for all construction equipment.
			<b>ONSITE VEHICLE SPEED</b>
MBARD Region Default		40.00	mph
15 mph mitigation for Gravel Roads (workers/vendors/Haul)		15.00	mph

SOIL VOLUMES Tunneling

Soil Export Tunneling

Parameter	Value
Total Export Volume (CY) <sup>1</sup>	108,066.00
a. This soil is expected to be wet muck and would be transported via conveyor belts. No Haul trips or fugitive dust emissions expected.	

Soil Import Tunneling

Parameter	Value
Total Import Volume (CY) <sup>1</sup>	7,720.00
Haul Truck Capacity (CY/truck) <sup>2</sup>	45.00
Haul Trucks Required	482.50
Total One-Way Haul Trucks	966.00

Total Import/Export Truck Trips

Parameter	Value
Total One-Way Truck Trips	966.00

Concrete, Cement, Grout

Concrete Volume

Parameter	Value
Total Concrete Volume (CY) <sup>1</sup>	6,256.00
Concrete Capacity (CY/truck) <sup>2</sup>	8.00
Haul Trucks Required	782.00
Total One-Way Haul Trucks	1,564.00

Truck Trips<sup>4</sup>

Parameter	Value
Daily Vendor Trips <sup>5</sup>	8.00
Construction Waste Haul Trips <sup>6</sup>	4.00

Sources

- 1 Project Description.
- 2 Concrete Truck Capacity.
- 3 worker facts.
- 4 [https://www.enr.com/wp-content/uploads/sites/2/2017/02/WRAP\\_FDHandbook\\_Rev\\_06.pdf](https://www.enr.com/wp-content/uploads/sites/2/2017/02/WRAP_FDHandbook_Rev_06.pdf)
- 5 [https://www.enr.com/wp-content/uploads/sites/2/2017/02/WRAP\\_FDHandbook\\_Rev\\_06.pdf](https://www.enr.com/wp-content/uploads/sites/2/2017/02/WRAP_FDHandbook_Rev_06.pdf)
- 6 Chip Spreading Calculators, Trucks and Chip Spreaders 518-218-7076 (levayemgroup.com)
- 7 Asphalt Sealcoating and Crack Filling Calculators | Asphalt Sealcoating Direct
- 8 ILL Data Needs - Vendor Truck info
- 9 Call Me! User guide Page 16

E:  
C:  
D:  
L:





Offroad Equipment (Fossil Fuel) Inventory

Code	Phase	Equipment Name	General Equipment Category	#/day	Hrs/Day	# of Equipment	Fuel Type	Engine Horsepower (if known)
020	Energy Dissipation - Site Clearing and Grading	Dozer Cat D6/5.6cy	Rubber Tired Dozers	10	10	1	Diesel	145
020	Energy Dissipation - Site Clearing and Grading	Mine Truck 20ton/15cy	Off-Highway Trucks	10	10	1	Diesel	214
020	Energy Dissipation - Site Clearing and Grading	Water Truck	--	10	10	1	diesel	350
020	Energy Dissipation - Site Clearing and Grading	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	10	10	1	Diesel	246
021	Energy Dissipation - Construct energy dissipation structure	Concrete Pump Truck	--	2	10	1	Diesel	500
021	Energy Dissipation - Construct energy dissipation structure	Concrete Truck	--	2	3.35	3	Diesel	300
021	Energy Dissipation - Construct energy dissipation structure	Pile Hammer	Bore/Drill Rigs	30	10	1	diesel	40
021	Energy Dissipation - Construct energy dissipation structure	Pickup	--	30	10	1	--	350
022	Energy Dissipation - Construct connection between tunnel and Energy Dissipator	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	513
022	Energy Dissipation - Construct connection between tunnel and Energy Dissipator	Pickup	--	20	10	1	Diesel	350
022	Energy Dissipation - Construct connection between tunnel and Energy Dissipator	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	246
023	Energy Dissipation - Revegetation and site demob	Pickup	--	10	10	1	--	350
023	Energy Dissipation - Revegetation and site demob	Water Truck	--	10	10	1	diesel	350
024	Energy Dissipation - Construct ATV Trail to south portal	Vibrating Roller	Rollers	20	10	1	Diesel	25
024	Energy Dissipation - Construct ATV Trail to south portal	Water Truck	--	20	10	1	diesel	350
024	Energy Dissipation - Construct ATV Trail to south portal	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	2	Diesel	246
034	Spillway Modification - Dam stability investigation of San Antonio Dam	Pickup	--	30	10	1	--	350
034	Spillway Modification - Dam stability investigation of San Antonio Dam	Drill Rig	Bore/Drill Rigs	30	10	1	diesel	40
035	Spillway Modification - Improve Access Road	Dozer Cat D6/5.6cy	Rubber Tired Dozers	15	10	1	Diesel	145
035	Spillway Modification - Improve Access Road	Mine Truck 20ton/15cy	Off-Highway Trucks	15	10	1	Diesel	214
035	Spillway Modification - Improve Access Road	Vibrating Roller	Rollers	15	10	1	Diesel	25
035	Spillway Modification - Improve Access Road	Water Truck	--	15	10	1	diesel	350
035	Spillway Modification - Improve Access Road	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	15	10	1	Diesel	246
036	Spillway Modification - Site clearing/grading of staging areas	Dozer Cat D6/5.6cy	Rubber Tired Dozers	20	10	1	Diesel	145
036	Spillway Modification - Site clearing/grading of staging areas	Mine Truck 20ton/15cy	Off-Highway Trucks	20	10	1	Diesel	214
036	Spillway Modification - Site clearing/grading of staging areas	Water Truck	--	20	10	1	diesel	350
036	Spillway Modification - Site clearing/grading of staging areas	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	246
037	Spillway Modification - Installation of erosion control/silt fencing	Pickup	--	13	10	1	--	350
037	Spillway Modification - Installation of erosion control/silt fencing	Water Truck	--	13	10	1	Diesel	350
038	Spillway Modification - Removal of existing spillway crest and existing concrete structures	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	60	10	3	Diesel	513
038	Spillway Modification - Removal of existing spillway crest and existing concrete structures	Mine Truck 20ton/15cy	Off-Highway Trucks	60	10	3	Diesel	214
038	Spillway Modification - Removal of existing spillway crest and existing concrete structures	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	60	10	3	Diesel	246
039	Spillway Modification - Excavation to grade for new spillway walls and structure	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	60	10	3	Diesel	513
039	Spillway Modification - Excavation to grade for new spillway walls and structure	Mine Truck 20ton/15cy	Off-Highway Trucks	60	10	3	Diesel	214
039	Spillway Modification - Excavation to grade for new spillway walls and structure	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	60	10	3	Diesel	246
040	Spillway Modification - Installation/upgrade of subsurface drainage systems	Pickup	--	20	10	1	--	350
040	Spillway Modification - Installation/upgrade of subsurface drainage systems	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	246
041	Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	Backhoe CAT 375, 176k, 5cy	Tractors/Loaders/Backhoes	120	10	3	diesel	225
041	Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	Concrete Pump Truck	--	19	10	2	Diesel	500
041	Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	Concrete Truck	--	19	4	5	Diesel	300
041	Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	Pickup	--	120	10	3	--	350
041	Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	120	10	3	Diesel	246
042	Spillway modification - Improvements to spillway chute and connection to new spillway structure	CAT 950, 4CY	Tractors/Loaders/Backhoes	120	10	3	Diesel	225
042	Spillway modification - Improvements to spillway chute and connection to new spillway structure	Pickup	--	120	10	3	--	350
042	Spillway modification - Improvements to spillway chute and connection to new spillway structure	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	120	10	3	Diesel	246
043	Spillway Modification - Site cleanup and demobilization	Pickup	--	20	10	2	--	350
043	Spillway Modification - Site cleanup and demobilization	Water Truck	--	20	10	2	Diesel	350
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Dozer Cat D6/5.6cy	Rubber Tired Dozers	15	10	1	Diesel	145
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Mine Truck 20ton/15cy	Off-Highway Trucks	15	10	1	Diesel	214
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Vibrating Roller	Rollers	15	10	1	Diesel	25
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Water Truck	--	15	10	1	diesel	350
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	15	10	1	Diesel	246
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Dozer Cat D6/5.6cy	Rubber Tired Dozers	15	10	1	Diesel	145
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Mine Truck 20ton/15cy	Off-Highway Trucks	15	10	1	Diesel	214
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Water Truck	--	15	10	1	diesel	350
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	15	10	1	Diesel	246
046	Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	Pickup	--	15	10	1	--	350
046	Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	Water Truck	--	15	10	1	Diesel	350
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Dozer Cat D6/5.6cy	Rubber Tired Dozers	20	10	1	Diesel	145
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Mine Truck 20ton/15cy	Off-Highway Trucks	20	10	1	Diesel	214
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Water Truck	--	20	10	1	diesel	350
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	246
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	513
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Compactor, Cat 816, 25ton	Other Construction Equipment	30	10	2	Diesel	220
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Mine Truck 20ton/15cy	Off-Highway Trucks	30	10	2	Diesel	214
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	246
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	30	8	1	Diesel	513
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Compactor, Cat 816, 25ton	Other Construction Equipment	30	8	1	Diesel	220
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Dozer Cat D6/5.6cy	Rubber Tired Dozers	30	8	1	Diesel	145
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Excavator >0.5cy	Excavators	30	8	1	Diesel	100
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Mine Truck 20ton/15cy	Off-Highway Trucks	30	8	2	Diesel	214
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	8	2	Diesel	246
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Hydraulic Crane 20ton/60'	Cranes	30	10	1	Diesel	130
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Hydraulic Crane 40ton/105'	Cranes	30	10	1	Diesel	152
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Welder 400A, trailer E	Welders	30	10	1	Diesel	100

050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	246
051	Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	200	8	1	Diesel	246
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	500 Ton Crane	Cranes	30	20	1	Diesel	1325
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Compressor, Stationary 1200cfm	Air Compressors	30	20	1	Electric	350
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Crawler Crane 100ton/200'	Cranes	30	20	1	Diesel	265
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	EPBM and Backup 14'9"	Bore/Drill Rigs	30	20	1	Electric	1800
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Hydraulic Crane 40ton/105'	Cranes	30	20	1	Diesel	152
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Welder 400A, trailer E	Welders	30	20	1	Diesel	100
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	20	1	Diesel	246
053	Tunneling - Drive 100' of tunnel at 20 fpd	500 Ton Crane	Cranes	5	20	1	Diesel	1325
053	Tunneling - Drive 100' of tunnel at 20 fpd	Compressor, Stationary 1200cfm	Air compressors	5	20	1	Electric	350
053	Tunneling - Drive 100' of tunnel at 20 fpd	Crawler Crane 100ton/200'	Cranes	5	20	1	Diesel	265
053	Tunneling - Drive 100' of tunnel at 20 fpd	EPBM and Backup 14'9"	Bore/Drill Rigs	5	20	1	Electric	1800
053	Tunneling - Drive 100' of tunnel at 20 fpd	Hydraulic Crane 40ton/105'	Cranes	5	20	1	Diesel	152
053	Tunneling - Drive 100' of tunnel at 20 fpd	Welder 400A, trailer E	Welders	5	20	1	Diesel	100
053	Tunneling - Drive 100' of tunnel at 20 fpd	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	5	20	1	Diesel	246
054	Tunneling - Tunnel excavation and support @ 60' per day	Compressor, Stationary 1200cfm	Air compressors	180	24	1	Electric	350
054	Tunneling - Tunnel excavation and support @ 60' per day	EPBM and Backup 14'9"	Bore/Drill Rigs	180	24	1	Electric	1800
054	Tunneling - Tunnel excavation and support @ 60' per day	Flat Car, Rail	Other Material Handling Equipment	180	24	4	--	0
054	Tunneling - Tunnel excavation and support @ 60' per day	Grout Plant, skid 12cy/hr	Other Material Handling Equipment	180	24	1	diesel	250
054	Tunneling - Tunnel excavation and support @ 60' per day	Hydraulic Crane 40ton/105'	Cranes	180	24	1	Diesel	152
054	Tunneling - Tunnel excavation and support @ 60' per day	Locomotive 12ton/120hp	Other Material Handling Equipment	180	24	2	Diesel	120
054	Tunneling - Tunnel excavation and support @ 60' per day	Mine Truck 20ton/15cy	Off-Highway Trucks	180	8	2	Diesel	214
054	Tunneling - Tunnel excavation and support @ 60' per day	Muck Car, Rail	Other Material Handling Equipment	180	24	18	--	0
054	Tunneling - Tunnel excavation and support @ 60' per day	Pump, trash 200gpm/100ft head	Other General Industrial Equipment	180	24	1	Electric	10
054	Tunneling - Tunnel excavation and support @ 60' per day	Ventilation Fan 100hp	Other General Industrial Equipment	180	24	2	Electric	100
054	Tunneling - Tunnel excavation and support @ 60' per day	Ventilation Fan 40hp	Other General Industrial Equipment	180	24	1	Electric	40
054	Tunneling - Tunnel excavation and support @ 60' per day	Water Treatment Plant	Other General Industrial Equipment	180	24	1	Electric	200
054	Tunneling - Tunnel excavation and support @ 60' per day	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	180	24	1	Diesel	246
055	Tunneling - TBM trailing gear and plant removal	Compressor, Stationary 1200cfm	Air Compressors	15	24	1	Electric	350
055	Tunneling - TBM trailing gear and plant removal	Crawler Crane 100ton/200'	Cranes	15	20	1	Diesel	265
055	Tunneling - TBM trailing gear and plant removal	Getman Buggy	Skid Steer Loaders	15	24	1	Diesel	40
055	Tunneling - TBM trailing gear and plant removal	Grout Pump-Moyno/Mixer	Other Material Handling Equipment	15	24	1	Diesel	600
055	Tunneling - TBM trailing gear and plant removal	Hydraulic Crane 20ton/60'	Cranes	15	24	1	Diesel	130
055	Tunneling - TBM trailing gear and plant removal	Locomotive 12ton/120hp	Other Material Handling Equipment	15	24	1	Diesel	120
055	Tunneling - TBM trailing gear and plant removal	Pipe Carrier	Other Material Handling Equipment	15	24	1	diesel	180
055	Tunneling - TBM trailing gear and plant removal	Pump, subm. 140gpm/20ft head	Other Construction Equipment	15	24	2	Electric	2
055	Tunneling - TBM trailing gear and plant removal	Pump, trash 200gpm/100ft head	Other Construction Equipment	15	24	1	Electric	10
055	Tunneling - TBM trailing gear and plant removal	Ventilation Fan 100hp	Other Construction Equipment	15	24	2	Electric	100
055	Tunneling - TBM trailing gear and plant removal	Water Treatment Plant	Other Construction Equipment	15	24	1	Electric	200
055	Tunneling - TBM trailing gear and plant removal	Welder 400A, trailer E	Welders	15	24	1	Diesel	100
055	Tunneling - TBM trailing gear and plant removal	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	15	24	3	Diesel	246
056	Tunneling - Tunnel punch list/clearing	Getman Buggy	Skid Steer Loaders	5	10	1	Diesel	40
056	Tunneling - Tunnel punch list/clearing	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	5	10	1	Diesel	246
057	Tunneling - Muck disposal on site/grading	Dozer Cat D6/5.6cy	Rubber Tired Dozers	180	10	1	Diesel	145
057	Tunneling - Muck disposal on site/grading	Mine Truck 20ton/15cy	Off-Highway Trucks	180	10	1	Diesel	214
057	Tunneling - Muck disposal on site/grading	Water Truck	--	180	10	1	diesel	350
057	Tunneling - Muck disposal on site/grading	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	180	10	1	Diesel	246
058	Tunneling - Demobilization tunnel plant	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	8	1	Diesel	246

Notes:

1. Equipment that will not be modeled is in red.

2. Offroad construction equipment is listed in green.

3. Onroad equipment is listed in orange.

4. Electric equipment is listed in blue.

MBARD Portion									
Code	Phase	Equipment Name	General Equipment Category	#/day	Hrs/Day	# of Equipment	Fuel Type	Engine Horsepower (if	
020	Energy Dissipation - Site Clearing and Grading	Dozer Cat D6/5.6cy	Rubber Tired Dozers	10	10	1	Diesel	145	
020	Energy Dissipation - Site Clearing and Grading	Mine Truck 20ton/15cy	Off-Highway Trucks	10	10	1	Diesel	214	
020	Energy Dissipation - Site Clearing and Grading	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	10	10	1	Diesel	246	
021	Energy Dissipation - Construct energy dissipation structure	Pile Hammer	Bore/Drill Rigs	30	10	1	diesel	40	
022	Energy Dissipation - Construct connection between tunnel and Energy Dissipator	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	513	
022	Energy Dissipation - Construct connection between tunnel and Energy Dissipator	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	246	
024	Energy Dissipation - Construct ATV Trail to south portal	Vibrating Roller	Rollers	20	10	1	Diesel	25	
024	Energy Dissipation - Construct ATV Trail to south portal	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	2	Diesel	246	
034	Spillway Modification - Dam stability investigation of San Antonio Dam	Drill Rig	Bore/Drill Rigs	30	10	1	diesel	40	
035	Spillway Modification - Improve Access Road	Dozer Cat D6/5.6cy	Rubber Tired Dozers	15	10	1	Diesel	145	
035	Spillway Modification - Improve Access Road	Mine Truck 20ton/15cy	Off-Highway Trucks	15	10	1	Diesel	214	
035	Spillway Modification - Improve Access Road	Vibrating Roller	Rollers	15	10	1	Diesel	25	
035	Spillway Modification - Improve Access Road	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	15	10	1	Diesel	246	
036	Spillway Modification - Site clearing/grading of staging areas	Dozer Cat D6/5.6cy	Rubber Tired Dozers	20	10	1	Diesel	145	
036	Spillway Modification - Site clearing/grading of staging areas	Mine Truck 20ton/15cy	Off-Highway Trucks	20	10	1	Diesel	214	
036	Spillway Modification - Site clearing/grading of staging areas	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	246	
038	Spillway Modification - Removal of existing spillway crest and existing concrete structures	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	60	10	3	Diesel	513	
038	Spillway Modification - Removal of existing spillway crest and existing concrete structures	Mine Truck 20ton/15cy	Off-Highway Trucks	60	10	3	Diesel	214	
038	Spillway Modification - Removal of existing spillway crest and existing concrete structures	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	60	10	3	Diesel	246	
039	Spillway Modification - Excavation to grade for new spillway walls and structure	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	60	10	3	Diesel	513	
039	Spillway Modification - Excavation to grade for new spillway walls and structure	Mine Truck 20ton/15cy	Off-Highway Trucks	60	10	3	Diesel	214	
039	Spillway Modification - Excavation to grade for new spillway walls and structure	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	60	10	3	Diesel	246	
040	Spillway Modification - Installation/upgrade of subsurface drainage systems	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	246	
041	Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	Backhoe CAT 375, 176k, 5cy	Tractors/Loaders/Backhoes	120	10	3	diesel	225	
041	Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	120	10	3	Diesel	246	
042	Spillway modification - Improvements to spillway chute and connection to new spillway structure	CAT 950, 4CY	Tractors/Loaders/Backhoes	120	10	3	Diesel	225	
042	Spillway modification - Improvements to spillway chute and connection to new spillway structure	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	120	10	3	Diesel	246	
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Dozer Cat D6/5.6cy	Rubber Tired Dozers	15	10	1	Diesel	145	
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Mine Truck 20ton/15cy	Off-Highway Trucks	15	10	1	Diesel	214	
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Vibrating Roller	Rollers	15	10	1	Diesel	25	
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	15	10	1	Diesel	246	
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Dozer Cat D6/5.6cy	Rubber Tired Dozers	15	10	1	Diesel	145	
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Mine Truck 20ton/15cy	Off-Highway Trucks	15	10	1	Diesel	214	
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	15	10	1	Diesel	246	
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Dozer Cat D6/5.6cy	Rubber Tired Dozers	20	10	1	Diesel	145	
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Mine Truck 20ton/15cy	Off-Highway Trucks	20	10	1	Diesel	214	
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	246	
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	513	
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Compactor, Cat 816, 25ton	Other Construction Equipment	30	10	2	Diesel	220	
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Mine Truck 20ton/15cy	Off-Highway Trucks	30	10	2	Diesel	214	
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	246	
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	30	8	1	Diesel	513	
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Compactor, Cat 816, 25ton	Other Construction Equipment	30	8	1	Diesel	220	
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Dozer Cat D6/5.6cy	Rubber Tired Dozers	30	8	1	Diesel	145	
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Excavator >0.5cy	Excavators	30	8	1	Diesel	100	
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Mine Truck 20ton/15cy	Off-Highway Trucks	30	8	2	Diesel	214	
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	8	2	Diesel	246	
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Hydraulic Crane 20ton/60'	Cranes	30	10	1	Diesel	130	
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Hydraulic Crane 40ton/105'	Cranes	30	10	1	Diesel	152	
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Welder 400A, trailer E	Welders	30	10	1	Diesel	100	
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	246	
051	Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	200	8	1	Diesel	246	
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	500 Ton Crane	Cranes	30	20	1	Diesel	1325	
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Crawler Crane 100ton/200'	Cranes	30	20	1	Diesel	265	
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Hydraulic Crane 40ton/105'	Cranes	30	20	1	Diesel	152	
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Welder 400A, trailer E	Welders	30	20	1	Diesel	100	
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	20	1	Diesel	246	
053	Tunneling - Drive 100' of tunnel at 20 fpd	500 Ton Crane	Cranes	5	20	1	Diesel	1325	
053	Tunneling - Drive 100' of tunnel at 20 fpd	Crawler Crane 100ton/200'	Cranes	5	20	1	Diesel	265	
053	Tunneling - Drive 100' of tunnel at 20 fpd	Hydraulic Crane 40ton/105'	Cranes	5	20	1	Diesel	152	
053	Tunneling - Drive 100' of tunnel at 20 fpd	Welder 400A, trailer E	Welders	5	20	1	Diesel	100	
053	Tunneling - Drive 100' of tunnel at 20 fpd	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	5	20	1	Diesel	246	
054	Tunneling - Tunnel excavation and support @ 60' per day	Flat Car, Rail	Other Material Handling Equipment	180	24	4	--	0	
054	Tunneling - Tunnel excavation and support @ 60' per day	Grout Plant, skid 12cy/hr	Other Material Handling Equipment	180	24	1	diesel	250	
054	Tunneling - Tunnel excavation and support @ 60' per day	Hydraulic Crane 40ton/105'	Cranes	180	24	1	Diesel	152	
054	Tunneling - Tunnel excavation and support @ 60' per day	Locomotive 12ton/120hp	Other Material Handling Equipment	180	24	2	Diesel	120	
054	Tunneling - Tunnel excavation and support @ 60' per day	Mine Truck 20ton/15cy	Off-Highway Trucks	180	8	2	Diesel	214	
054	Tunneling - Tunnel excavation and support @ 60' per day	Muck Car, Rail	Other Material Handling Equipment	180	24	18	--	0	
054	Tunneling - Tunnel excavation and support @ 60' per day	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	180	24	1	Diesel	246	
055	Tunneling - TBM trailing gear and plant removal	Crawler Crane 100ton/200'	Cranes	15	20	1	Diesel	265	
055	Tunneling - TBM trailing gear and plant removal	Getman Buggy	Skid Steer Loaders	15	24	1	Diesel	40	
055	Tunneling - TBM trailing gear and plant removal	Grout Pump-Moyno/Mixer	Other Material Handling Equipment	15	24	1	Diesel	600	
055	Tunneling - TBM trailing gear and plant removal	Hydraulic Crane 20ton/60'	Cranes	15	24	1	Diesel	130	
055	Tunneling - TBM trailing gear and plant removal	Locomotive 12ton/120hp	Other Material Handling Equipment	15	24	1	Diesel	120	
055	Tunneling - TBM trailing gear and plant removal	Pipe Carrier	Other Material Handling Equipment	15	24	1	diesel	180	
055	Tunneling - TBM trailing gear and plant removal	Welder 400A, trailer E	Welders	15	24	1	Diesel	100	
055	Tunneling - TBM trailing gear and plant removal	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	15	24	3	Diesel	246	
056	Tunneling - Tunnel punch list/clearing	Getman Buggy	Skid Steer Loaders	5	10	1	Diesel	40	
056	Tunneling - Tunnel punch list/clearing	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	5	10	1	Diesel	246	
057	Tunneling - Muck disposal on site/grading	Dozer Cat D6/5.6cy	Rubber Tired Dozers	180	10	1	Diesel	145	
057	Tunneling - Muck disposal on site/grading	Mine Truck 20ton/15cy	Off-Highway Trucks	180	10	1	Diesel	214	
057	Tunneling - Muck disposal on site/grading	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	180	10	1	Diesel	246	
058	Tunneling - Demobilization tunnel plant	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	8	1	Diesel	246	

Code	Phase	Equipment Name	General Equipment Category	#/day	Hrs/Day	# of Equipment	Fuel Type	Engine Horsepower (if known)
020	Energy Dissipation - Site Clearing and Grading	Water Truck	--	10	10	1	diesel	350
021	Energy Dissipation - Construct energy dissipation structure	Concrete Pump Truck	--	2	10	1	Diesel	500
021	Energy Dissipation - Construct energy dissipation structure	Concrete Truck	--	2	3.35	3	Diesel	300
021	Energy Dissipation - Construct energy dissipation structure	Pickup	--	30	10	1	--	350
022	Energy Dissipation - Construct connection between tunnel and Energy Dissipator	Pickup	--	20	10	1	Diesel	350
023	Energy Dissipation - Revegitation and site demob	Pickup	--	10	10	1	--	350
023	Energy Dissipation - Revegitation and site demob	Water Truck	--	10	10	1	diesel	350
024	Energy Dissipation - Construct ATV Trail to south portal	Water Truck	--	20	10	1	diesel	350
034	Spillway Modification - Dam stability investigation of San Antonio Dam	Pickup	--	30	10	1	--	350
035	Spillway Modification - Improve Access Road	Water Truck	--	15	10	1	diesel	350
036	Spillway Modification - Site clearing/grading of staging areas	Water Truck	--	20	10	1	diesel	350
037	Spillway Modification - Installation of erosion control/silt fencing	Pickup	--	13	10	1	--	350
037	Spillway Modification - Installation of erosion control/silt fencing	Water Truck	--	13	10	1	Diesel	350
040	Spillway Modification - Installation/upgrade of subsurface drainage systems	Pickup	--	20	10	1	--	350
041	Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	Concrete Pump Truck	--	19	10	2	Diesel	500
041	Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	Concrete Truck	--	19	4	5	Diesel	300
041	Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	Pickup	--	120	10	3	--	350
042	Spillway modification - Improvements to spillway chute and connection to new spillway structure	Pickup	--	120	10	3	--	350
043	Spillway Modification - Site cleanup and demobilization	Pickup	--	20	10	2	--	350
043	Spillway Modification - Site cleanup and demobilization	Water Truck	--	20	10	2	Diesel	350
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Water Truck	--	15	10	1	diesel	350
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Water Truck	--	15	10	1	diesel	350
046	Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	Pickup	--	15	10	1	--	350
046	Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	Water Truck	--	15	10	1	Diesel	350
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Water Truck	--	20	10	1	diesel	350
057	Tunneling - Muck disposal on site/grading	Water Truck	--	180	10	1	diesel	350

Offroad Equipment (Electric) Inventory

1 hp = 0.74569987 kilowatts

Code	Phase	equipment Name	Category	Days	Hours per day	Number	Fuel Type	Horsepower	Kilowatts	Kilowatt Hours (day)	Kilowatt Hours (total)
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Compressor, Stationary 1200cfm	Air Compressors	30	20	1	Electric	350	261	5219.89909	156596.9727
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	EPBM and Backup 14'9"	Bore/Drill Rigs	30	20	1	Electric	1800	1342	26845.19532	805355.8596
053	Tunneling - Drive 100' of tunnel at 20 fpd	Compressor, Stationary 1200cfm	Air compressors	5	20	1	Electric	350	261	5219.89909	26099.49545
053	Tunneling - Drive 100' of tunnel at 20 fpd	EPBM and Backup 14'9"	Bore/Drill Rigs	5	20	1	Electric	1800	1342	26845.19532	134225.9766
054	Tunneling - Tunnel excavation and support @ 60' per day	Compressor, Stationary 1200cfm	Air compressors	180	24	1	Electric	350	261	6263.878908	1127498.203
054	Tunneling - Tunnel excavation and support @ 60' per day	EPBM and Backup 14'9"	Bore/Drill Rigs	180	24	1	Electric	1800	1342	32214.23438	5798562.189
054	Tunneling - Tunnel excavation and support @ 60' per day	Pump, trash 200gpm/100ft head	Other General Industrial Equipment	180	24	1	Electric	10	7	178.9679688	32214.23438
054	Tunneling - Tunnel excavation and support @ 60' per day	Ventilation Fan 100hp	Other General Industrial Equipment	180	24	2	Electric	100	75	3579.359376	644284.6877
054	Tunneling - Tunnel excavation and support @ 60' per day	Ventilation Fan 40hp	Other General Industrial Equipment	180	24	1	Electric	40	30	715.8718752	128856.9375
054	Tunneling - Tunnel excavation and support @ 60' per day	Water Treatment Plant	Other General Industrial Equipment	180	24	1	Electric	200	149	3579.359376	644284.6877
055	Tunneling - TBM trailing gear and plant removal	Compressor, Stationary 1200cfm	Air Compressors	15	24	1	Electric	350	261	6263.878908	93958.18362
055	Tunneling - TBM trailing gear and plant removal	Pump, subm. 140gpm/20ft head	Other Construction Equipment	15	24	2	Electric	2	1	71.58718752	1073.807813
055	Tunneling - TBM trailing gear and plant removal	Pump, trash 200gpm/100ft head	Other Construction Equipment	15	24	1	Electric	10	7	178.9679688	2684.519532
055	Tunneling - TBM trailing gear and plant removal	Ventilation Fan 100hp	Other Construction Equipment	15	24	2	Electric	100	75	3579.359376	53690.39064
055	Tunneling - TBM trailing gear and plant removal	Water Treatment Plant	Other Construction Equipment	15	24	1	Electric	200	149	3579.359376	53690.39064

Regional Emissions Summary

Emissions by Phase				Daily Emissions (lb/day)									Daily Emissions (lb/day)			Total MT						
Phase Name	Start Date	End Date	# of Workdays	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e		
Energy Dissipation - Site Clearing a	3/11/24	4/5/24	20	1.60	16.60	15.53	0.03	43.15	0.53	43.68	6.74	0.49	7.23	3366.30	0.80	0.24	19.58	0.00	0.00	20.18		
Energy Dissipation - Construct ene	4/8/24	6/28/24	60	0.11	1.06	1.05	0.01	8.85	0.02	8.87	1.44	0.02	1.46	701.91	0.07	0.08	16.28	0.00	0.00	16.89		
Energy Dissipation - Construct con	11/18/24	12/13/24	20	1.48	15.57	22.62	0.04	10.79	0.67	11.45	1.66	0.62	2.27	3981.99	0.96	0.29	36.12	0.01	0.00	37.12		
Energy Dissipation - Re-vegetation	12/16/24	1/24/25	30	0.11	2.19	1.15	0.01	23.12	0.02	23.15	3.09	0.02	3.11	1539.54	0.01	0.23	20.95	0.00	0.00	21.88		
Energy Dissipation - Construct ATV	10/2/23	11/10/23	30	1.13	11.46	15.92	0.03	14.75	0.53	15.28	2.40	0.49	2.89	2844.52	0.66	0.21	29.58	0.01	0.00	30.44		
Spillway modification - Dam stabili	4/17/23	5/26/23	30	0.14	1.33	1.29	0.01	2.96	0.03	2.98	0.50	0.02	0.53	864.47	0.07	0.10	11.76	0.00	0.00	12.19		
Spillway modification - Improve ac	8/21/23	9/8/23	15	1.45	13.36	12.98	0.03	5.38	0.60	5.98	2.25	0.55	2.80	2769.78	0.82	0.14	18.85	0.01	0.00	19.27		
Spillway modification - Site clearin	9/11/23	10/6/23	20	1.41	12.75	12.43	0.03	5.71	0.57	6.28	2.33	0.52	2.85	2701.05	0.79	0.14	24.50	0.01	0.00	25.06		
Spillway modification - Installation	9/11/23	9/22/23	10	0.08	1.05	0.70	0.01	2.96	0.01	2.98	0.46	0.01	0.48	760.64	0.01	0.11	3.45	0.00	0.00	3.60		
Spillway modification - Removal of	11/6/23	1/26/24	60	5.67	53.24	74.28	0.13	6.52	2.50	9.02	1.23	2.29	3.53	12316.64	3.71	0.63	335.20	0.10	0.02	342.80		
Spillway modification - Excavation	1/29/24	4/19/24	60	5.68	55.73	77.78	0.14	85.46	2.21	87.67	9.12	2.04	11.17	13661.44	3.72	0.84	371.80	0.10	0.02	381.12		
Spillway modification - Installation	3/25/24	4/19/24	20	0.54	5.42	7.87	0.02	2.96	0.22	3.18	0.50	0.20	0.71	1606.69	0.32	0.13	14.58	0.00	0.00	15.00		
Spillway modification - Constructio	4/22/24	10/4/24	120	2.88	31.22	43.33	0.09	13.01	1.27	14.28	1.89	1.17	3.07	8962.46	1.79	0.76	487.84	0.10	0.04	502.66		
Spillway modification - Improve	6/17/24	10/4/24	80	2.94	30.47	44.42	0.07	66.10	1.23	67.32	7.09	1.13	8.23	7157.67	1.80	0.48	359.43	0.10	0.02	368.41		
Spillway modification - Site cleanu	10/7/24	11/1/24	20	0.09	1.03	0.83	0.01	3.21	0.01	3.22	0.53	0.01	0.55	800.00	0.01	0.11	7.26	0.00	0.00	7.56		
Energy Dissipation Structure Tunne	7/10/23	7/28/23	15	1.61	20.20	14.77	0.07	57.96	0.68	58.64	8.39	0.62	9.02	7299.31	0.83	0.85	49.66	0.01	0.01	51.53		
Energy Dissipation Structure Tunne	7/31/23	8/18/23	15	1.39	12.74	12.27	0.03	10.82	0.57	11.38	3.33	0.52	3.85	2673.94	0.79	0.14	18.19	0.01	0.00	18.61		
Energy Dissipation Structure Tunne	7/31/23	8/18/23	15	0.07	0.27	0.72	0.00	7.37	0.00	7.37	1.46	0.00	1.47	259.38	0.01	0.03	1.76	0.00	0.00	1.82		
Energy Dissipation Structure Tunne	8/21/23	9/29/23	30	1.41	12.75	12.44	0.03	12.28	0.57	12.85	3.66	0.52	4.18	2704.86	0.79	0.14	25.85	0.01	0.00	26.45		
Energy Dissipation Structure Tunne	10/2/23	11/10/23	30	4.81	46.64	61.50	0.11	10.33	2.24	12.57	1.59	2.05	3.65	10151.47	3.08	0.53	138.14	0.04	0.01	141.33		
Energy Dissipation Structure Tunne	11/13/23	12/8/23	20	3.16	30.15	36.47	0.07	14.55	1.40	15.95	3.42	1.28	4.70	6721.06	1.97	0.37	88.44	0.03	0.00	90.48		
Energy Dissipation Structure Tunne	10/2/23	11/10/23	30	1.81	16.04	15.40	0.04	15.73	0.65	16.38	2.33	0.61	2.94	3465.20	0.65	0.27	47.15	0.01	0.00	48.46		
Energy Dissipation Structure Tunne	7/10/23	4/12/24	200	0.41	5.33	5.94	0.02	9.84	0.21	10.05	1.02	0.19	1.21	1733.79	0.25	0.19	157.29	0.02	0.02	162.93		
Energy Dissipation Structure Tunne	12/11/23	1/19/24	30	9.04	89.47	58.71	0.15	7.36	3.79	11.15	1.64	3.50	5.14	13815.54	5.03	0.74	188.00	0.07	0.01	192.69		
Tunneling - Drive 100' of tunnel at	1/22/24	1/26/24	5	9.65	83.79	68.31	0.17	107.46	3.43	110.89	23.90	3.20	27.10	15882.50	5.12	0.81	36.02	0.01	0.00	36.86		
Tunneling - Tunnel excavation and	1/29/24	10/4/24	180	5.41	41.16	66.43	0.13	97.19	1.86	99.06	20.04	1.72	21.76	12819.92	4.47	0.87	1046.70	0.37	0.07	1076.97		
Tunneling - TBM trailing gear and p	10/7/24	11/15/24	30	10.87	91.16	137.58	0.22	41.22	4.22	45.44	9.17	3.92	13.08	21040.49	6.63	1.00	148.95	0.05	0.01	152.19		
Tunneling - Tunnel punch list/clear	7/10/23	7/30/23	15	0.55	6.35	8.30	0.02	5.91	0.27	6.18	0.61	0.25	0.86	1653.16	0.36	0.14	6.21	0.00	0.00	6.44		
Tunneling - Muck disposal on site/	1/29/24	10/4/24	180	1.96	13.57	17.96	0.04	68.21	0.54	68.76	15.40	0.50	15.90	4273.63	0.84	0.26	348.93	0.07	0.02	357.02		
Tunneling - Demobilization tunnel	10/7/24	11/15/24	30	0.58	4.16	7.80	0.01	21.10	0.17	21.28	4.46	0.16	4.62	1370.79	0.27	0.08	18.65	0.00	0.00	19.08		
<b>Max Daily Emissions</b>				<b>15.74</b>	<b>148.04</b>	<b>191.51</b>	<b>0.38</b>	<b>306.82</b>	<b>6.50</b>	<b>312.39</b>	<b>52.83</b>	<b>5.99</b>	<b>57.99</b>								Total	<b>4,187.02</b>
MBARD Regional Thresholds				-	-	-	-	-	-	83	-	-	-								50 -Year Amortization	<b>83.74</b>
Exceeds Threshold?				No	No	No	No	No	No	Yes	No	No	No									

Row Labels	Daily Emissions (lb/day)									
	Max of VOC	Max of NOX	Max of CO	Max of SOX	Max of Fugitive PM10	Max of Exhaust PM10	Max of Total PM10	Max of Fugitive PM2.5	Max of Exhaust PM2.5	Max of Total PM2.5
2023	15.1	148.0	173.0	0.3	73.7	6.5	74.9	10.0	6.0	14.2
2024	15.7	148.0	191.5	0.4	306.8	6.5	312.4	52.8	6.0	58.0
2025	0.1	2.2	1.1	0.0	23.1	0.0	23.1	3.1	0.0	3.1
<b>Max Daily Emissions (lbs/day)</b>	<b>15.7</b>	<b>148.0</b>	<b>191.5</b>	<b>0.4</b>	<b>306.8</b>	<b>6.5</b>	<b>312.4</b>	<b>52.8</b>	<b>6.0</b>	<b>58.0</b>
MBARD Regional Thresholds	-	-	-	-	-	-	83.00	-	-	-
Exceeds Threshold?	No	No	No	No	No	No	Yes	No	No	No





Offroad Equipment

Phase Name	Start	End	# of Workdays	First Year of CSTN	EF Year	Equipment Type	# of Equipment	hours/day	HP	LF
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	2024	Rubber Tired Dozers	1	10	145	0.4
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	2024	Off-Highway Trucks	1	10	214	0.38
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	2024	Tractors/Loaders/Backhoes	1	10	246	0.37
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	30	2024	2024	Bore/Drill Rigs	1	10	40	0.5
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	2024	Tractors/Loaders/Backhoes	1	10	513	0.37
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	2024	Tractors/Loaders/Backhoes	1	10	246	0.37
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	20	2023	2023	Rollers	1	10	25	0.38
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	20	2023	2023	Tractors/Loaders/Backhoes	2	10	246	0.37
Spillway Modification - Dam stability investigation of San Antonio Dam	4/17/2023	5/26/2023	30	2023	2023	Bore/Drill Rigs	1	10	40	0.5
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	15	2023	2023	Rubber Tired Dozers	1	10	145	0.4
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	15	2023	2023	Off-Highway Trucks	1	10	214	0.38
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	15	2023	2023	Rollers	1	10	25	0.38
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	15	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	2023	Rubber Tired Dozers	1	10	145	0.4
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	2023	Off-Highway Trucks	1	10	214	0.38
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	2023	Tractors/Loaders/Backhoes	3	10	513	0.37
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	2023	Off-Highway Trucks	3	10	214	0.38
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	2023	Tractors/Loaders/Backhoes	3	10	246	0.37
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	2024	Tractors/Loaders/Backhoes	3	10	513	0.37
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	2024	Off-Highway Trucks	3	10	214	0.38
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	2024	Tractors/Loaders/Backhoes	3	10	246	0.37
Spillway Modification - Installation/upgrade of subsurface drainage systems	3/25/2024	4/19/2024	20	2024	2024	Tractors/Loaders/Backhoes	1	10	246	0.37
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	120	2024	2024	Tractors/Loaders/Backhoes	3	10	225	0.37
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	120	2024	2024	Tractors/Loaders/Backhoes	3	10	246	0.37
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	120	2024	2024	Tractors/Loaders/Backhoes	3	10	225	0.37
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	120	2024	2024	Tractors/Loaders/Backhoes	3	10	246	0.37
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	2023	Rubber Tired Dozers	1	10	145	0.4
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	2023	Off-Highway Trucks	1	10	214	0.38
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	2023	Rollers	1	10	25	0.38
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	2023	Rubber Tired Dozers	1	10	145	0.4
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	2023	Off-Highway Trucks	1	10	214	0.38
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	2023	Rubber Tired Dozers	1	10	145	0.4
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	2023	Off-Highway Trucks	1	10	214	0.38
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	2023	Tractors/Loaders/Backhoes	2	10	513	0.37
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	2023	Other Construction Equipment	2	10	220	0.42
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	2023	Off-Highway Trucks	2	10	214	0.38
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	2023	Tractors/Loaders/Backhoes	2	10	246	0.37
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	2023	Tractors/Loaders/Backhoes	1	8	513	0.37
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	2023	Other Construction Equipment	1	8	220	0.42
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	2023	Rubber Tired Dozers	1	8	145	0.4
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	2023	Excavators	1	8	100	0.38
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	2023	Off-Highway Trucks	2	8	214	0.38
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	2023	Tractors/Loaders/Backhoes	2	8	246	0.37
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	2023	Cranes	1	10	130	0.29
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	2023	Cranes	1	10	152	0.29
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	2023	Welders	1	10	100	0.45
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/2023	4/12/2024	200	2023	2023	Tractors/Loaders/Backhoes	1	8	246	0.37
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	2023	Cranes	1	20	1325	0.29
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	2023	Cranes	1	20	265	0.29
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	2023	Cranes	1	20	152	0.29
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	2023	Welders	1	20	100	0.45
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	2023	Tractors/Loaders/Backhoes	1	20	246	0.37
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	2024	Cranes	1	20	1325	0.29
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	2024	Cranes	1	20	265	0.29
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	2024	Cranes	1	20	152	0.29
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	2024	Welders	1	20	100	0.45
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	2024	Tractors/Loaders/Backhoes	1	20	246	0.37
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	2024	Other Material Handling Equipment	4	24	0	0.4
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	2024	Other Material Handling Equipment	1	24	250	0.4
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	2024	Cranes	1	24	152	0.29
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	2024	Other Material Handling Equipment	2	24	120	0.4
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	2024	Off-Highway Trucks	2	8	214	0.38
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	2024	Other Material Handling Equipment	18	24	0	0.4
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	2024	Tractors/Loaders/Backhoes	1	24	246	0.37
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Cranes	1	20	265	0.29
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Skid Steer Loaders	1	24	40	0.37
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Other Material Handling Equipment	1	24	600	0.4
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Cranes	1	24	130	0.29
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Other Material Handling Equipment	1	24	120	0.4
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Other Material Handling Equipment	1	24	180	0.4
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Welders	1	24	100	0.45
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Tractors/Loaders/Backhoes	3	24	246	0.37
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	5	2023	2023	Skid Steer Loaders	1	10	40	0.37
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	5	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	2024	Rubber Tired Dozers	1	10	145	0.4
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	2024	Off-Highway Trucks	1	10	214	0.38
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	2024	Tractors/Loaders/Backhoes	1	10	246	0.37
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	2024	Tractors/Loaders/Backhoes	1	8	246	0.37

Phase Name	Start	End	Emission Factor (g/bhp-hr)															
			ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O			
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	0.40	4.09	1.80	0.01	0.00	0.18	0.18	0.00	0.04	0.04	0.00	0.04	0.04	474.59	0.15	0.02
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	0.18	1.24	1.21	0.01	0.00	0.04	0.04	0.00	0.04	0.04	0.00	0.04	0.04	475.22	0.15	0.02
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	0.23	2.29	3.53	0.01	0.00	0.11	0.11	0.00	0.10	0.10	0.00	0.10	0.10	476.73	0.15	0.02
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	0.11	0.98	1.05	0.01	0.00	0.03	0.03	0.00	0.03	0.03	0.00	0.03	0.03	470.71	0.15	0.02
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	0.23	2.29	3.53	0.01	0.00	0.11	0.11	0.00	0.10	0.10	0.00	0.10	0.10	476.73	0.15	0.02
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	0.23	2.29	3.53	0.01	0.00	0.11	0.11	0.00	0.10	0.10	0.00	0.10	0.10	476.73	0.15	0.02
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	0.29	3.00	3.45	0.01	0.00	0.17	0.17	0.00	0.15	0.15	0.00	0.15	0.15	473.94	0.15	0.02
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	476.43	0.15	0.02
Spillway Modification - Dam stability investigation of San Antonio Dam	4/17/2023	5/26/2023	0.11	1.05	1.04	0.01	0.00	0.03	0.03	0.00	0.03	0.03	0.00	0.03	0.03	469.71	0.15	0.02
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	0.39	4.09	1.78	0.01	0.00	0.18	0.18	0.00	0.17	0.17	0.00	0.17	0.17	474.60	0.15	0.02
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	0.19	1.32	1.22	0.01	0.00	0.05	0.05	0.00	0.04	0.04	0.00	0.04	0.04	475.05	0.15	0.02
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	0.29	3.00	3.45	0.01	0.00	0.17	0.17	0.00	0.15	0.15	0.00	0.15	0.15	473.94	0.15	0.02
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	476.43	0.15	0.02
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	0.39	4.09	1.78	0.01	0.00	0.18	0.18	0.00	0.17	0.17	0.00	0.17	0.17	474.60	0.15	0.02
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	0.19	1.32	1.22	0.01	0.00	0.05	0.05	0.00	0.04	0.04	0.00	0.04	0.04	475.05	0.15	0.02
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	476.43	0.15	0.02
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	476.43	0.15	0.02
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	0.19	1.32	1.22	0.01	0.00	0.05	0.05	0.00	0.04	0.04	0.00	0.04	0.04	475.05	0.15	0.02
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	476.43	0.15	0.02
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	0.23	2.29	3.53	0.01	0.00	0.11	0.11	0.00	0.10	0.10	0.00	0.10	0.10	476.73	0.15	0.02
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	0.18	1.24	1.21	0.01	0.00	0.04	0.04	0.00	0.04	0.04	0.00	0.04	0.04	475.22	0.15	0.02
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	0.23	2.29	3.53	0.01	0.00	0.11	0.11	0.00	0.10	0.10	0.00	0.10	0.10	476.73	0.15	0.02
Spillway Modification - Installation/upgrade of subsurface drainage systems	3/25/2024	4/19/2024	0.23	2.29	3.53	0.01	0.00	0.11	0.11	0.00	0.10	0.10	0.00	0.10	0.10	476.73	0.15	0.02
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	0.23	2.29	3.53	0.01	0.00	0.11	0.11	0.00	0.10	0.10	0.00	0.10	0.10	476.73	0.15	0.02
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	0.23	2.29	3.53	0.01	0.00	0.11	0.11	0.00	0.10	0.10	0.00	0.10	0.10	476.73	0.15	0.02
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	0.23	2.29	3.53	0.01	0.00	0.11	0.11	0.00	0.10	0.10	0.00	0.10	0.10	476.73	0.15	0.02
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	0.23	2.29	3.53	0.01	0.00	0.11	0.11	0.00	0.10	0.10	0.00	0.10	0.10	476.73	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.39	4.09	1.78	0.01	0.00	0.18	0.18	0.00	0.17	0.17	0.00	0.17	0.17	474.60	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.19	1.32	1.22	0.01	0.00	0.05	0.05	0.00	0.04	0.04	0.00	0.04	0.04	475.05	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.29	3.00	3.45	0.01	0.00	0.17	0.17	0.00	0.15	0.15	0.00	0.15	0.15	473.94	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	476.43	0.15	0.02
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	0.39	4.09	1.78	0.01	0.00	0.18	0.18	0.00	0.17	0.17	0.00	0.17	0.17	474.60	0.15	0.02
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	0.19	1.32	1.22	0.01	0.00	0.05	0.05	0.00	0.04	0.04	0.00	0.04	0.04	475.05	0.15	0.02
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	476.43	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	0.39	4.09	1.78	0.01	0.00	0.18	0.18	0.00	0.17	0.17	0.00	0.17	0.17	474.60	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	0.19	1.32	1.22	0.01	0.00	0.05	0.05	0.00	0.04	0.04	0.00	0.04	0.04	475.05	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	476.43	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	476.43	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.27	2.70	3.14	0.01	0.00	0.14	0.14	0.00	0.13	0.13	0.00	0.13	0.13	469.56	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.19	1.32	1.22	0.01	0.00	0.05	0.05	0.00	0.04	0.04	0.00	0.04	0.04	475.05	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	476.43	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	476.43	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.27	2.70	3.14	0.01	0.00	0.14	0.14	0.00	0.13	0.13	0.00	0.13	0.13	469.56	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.39	4.09	1.78	0.01	0.00	0.18	0.18	0.00	0.17	0.17	0.00	0.17	0.17	474.60	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.18	1.46	3.08	0.01	0.00	0.07	0.07	0.00	0.07	0.07	0.00	0.07	0.07	472.28	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.19	1.32	1.22	0.01	0.00	0.05	0.05	0.00	0.04	0.04	0.00	0.04	0.04	475.05	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	476.43	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.30	3.23	1.55	0.01	0.00	0.14	0.14	0.00	0.12	0.12	0.00	0.12	0.12	472.97	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.30	3.23	1.55	0.01	0.00	0.14	0.14	0.00	0.12	0.12	0.00	0.12	0.12	472.97	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.70	3.89	4.60	0.01	0.00	0.15	0.15	0.00	0.15	0.15	0.00	0.15	0.15	568.30	0.06	0.03
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	476.43	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/2023	4/12/2024	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	476.43	0.15	0.02
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.30	3.23	1.55	0.01	0.00	0.14	0.14	0.00	0.12	0.12	0.00	0.12	0.12	472.97	0.15	0.02
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.30	3.23	1.55	0.01	0.00	0.14	0.14	0.00	0.12	0.12	0.00	0.12	0.12	472.97	0.15	0.02
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.30	3.23	1.55	0.01	0.00	0.14	0.14	0.00	0.12	0.12	0.00	0.12	0.12	472.97	0.15	0.02
Energy Diss																		

Offroad Equipment

Phase Name	Start	End	Emissions (lb/day)													Total MT				
			ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2e	CH4	N2O	CO2e	
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	0.51	5.23	2.30	0.01	0.00	0.24	0.24	0.24	0.00	0.07	0.07	851.98	0.28	0.04	3.86	0.00	0.00	3.95
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	0.46	4.59	7.09	0.01	0.00	0.21	0.21	0.00	0.19	0.19	956.64	0.31	0.04	4.34	0.00	0.00	4.43	
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	0.05	0.43	0.46	0.00	0.00	0.01	0.01	0.00	0.01	0.01	207.55	0.07	0.01	2.82	0.00	0.00	2.89	
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	0.95	9.57	14.78	0.02	0.00	0.44	0.44	0.00	0.41	0.41	1994.94	0.64	0.09	18.10	0.01	0.00	18.49	
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	0.46	4.59	7.09	0.01	0.00	0.21	0.21	0.00	0.19	0.19	956.64	0.31	0.04	4.34	0.00	0.00	4.43	
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	0.06	0.63	0.72	0.00	0.00	0.03	0.03	0.00	0.03	0.03	99.26	0.03	0.00	0.90	0.00	0.00	0.92	
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	0.96	9.74	14.15	0.02	0.00	0.48	0.48	0.00	0.44	0.44	1912.07	0.62	0.09	17.35	0.01	0.00	17.72	
Spillway Modification - Dam stability investigation of San Antonio Dam	4/17/2023	5/26/2023	0.05	0.46	0.46	0.00	0.00	0.01	0.01	0.00	0.01	0.01	207.11	0.07	0.01	2.82	0.00	0.00	2.88	
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	0.50	5.23	2.28	0.01	0.00	0.24	0.24	0.00	0.22	0.22	606.86	0.20	0.03	4.13	0.00	0.00	4.22	
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	0.34	2.37	2.19	0.01	0.00	0.09	0.09	0.00	0.08	0.08	851.67	0.28	0.04	5.79	0.00	0.00	5.92	
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	0.06	0.63	0.72	0.00	0.00	0.03	0.03	0.00	0.03	0.03	99.26	0.03	0.00	0.68	0.00	0.00	0.69	
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	0.48	4.87	7.07	0.01	0.00	0.24	0.24	0.00	0.22	0.22	956.03	0.31	0.04	6.50	0.00	0.00	6.65	
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	0.50	5.23	2.28	0.01	0.00	0.24	0.24	0.00	0.22	0.22	606.86	0.20	0.03	5.51	0.00	0.00	5.63	
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	0.34	2.37	2.19	0.01	0.00	0.09	0.09	0.00	0.08	0.08	851.67	0.28	0.04	7.73	0.00	0.00	7.89	
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	0.48	4.87	7.07	0.01	0.00	0.24	0.24	0.00	0.22	0.22	956.03	0.31	0.04	8.67	0.00	0.00	8.86	
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	3.00	30.46	44.25	0.06	0.00	1.51	1.51	0.00	1.38	1.38	5981.04	1.93	0.28	162.78	0.05	0.01	166.32	
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	1.01	7.12	6.56	0.03	0.00	0.26	0.26	0.00	0.24	0.24	2555.01	0.83	0.12	69.54	0.02	0.00	71.05	
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	1.44	14.60	21.22	0.03	0.00	0.72	0.72	0.00	0.66	0.66	2868.10	0.93	0.13	78.06	0.03	0.00	79.76	
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	2.85	28.72	44.34	0.06	0.00	1.32	1.32	0.00	1.22	1.22	5984.81	1.93	0.28	162.88	0.05	0.01	166.43	
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	0.99	6.64	6.49	0.03	0.00	0.24	0.24	0.00	0.22	0.22	2555.94	0.83	0.12	69.56	0.02	0.00	71.08	
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	1.37	13.77	21.26	0.03	0.00	0.63	0.63	0.00	0.58	0.58	2869.91	0.93	0.13	78.11	0.03	0.00	79.81	
Spillway Modification - Installation/upgrade of subsurface drainage systems	3/25/2024	4/19/2024	0.46	4.59	7.09	0.01	0.00	0.21	0.21	0.00	0.19	0.19	956.64	0.31	0.04	6.50	0.00	0.00	6.65	
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	1.25	12.60	19.45	0.03	0.00	0.58	0.58	0.00	0.53	0.53	2624.92	0.85	0.12	142.88	0.05	0.01	145.99	
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	1.37	13.77	21.26	0.03	0.00	0.63	0.63	0.00	0.58	0.58	2869.91	0.93	0.13	156.21	0.05	0.01	159.62	
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	1.25	12.60	19.45	0.03	0.00	0.58	0.58	0.00	0.53	0.53	2624.92	0.85	0.12	142.88	0.05	0.01	145.99	
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	1.37	13.77	21.26	0.03	0.00	0.63	0.63	0.00	0.58	0.58	2869.91	0.93	0.13	156.21	0.05	0.01	159.62	
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.50	5.23	2.28	0.01	0.00	0.24	0.24	0.00	0.22	0.22	606.86	0.20	0.03	4.13	0.00	0.00	4.22	
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.34	2.37	2.19	0.01	0.00	0.09	0.09	0.00	0.08	0.08	851.67	0.28	0.04	5.79	0.00	0.00	5.92	
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.06	0.63	0.72	0.00	0.00	0.03	0.03	0.00	0.03	0.03	99.26	0.03	0.00	0.68	0.00	0.00	0.69	
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.48	4.87	7.07	0.01	0.00	0.24	0.24	0.00	0.22	0.22	956.03	0.31	0.04	6.50	0.00	0.00	6.65	
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	0.50	5.23	2.28	0.01	0.00	0.24	0.24	0.00	0.22	0.22	606.86	0.20	0.03	4.13	0.00	0.00	4.22	
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	0.34	2.37	2.19	0.01	0.00	0.09	0.09	0.00	0.08	0.08	851.67	0.28	0.04	5.79	0.00	0.00	5.92	
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	0.48	4.87	7.07	0.01	0.00	0.24	0.24	0.00	0.22	0.22	956.03	0.31	0.04	6.50	0.00	0.00	6.65	
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	0.50	5.23	2.28	0.01	0.00	0.24	0.24	0.00	0.22	0.22	606.86	0.20	0.03	5.51	0.00	0.00	5.63	
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	0.34	2.37	2.19	0.01	0.00	0.09	0.09	0.00	0.08	0.08	851.67	0.28	0.04	7.73	0.00	0.00	7.89	
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	0.48	4.87	7.07	0.01	0.00	0.24	0.24	0.00	0.22	0.22	956.03	0.31	0.04	8.67	0.00	0.00	8.86	
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	2.00	20.30	29.50	0.04	0.00	1.00	1.00	0.00	0.92	0.92	3987.36	1.29	0.18	54.26	0.02	0.00	55.44	
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	1.11	10.99	12.80	0.02	0.00	0.57	0.57	0.00	0.53	0.53	1913.06	0.62	0.09	26.03	0.01	0.00	26.60	
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.67	4.75	4.38	0.02	0.00	0.17	0.17	0.00	0.16	0.16	1703.34	0.55	0.08	23.18	0.01	0.00	23.68	
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.96	9.74	14.15	0.02	0.00	0.48	0.48	0.00	0.44	0.44	1912.07	0.62	0.09	26.02	0.01	0.00	26.59	
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.80	8.12	11.80	0.02	0.00	0.40	0.40	0.00	0.37	0.37	1594.94	0.52	0.07	21.70	0.01	0.00	22.18	
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.44	4.40	5.12	0.01	0.00	0.23	0.23	0.00	0.21	0.21	765.22	0.25	0.04	10.41	0.00	0.00	10.64	
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.40	4.18	1.82	0.01	0.00	0.19	0.19	0.00	0.17	0.17	485.49	0.16	0.02	6.61	0.00	0.00	6.75	
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.12	0.98	2.06	0.00	0.00	0.05	0.05	0.00	0.04	0.04	316.52	0.10	0.01	4.31	0.00	0.00	4.40	
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.54	3.80	3.50	0.01	0.00	0.14	0.14	0.00	0.13	0.13	1362.67	0.44	0.06	18.54	0.01	0.00	18.95	
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.77	7.79	11.32	0.02	0.00	0.39	0.39	0.00	0.35	0.35	1529.65	0.49	0.07	20.82	0.01	0.00	21.27	
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.25	2.68	1.29	0.00	0.00	0.11	0.11	0.00	0.10	0.10	393.11	0.13	0.02	5.35	0.00	0.00	5.47	
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.29	3.14	1.51	0.00	0.00	0.13	0.13	0.00	0.12	0.12	459.64	0.15	0.02	6.25	0.00	0.00	6.39	
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.69	3.86	4.56	0.01	0.00	0.15	0.15	0.00	0.15	0.15	563.80	0.06	0.03	7.67	0.00	0.00	7.80	
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.48	4.87	7.07	0.01	0.00	0.24	0.24	0.00	0.22	0.22	956.03	0.31	0.04	13.01	0.00	0.00	13.29	
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/2023	4/12/2024	0.38	3.89	5.66	0.01	0.00	0.19	0.19	0.00	0.18	0.18	764.83	0.25	0.04	69.38	0.02	0.00	70.90	
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	5.03	54.71	26.31	0.08	0.00	2.29	2.29	0.00	2.10	2.10	8013.41	2.59	0.37	109.0				

Offroad Equipment - Energy Consumption

Phase	Start Date	equipment Name	Category	Year	Days	Hours per day	Number	Fuel Type	Horsepower	Kilowatts	Kilowatt Hours (day)	Kilowatt Hours (total)	lbs of CO2 per day				Total MT			
													CO2	CH4	N2O	CO2e	CO2	CH4	N2O	CO2e
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	Compressor, Stationary 1200cfm	Air Compressors	2023	30	20	1	Electric	350	261	5220	156597	13.99	0.14	0.02	22.65	0.19	0.00	0.00	0.31
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	EPBM and Backup 14'9"	Bore/Drill Rigs	2023	30	20	1	Electric	1800	1342	26845	805356	71.95	0.73	0.09	116.51	0.98	0.01	0.00	1.59
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	Compressor, Stationary 1200cfm	Air compressors	2024	5	20	1	Electric	350	261	5220	26099	13.99	0.14	0.02	22.65	0.03	0.00	0.00	0.05
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	EPBM and Backup 14'9"	Bore/Drill Rigs	2024	5	20	1	Electric	1800	1342	26845	134226	71.95	0.73	0.09	116.51	0.16	0.00	0.00	0.26
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Compressor, Stationary 1200cfm	Air compressors	2024	180	24	1	Electric	350	261	6264	1127498	16.79	0.17	0.02	27.19	1.37	0.01	0.00	2.22
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	EPBM and Backup 14'9"	Bore/Drill Rigs	2024	180	24	1	Electric	1800	1342	32214	5798562	86.33	0.87	0.11	139.81	7.05	0.07	0.01	11.42
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Pump, trash 200gpm/100ft head	Other General Industrial Equipment	2024	180	24	1	Electric	10	7	179	32214	0.48	0.00	0.00	0.78	0.04	0.00	0.00	0.06
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Ventilation Fan 100hp	Other General Industrial Equipment	2024	180	24	2	Electric	100	75	3579	644285	9.59	0.10	0.01	15.53	0.78	0.01	0.00	1.27
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Ventilation Fan 40hp	Other General Industrial Equipment	2024	180	24	1	Electric	40	30	716	128857	1.92	0.02	0.00	3.11	0.16	0.00	0.00	0.25
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Water Treatment Plant	Other General Industrial Equipment	2024	180	24	1	Electric	200	149	3579	644285	9.59	0.10	0.01	15.53	0.78	0.01	0.00	1.27
Tunneling - TBM trailing gear and plant removal	10/7/2024	Compressor, Stationary 1200cfm	Air Compressors	2024	15	24	1	Electric	350	261	6264	92958	16.79	0.17	0.02	27.19	0.11	0.00	0.00	0.18
Tunneling - TBM trailing gear and plant removal	10/7/2024	Pump, subm. 140gpm/20ft head	Other Construction Equipment	2024	15	24	2	Electric	2	1	72	1074	0.19	0.00	0.00	0.31	0.00	0.00	0.00	0.00
Tunneling - TBM trailing gear and plant removal	10/7/2024	Pump, trash 200gpm/100ft head	Other Construction Equipment	2024	15	24	1	Electric	10	7	179	2685	0.48	0.00	0.00	0.78	0.00	0.00	0.00	0.01
Tunneling - TBM trailing gear and plant removal	10/7/2024	Ventilation Fan 100hp	Other Construction Equipment	2024	15	24	2	Electric	100	75	3579	53690	9.59	0.10	0.01	15.53	0.07	0.00	0.00	0.11
Tunneling - TBM trailing gear and plant removal	10/7/2024	Water Treatment Plant	Other Construction Equipment	2024	15	24	1	Electric	200	149	3579	53690	9.59	0.10	0.01	15.53	0.07	0.00	0.00	0.11

Notes:

PG&E 2019 CO2 (lbs per MWh) delivered rate 2.68  
 GHG Intensity Factor lb CH4/MWh (Statewide EF's for 2024) 0.03  
 GHG Intensity Factor lb N2O/MWh (Statewide EF's for 2024) 0.00

Source: [https://www.pgecorp.com/corp\\_responsibility/reports/2021/assets/PGE\\_CSR\\_2021.pdf](https://www.pgecorp.com/corp_responsibility/reports/2021/assets/PGE_CSR_2021.pdf)

Demolition Fugitive Dust Emissions

Phase Name	Start Date	End Date	Total Days	Year	Demo Debris Weight (tons)	Demo EF (lb/ton throughput)					Emissions (lb/day)						
						PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Spillway modification - Improve access road	8/21/23	9/8/23	15	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60	2023	480.00	0.022		0.022	0.003		0.003	0.17		0.17	0.03		0.03
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	120	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00

Truck Loading Fugitive Dust Emissions

Phase Name	Start Date	End Date	Total Days	Year	Total CY	Tons/CY	Throughput (tons)
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	19432	1.2642	24565.28
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0	1.2642	0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	0	1.2642	0.00
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	3376	1.2642	4267.83
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0	1.2642	0.00
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30	2023	0	1.2642	0.00
Spillway modification - Improve access road	8/21/23	9/8/23	15	2023	0	1.2642	0.00
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20	2023	0	1.2642	0.00
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10	2023	0	1.2642	0.00
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60	2023	840	1.2642	1061.90
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60	2024	66667	1.2642	84278.17
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20	2024	0	1.2642	0.00
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	120	2024	18478	1.2642	23359.26
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80	2024	48189	1.2642	60918.91
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20	2024	0	1.2642	0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	6429	1.2642	8127.32
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0	1.2642	0.00
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0	1.2642	0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0	1.2642	0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0	1.2642	0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0	1.2642	0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	0	1.2642	0.00
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/23	4/12/24	200	2023	0	1.2642	0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	1.2642	0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	1.2642	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	6762	1.2642	8548.29
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	1.2642	0.00
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0	1.2642	0.00
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	7720	1.2642	9759.36
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0	1.2642	0.00

Truck Loading Fugitive Dust Emissions

Phase Name	Truck Loading EF (lb/ton throughput)						Emissions (lb/day) <sup>1</sup>					
	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Energy Dissipation - Site Clearing and Grading	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.01		0.01	0.00		0.00
Energy Dissipation - Construct energy dissipation structure	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation - Re-vegetation and site demob	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation - Construct ATV Trail to south portal	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Spillway modification - Dam stability investigation of San Antonio Dam	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Spillway modification - Improve access road	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Spillway modification - Site clearing/grading of staging areas	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Spillway modification - Installation of erosion control/silt fencing	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Spillway modification - Removal of existing spillway crest and existing concrete structures	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Spillway modification - Excavation to grade for new spillway walls and structure	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.01		0.01	0.00		0.00
Spillway modification - Installation/upgrade of subsurface drainage systems	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Spillway modification - Improvements to spillway chute and connection to new spillway structure	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.01		0.01	0.00		0.00
Spillway modification - Site cleanup and demobilization	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.01		0.01	0.00		0.00
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Tunneling - Drive 100' of tunnel at 20 fpd	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Tunneling - Tunnel punch list/clearing	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Tunneling - Muck disposal on site/grading	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Tunneling - Demobilization tunnel plant	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00

**Bulldozing Fugitive Dust Emissions**

Phase Name	Start	End	# of Workdays	First Year of CSTN	Equipment Type	# of Equipment	hours/day
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	Rubber Tired Dozers	1	10
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	Off-Highway Trucks	1	10
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	Tractors/Loaders/Backhoes	1	10
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	30	2024	Bore/Drill Rigs	1	10
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	Tractors/Loaders/Backhoes	1	10
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	Tractors/Loaders/Backhoes	1	10
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	20	2023	Rollers	1	10
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	20	2023	Tractors/Loaders/Backhoes	2	10
Spillway Modification - Dam stability investigation of San Antonio Dam	4/17/2023	5/26/2023	30	2023	Bore/Drill Rigs	1	10
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	15	2023	Rubber Tired Dozers	1	10
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	15	2023	Off-Highway Trucks	1	10
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	15	2023	Rollers	1	10
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	15	2023	Tractors/Loaders/Backhoes	1	10
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	Rubber Tired Dozers	1	10
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	Off-Highway Trucks	1	10
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	Tractors/Loaders/Backhoes	1	10
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	Tractors/Loaders/Backhoes	3	10
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	Off-Highway Trucks	3	10
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	Tractors/Loaders/Backhoes	3	10
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	Tractors/Loaders/Backhoes	3	10
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	Off-Highway Trucks	3	10
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	Tractors/Loaders/Backhoes	3	10
Spillway Modification - Installation/upgrade of subsurface drainage systems	3/25/2024	4/19/2024	20	2024	Tractors/Loaders/Backhoes	1	10
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	120	2024	Tractors/Loaders/Backhoes	3	10
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	120	2024	Tractors/Loaders/Backhoes	3	10
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	120	2024	Tractors/Loaders/Backhoes	3	10
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	120	2024	Tractors/Loaders/Backhoes	3	10
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Rubber Tired Dozers	1	10
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Off-Highway Trucks	1	10
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Rollers	1	10
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Tractors/Loaders/Backhoes	1	10
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	Rubber Tired Dozers	1	10
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	Off-Highway Trucks	1	10
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	Tractors/Loaders/Backhoes	1	10
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	Rubber Tired Dozers	1	10
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	Off-Highway Trucks	1	10
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	Tractors/Loaders/Backhoes	1	10
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Tractors/Loaders/Backhoes	2	10
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Other Construction Equipment	2	10
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Off-Highway Trucks	2	10
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Tractors/Loaders/Backhoes	2	10
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Tractors/Loaders/Backhoes	1	8
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Other Construction Equipment	1	8
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Rubber Tired Dozers	1	8
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Excavators	1	8
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Off-Highway Trucks	2	8
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Tractors/Loaders/Backhoes	2	8
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Cranes	1	10
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Cranes	1	10
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Welders	1	10
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Tractors/Loaders/Backhoes	1	10
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/2023	4/12/2024	200	2023	Tractors/Loaders/Backhoes	1	8
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Cranes	1	20
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Cranes	1	20
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Cranes	1	20
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Welders	1	20
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Tractors/Loaders/Backhoes	1	20
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Cranes	1	20
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Cranes	1	20
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Cranes	1	20
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Welders	1	20
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Tractors/Loaders/Backhoes	1	20
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	4	24
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	1	24
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Cranes	1	24
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	2	24
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Off-Highway Trucks	2	8
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	18	24
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Tractors/Loaders/Backhoes	1	24
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Cranes	1	20
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Skid Steer Loaders	1	24
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Other Material Handling Equipment	1	24
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Cranes	1	24
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Other Material Handling Equipment	1	24
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Other Material Handling Equipment	1	24
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Welders	1	24
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Tractors/Loaders/Backhoes	3	24
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	5	2023	Skid Steer Loaders	1	10
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	5	2023	Tractors/Loaders/Backhoes	1	10
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	Rubber Tired Dozers	1	10
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	Off-Highway Trucks	1	10
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	Tractors/Loaders/Backhoes	1	10
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	Tractors/Loaders/Backhoes	1	8



Bulldozing Fugitive Dust Emissions	Emission Factor (lb/hr)						Emissions (lb/day) <sup>1</sup>					
	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Phase Name												
Energy Dissipation - Site Clearing and Grading	0.75		0.75	0.41		0.41	3.39		3.39	1.86		1.86
Energy Dissipation - Site Clearing and Grading	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation - Site Clearing and Grading	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation - Construct energy dissipation structure	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation - Construct ATV Trail to south portal	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation - Construct ATV Trail to south portal	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway Modification - Dam stability investigation of San Antonio Dam	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway Modification - Improve Access Road	0.75		0.75	0.41		0.41	3.39		3.39	1.86		1.86
Spillway Modification - Improve Access Road	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway Modification - Improve Access Road	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway Modification - Improve Access Road	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway Modification - Site clearing/grading of staging areas	0.75		0.75	0.41		0.41	3.39		3.39	1.86		1.86
Spillway Modification - Site clearing/grading of staging areas	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway Modification - Site clearing/grading of staging areas	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway Modification - Removal of existing spillway crest and existing concrete structures	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway Modification - Removal of existing spillway crest and existing concrete structures	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway Modification - Removal of existing spillway crest and existing concrete structures	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway Modification - Excavation to grade for new spillway walls and structure	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway Modification - Excavation to grade for new spillway walls and structure	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway Modification - Excavation to grade for new spillway walls and structure	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway Modification - Installation/upgrade of subsurface drainage systems	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway modification - Improvements to spillway chute and connection to new spillway structure	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway modification - Improvements to spillway chute and connection to new spillway structure	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	0.75		0.75	0.41		0.41	3.39		3.39	1.86		1.86
Energy Dissipation Structure Tunnel Portal - Improve access road	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	0.75		0.75	0.41		0.41	3.39		3.39	1.86		1.86
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	0.75		0.75	0.41		0.41	3.39		3.39	1.86		1.86
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	0.75		0.75	0.41		0.41	2.71		2.71	1.49		1.49
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Drive 100' of tunnel at 20 fpd	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Drive 100' of tunnel at 20 fpd	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Drive 100' of tunnel at 20 fpd	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Drive 100' of tunnel at 20 fpd	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Drive 100' of tunnel at 20 fpd	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel punch list/clearing	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel punch list/clearing	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Muck disposal on site/grading	0.75		0.75	0.41		0.41	3.39		3.39	1.86		1.86
Tunneling - Muck disposal on site/grading	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Muck disposal on site/grading	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Demobilization tunnel plant	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00

Grading Fugitive Dust Emissions

Phase Name	Start	End	# of Workdays	First Year of CSTN	Equipment Type	# of Equipment	Equipment Usage (hours/day)	Acres per 8-hr day	Scaling Factor	Acres per day	Daily VMT
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	Rubber Tired Dozers	1	10	0.5	8	0.625	0.430
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	Off-Highway Trucks	1	10	0	8	0.000	0.000
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	Tractors/Loaders/Backhoes	1	10	0	9	0.000	0.000
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	30	2024	Bore/Drill Rigs	1	10	0	10	0.000	0.000
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	Tractors/Loaders/Backhoes	1	10	0	11	0.000	0.000
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	Tractors/Loaders/Backhoes	1	10	0	12	0.000	0.000
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	20	2023	Rollers	1	10	0	13	0.000	0.000
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	20	2023	Tractors/Loaders/Backhoes	2	10	0	14	0.000	0.000
Spillway Modification - Dam stability investigation of San Antonio Dam	4/17/2023	5/26/2023	30	2023	Bore/Drill Rigs	1	10	0	15	0.000	0.000
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	15	2023	Rubber Tired Dozers	1	10	0.5	16	0.313	0.215
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	15	2023	Off-Highway Trucks	1	10	0	17	0.000	0.000
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	15	2023	Rollers	1	10	0	18	0.000	0.000
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	15	2023	Tractors/Loaders/Backhoes	1	10	0	19	0.000	0.000
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	Rubber Tired Dozers	1	10	0.5	20	0.250	0.172
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	Off-Highway Trucks	1	10	0	21	0.000	0.000
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	Tractors/Loaders/Backhoes	1	10	0	22	0.000	0.000
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	Tractors/Loaders/Backhoes	3	10	0	23	0.000	0.000
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	Off-Highway Trucks	3	10	0	24	0.000	0.000
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	Tractors/Loaders/Backhoes	3	10	0	25	0.000	0.000
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	Tractors/Loaders/Backhoes	3	10	0	26	0.000	0.000
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	Off-Highway Trucks	3	10	0	27	0.000	0.000
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	Tractors/Loaders/Backhoes	3	10	0	28	0.000	0.000
Spillway Modification - Installation/upgrade of subsurface drainage systems	3/25/2024	4/19/2024	20	2024	Tractors/Loaders/Backhoes	1	10	0	29	0.000	0.000
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	120	2024	Tractors/Loaders/Backhoes	3	10	0	30	0.000	0.000
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	120	2024	Tractors/Loaders/Backhoes	3	10	0	31	0.000	0.000
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	120	2024	Tractors/Loaders/Backhoes	3	10	0	32	0.000	0.000
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	120	2024	Tractors/Loaders/Backhoes	3	10	0	33	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Rubber Tired Dozers	1	10	0.5	34	0.147	0.101
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Off-Highway Trucks	1	10	0	35	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Rollers	1	10	0	36	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Tractors/Loaders/Backhoes	1	10	0	37	0.000	0.000
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	Rubber Tired Dozers	1	10	0.5	38	0.132	0.090
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	Off-Highway Trucks	1	10	0	39	0.000	0.000
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	Tractors/Loaders/Backhoes	1	10	0	40	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	Rubber Tired Dozers	1	10	0.5	41	0.122	0.084
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	Off-Highway Trucks	1	10	0	42	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	Tractors/Loaders/Backhoes	1	10	0	43	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Tractors/Loaders/Backhoes	2	10	0	44	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Other Construction Equipment	2	10	0	45	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Off-Highway Trucks	2	10	0	46	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Tractors/Loaders/Backhoes	2	10	0	47	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Tractors/Loaders/Backhoes	1	8	0	48	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Other Construction Equipment	1	8	0	49	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Rubber Tired Dozers	1	8	0.5	50	0.080	0.055
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Excavators	1	8	0	51	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Off-Highway Trucks	2	8	0	52	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Tractors/Loaders/Backhoes	2	8	0	53	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Cranes	1	10	0	54	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Cranes	1	10	0	55	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Welders	1	10	0	56	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Tractors/Loaders/Backhoes	1	10	0	57	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024	200	2023	Tractors/Loaders/Backhoes	1	8	0	58	0.000	0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Cranes	1	20	0	59	0.000	0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Cranes	1	20	0	60	0.000	0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Cranes	1	20	0	61	0.000	0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Welders	1	20	0	62	0.000	0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Tractors/Loaders/Backhoes	1	20	0	63	0.000	0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Cranes	1	20	0	64	0.000	0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Cranes	1	20	0	65	0.000	0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Cranes	1	20	0	66	0.000	0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Welders	1	20	0	67	0.000	0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Tractors/Loaders/Backhoes	1	20	0	68	0.000	0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	4	24	0	69	0.000	0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	1	24	0	70	0.000	0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Cranes	1	24	0	71	0.000	0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	2	24	0	72	0.000	0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Off-Highway Trucks	2	8	0	73	0.000	0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	18	24	0	74	0.000	0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Tractors/Loaders/Backhoes	1	24	0	75	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Cranes	1	20	0	76	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Skid Steer Loaders	1	24	0	77	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Other Material Handling Equipment	1	24	0	78	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Cranes	1	24	0	79	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Other Material Handling Equipment	1	24	0	80	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Other Material Handling Equipment	1	24	0	81	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Welders	1	24	0	82	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Tractors/Loaders/Backhoes	3	24	0	83	0.000	0.000
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	5	2023	Skid Steer Loaders	1	10	0	84	0.000	0.000
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	5	2023	Tractors/Loaders/Backhoes	1	10	0	85	0.000	0.000
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	Rubber Tired Dozers	1	10	0.5	86	0.058	0.040
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	Off-Highway Trucks	1	10	0	87	0.000	0.000
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	Tractors/Loaders/Backhoes	1	10	0	88	0.000	0.000
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	Tractors/Loaders/Backhoes	1	8	0	89	0.000	0.000

Grading Fugitive Dust Emissions	Emission Factor (lb/VMT)						Emissions (lb/day)					
	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Phase Name												
Energy Dissipation - Site Clearing and Grading	1.543		1.543	0.167		0.167	0.298		0.298	0.032		0.032
Energy Dissipation - Site Clearing and Grading	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation - Site Clearing and Grading	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation - Construct energy dissipation structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation - Construct ATV Trail to south portal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation - Construct ATV Trail to south portal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway Modification - Dam stability investigation of San Antonio Dam	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway Modification - Improve Access Road	1.543		1.543	0.167		0.167	0.149		0.149	0.016		0.016
Spillway Modification - Improve Access Road	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway Modification - Improve Access Road	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway Modification - Improve Access Road	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway Modification - Site clearing/grading of staging areas	1.543		1.543	0.167		0.167	0.119		0.119	0.013		0.013
Spillway Modification - Site clearing/grading of staging areas	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway Modification - Site clearing/grading of staging areas	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway Modification - Removal of existing spillway crest and existing concrete structures	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway Modification - Removal of existing spillway crest and existing concrete structures	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway Modification - Removal of existing spillway crest and existing concrete structures	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway Modification - Excavation to grade for new spillway walls and structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway Modification - Excavation to grade for new spillway walls and structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway Modification - Excavation to grade for new spillway walls and structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway Modification - Installation/upgrade of subsurface drainage systems	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway modification - Improvements to spillway chute and connection to new spillway structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway modification - Improvements to spillway chute and connection to new spillway structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Improve access road	1.543		1.543	0.167		0.167	0.070		0.070	0.008		0.008
Energy Dissipation Structure Tunnel Portal - Improve access road	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Improve access road	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Improve access road	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	1.543		1.543	0.167		0.167	0.063		0.063	0.007		0.007
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	1.543		1.543	0.167		0.167	0.058		0.058	0.006		0.006
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel excavation and support @ 60' per day	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel excavation and support @ 60' per day	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel excavation and support @ 60' per day	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel excavation and support @ 60' per day	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel excavation and support @ 60' per day	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel excavation and support @ 60' per day	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel punch list/clearing	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel punch list/clearing	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Muck disposal on site/grading	1.543		1.543	0.167		0.167	0.028		0.028	0.003		0.003
Tunneling - Muck disposal on site/grading	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Muck disposal on site/grading	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Demobilization tunnel plant	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000

Worker Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi) <sup>1</sup>	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	20	2024	10	1.45	0.019	0.103	1.234	0.003	502.618	0.001	502.619	50.124	0.001	50.125	283.963	0.004	0.008
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	60	2024	6	1.45	0.019	0.103	1.234	0.003	502.618	0.001	502.619	50.124	0.001	50.125	283.963	0.004	0.008
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	6	1.45	0.019	0.103	1.234	0.003	502.618	0.001	502.619	50.124	0.001	50.125	283.963	0.004	0.008
Energy Dissipation - Re-vegetation and site demob	12/16/2024	1/24/2025	30	2024	8	1.45	0.019	0.103	1.234	0.003	502.618	0.001	502.619	50.124	0.001	50.125	283.963	0.004	0.008
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	30	2023	10	1.45	0.021	0.115	1.330	0.003	502.618	0.001	502.619	50.124	0.001	50.126	288.597	0.005	0.009
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/2023	5/26/2023	30	2023	8	0.34	0.021	0.115	1.330	0.003	502.618	0.001	502.619	50.124	0.001	50.126	288.597	0.005	0.009
Spillway modification - Improve access road	8/21/2023	9/8/2023	15	2023	8	0.34	0.021	0.115	1.330	0.003	502.618	0.001	502.619	50.124	0.001	50.126	288.597	0.005	0.009
Spillway modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	10	0.34	0.021	0.115	1.330	0.003	502.618	0.001	502.619	50.124	0.001	50.126	288.597	0.005	0.009
Spillway modification - Installation of erosion control/silt fencing	9/11/2023	9/22/2023	10	2023	6	0.34	0.021	0.115	1.330	0.003	502.618	0.001	502.619	50.124	0.001	50.126	288.597	0.005	0.009
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	24	0.34	0.021	0.115	1.330	0.003	502.618	0.001	502.619	50.124	0.001	50.126	288.597	0.005	0.009
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	24	0.34	0.019	0.103	1.234	0.003	502.618	0.001	502.619	50.124	0.001	50.125	283.963	0.004	0.008
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/2024	4/19/2024	20	2024	8	0.34	0.019	0.103	1.234	0.003	502.618	0.001	502.619	50.124	0.001	50.125	283.963	0.004	0.008
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	120	2024	20	0.34	0.019	0.103	1.234	0.003	502.618	0.001	502.619	50.124	0.001	50.125	283.963	0.004	0.008
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	80	2024	20	0.34	0.019	0.103	1.234	0.003	502.618	0.001	502.619	50.124	0.001	50.125	283.963	0.004	0.008
Spillway modification - Site cleanup and demobilization	10/7/2024	11/1/2024	20	2024	8	0.34	0.019	0.103	1.234	0.003	502.618	0.001	502.619	50.124	0.001	50.125	283.963	0.004	0.008
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	10	1.45	0.021	0.115	1.330	0.003	502.618	0.001	502.619	50.124	0.001	50.126	288.597	0.005	0.009
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	8	1.45	0.021	0.115	1.330	0.003	502.618	0.001	502.619	50.124	0.001	50.126	288.597	0.005	0.009
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/2023	8/18/2023	15	2023	8	1.45	0.021	0.115	1.330	0.003	502.618	0.001	502.619	50.124	0.001	50.126	288.597	0.005	0.009
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	30	2023	10	1.45	0.021	0.115	1.330	0.003	502.618	0.001	502.619	50.124	0.001	50.126	288.597	0.005	0.009
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	6	1.45	0.021	0.115	1.330	0.003	502.618	0.001	502.619	50.124	0.001	50.126	288.597	0.005	0.009
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	20	2023	8	1.45	0.021	0.115	1.330	0.003	502.618	0.001	502.619	50.124	0.001	50.126	288.597	0.005	0.009
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	8	1.45	0.021	0.115	1.330	0.003	502.618	0.001	502.619	50.124	0.001	50.126	288.597	0.005	0.009
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024	200	2023	0	1.45	0.021	0.115	1.330	0.003	502.618	0.001	502.619	50.124	0.001	50.126	288.597	0.005	0.009
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	10	1.45	0.021	0.115	1.330	0.003	502.618	0.001	502.619	50.124	0.001	50.126	288.597	0.005	0.009
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	146	1.45	0.019	0.103	1.234	0.003	502.618	0.001	502.619	50.124	0.001	50.125	283.963	0.004	0.008
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	114	1.45	0.019	0.103	1.234	0.003	502.618	0.001	502.619	50.124	0.001	50.125	283.963	0.004	0.008
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	30	2024	56	1.45	0.019	0.103	1.234	0.003	502.618	0.001	502.619	50.124	0.001	50.125	283.963	0.004	0.008
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	15	2023	0	1.45	0.021	0.115	1.330	0.003	502.618	0.001	502.619	50.124	0.001	50.126	288.597	0.005	0.009
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	78	1.45	0.019	0.103	1.234	0.003	502.618	0.001	502.619	50.124	0.001	50.125	283.963	0.004	0.008
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	26	1.45	0.019	0.103	1.234	0.003	502.618	0.001	502.619	50.124	0.001	50.125	283.963	0.004	0.008

Worker Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi) <sup>2</sup>	Non-Running Emission Factors (g/trip)**												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	20	2024	10	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	60	2024	6	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	6	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Re-vegetation and site demob	12/16/2024	1/24/2025	30	2024	8	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	30	2023	10	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/2023	5/26/2023	30	2023	8	0.34	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Spillway modification - Improve access road	8/21/2023	9/8/2023	15	2023	8	0.34	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Spillway modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	10	0.34	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Spillway modification - Installation of erosion control/silt fencing	9/11/2023	9/22/2023	10	2023	6	0.34	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	24	0.34	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	24	0.34	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/2024	4/19/2024	20	2024	8	0.34	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	120	2024	20	0.34	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	80	2024	20	0.34	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Spillway modification - Site cleanup and demobilization	10/7/2024	11/1/2024	20	2024	8	0.34	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	10	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	8	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/2023	8/18/2023	15	2023	8	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	30	2023	10	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	6	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	20	2023	8	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	8	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024	200	2023	0	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	10	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	146	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	114	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	30	2024	56	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	15	2023	0	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	78	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	26	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040

Worker Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi) <sup>2</sup>	Emissions (lb/day)														Total MT			
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e	
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	20	2024	10	1.45	0.04	0.01	0.15	0.00	7.23	0.00	7.23	1.60	0.00	1.60	10.91	0.00	0.00	0.10	0.00	0.00	0.10	
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	60	2024	6	1.45	0.02	0.01	0.09	0.00	4.34	0.00	4.34	0.96	0.00	0.96	6.55	0.00	0.00	0.18	0.00	0.00	0.18	
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	6	1.45	0.02	0.01	0.09	0.00	4.34	0.00	4.34	0.96	0.00	0.96	6.55	0.00	0.00	0.06	0.00	0.00	0.06	
Energy Dissipation - Re-vegetation and site demob	12/16/2024	1/24/2025	30	2024	8	1.45	0.03	0.01	0.12	0.00	5.78	0.00	5.78	1.28	0.00	1.28	8.73	0.00	0.00	0.12	0.00	0.00	0.12	
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	30	2023	10	1.45	0.04	0.01	0.16	0.00	7.23	0.00	7.23	1.60	0.00	1.60	11.10	0.00	0.00	0.15	0.00	0.00	0.15	
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/2023	5/26/2023	30	2023	8	0.34	0.03	0.01	0.10	0.00	1.36	0.00	1.36	0.30	0.00	0.30	3.23	0.00	0.00	0.04	0.00	0.00	0.04	
Spillway modification - Improve access road	8/21/2023	9/8/2023	15	2023	8	0.34	0.03	0.01	0.10	0.00	1.36	0.00	1.36	0.30	0.00	0.30	3.23	0.00	0.00	0.02	0.00	0.00	0.02	
Spillway modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	10	0.34	0.04	0.01	0.13	0.00	1.70	0.00	1.70	0.38	0.00	0.38	4.04	0.00	0.00	0.04	0.00	0.00	0.04	
Spillway modification - Installation of erosion control/silt fencing	9/11/2023	9/22/2023	10	2023	6	0.34	0.02	0.01	0.08	0.00	1.02	0.00	1.02	0.23	0.00	0.23	2.42	0.00	0.00	0.01	0.00	0.00	0.01	
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	24	0.34	0.09	0.03	0.31	0.00	4.08	0.00	4.08	0.90	0.00	0.90	9.70	0.01	0.00	0.26	0.00	0.00	0.26	
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	24	0.34	0.09	0.02	0.29	0.00	4.08	0.00	4.08	0.90	0.00	0.90	9.52	0.01	0.00	0.26	0.00	0.00	0.28	
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/2024	4/19/2024	20	2024	8	0.34	0.03	0.01	0.10	0.00	1.36	0.00	1.36	0.30	0.00	0.30	3.17	0.00	0.00	0.03	0.00	0.00	0.03	
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	120	2024	20	0.34	0.07	0.02	0.24	0.00	3.40	0.00	3.40	0.75	0.00	0.75	7.93	0.00	0.00	0.43	0.00	0.00	0.47	
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	80	2024	20	0.34	0.07	0.02	0.24	0.00	3.40	0.00	3.40	0.75	0.00	0.75	7.93	0.00	0.00	0.29	0.00	0.00	0.31	
Spillway modification - Site cleanup and demobilization	10/7/2024	11/1/2024	20	2024	8	0.34	0.03	0.01	0.10	0.00	1.36	0.00	1.36	0.30	0.00	0.30	3.17	0.00	0.00	0.03	0.00	0.00	0.03	
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	10	1.45	0.04	0.01	0.16	0.00	7.23	0.00	7.23	1.60	0.00	1.60	11.10	0.00	0.00	0.08	0.00	0.00	0.08	
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	8	1.45	0.03	0.01	0.13	0.00	5.78	0.00	5.78	1.28	0.00	1.28	8.88	0.00	0.00	0.06	0.00	0.00	0.06	
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/2023	8/18/2023	15	2023	8	1.45	0.03	0.01	0.13	0.00	5.78	0.00	5.78	1.28	0.00	1.28	8.88	0.00	0.00	0.06	0.00	0.00	0.06	
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	30	2023	10	1.45	0.04	0.01	0.16	0.00	7.23	0.00	7.23	1.60	0.00	1.60	11.10	0.00	0.00	0.15	0.00	0.00	0.16	
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	6	1.45	0.02	0.01	0.10	0.00	4.34	0.00	4.34	0.96	0.00	0.96	6.66	0.00	0.00	0.09	0.00	0.00	0.09	
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	20	2023	8	1.45	0.03	0.01	0.13	0.00	5.78	0.00	5.78	1.28	0.00	1.28	8.88	0.00	0.00	0.08	0.00	0.00	0.08	
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	8	1.45	0.03	0.01	0.13	0.00	5.78	0.00	5.78	1.28	0.00	1.28	8.88	0.00	0.00	0.12	0.00	0.00	0.13	
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/2023	4/12/2024	200	2023	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	10	1.45	0.04	0.01	0.16	0.00	7.23	0.00	7.23	1.60	0.00	1.60	11.10	0.00	0.00	0.15	0.00	0.00	0.16	
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	146	1.45	0.53	0.18	2.23	0.00	105.56	0.00	105.56	23.39	0.00	23.40	159.29	0.04	0.02	0.36	0.00	0.00	0.37	
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	114	1.45	0.41	0.14	1.74	0.00	82.43	0.00	82.43	18.27	0.00	18.27	124.38	0.03	0.01	10.16	0.00	0.00	10.53	
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	30	2024	56	1.45	0.20	0.07	0.85	0.00	40.49	0.00	40.49	8.97	0.00	8.97	61.10	0.01	0.01	0.83	0.00	0.00	0.86	
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	15	2023	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	78	1.45	0.28	0.10	1.19	0.00	56.40	0.00	56.40	12.50	0.00	12.50	85.10	0.02	0.01	6.95	0.00	0.00	7.20	
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	26	1.45	0.09	0.03	0.40	0.00	18.80	0.00	18.80	4.17	0.00	4.17	28.37	0.01	0.00	0.39	0.00	0.00	0.40	

Worker Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	20	2024	10	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	60	2024	6	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	6	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Energy Dissipation - Re-vegetation and site demob	12/16/2024	1/24/2025	30	2024	8	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	30	2023	10	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/2023	5/26/2023	30	2023	8	20.73068182	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Spillway modification - Improve access road	8/21/2023	9/8/2023	15	2023	8	20.73068182	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Spillway modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	10	20.73068182	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Spillway modification - Installation of erosion control/silt fencing	9/11/2023	9/22/2023	10	2023	6	20.73068182	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	24	20.73068182	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	24	20.73068182	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/2024	4/19/2024	20	2024	8	20.73068182	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	120	2024	20	20.73068182	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	80	2024	20	20.73068182	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Spillway modification - Site cleanup and demobilization	10/7/2024	11/1/2024	20	2024	8	20.73068182	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	10	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	8	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/2023	8/18/2023	15	2023	8	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	30	2023	10	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	6	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	20	2023	8	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	8	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/2023	4/12/2024	200	2023	0	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	10	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	146	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	114	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	30	2024	56	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	15	2023	0	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	78	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	26	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009

1) Accounts for all exhaust and evaporative processes

Worker Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	20	2024	10	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	60	2024	6	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	6	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Re-vegetation and site demob	12/16/2024	1/24/2025	30	2024	8	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	30	2023	10	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/2023	5/26/2023	30	2023	8	20.73068182	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Spillway modification - Improve access road	8/21/2023	9/8/2023	15	2023	8	20.73068182	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Spillway modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	10	20.73068182	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Spillway modification - Installation of erosion control/silt fencing	9/11/2023	9/22/2023	10	2023	6	20.73068182	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	24	20.73068182	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	24	20.73068182	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/2024	4/19/2024	20	2024	8	20.73068182	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	120	2024	20	20.73068182	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	80	2024	20	20.73068182	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Spillway modification - Site cleanup and demobilization	10/7/2024	11/1/2024	20	2024	8	20.73068182	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	10	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	8	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/2023	8/18/2023	15	2023	8	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	30	2023	10	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	6	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	20	2023	8	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	8	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/2023	4/12/2024	200	2023	0	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	10	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	146	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	114	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	30	2024	56	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	15	2023	0	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	78	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	26	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040

1) Accounts for all exhaust and evaporative processes



Worker Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day)													Total MT			
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	20	2024	10	20	0.05	0.06	0.64	0.00	0.13	0.00	0.13	0.03	0.00	0.04	141.18	0.00	0.00	1.28	0.00	0.00	1.29
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	60	2024	6	20	0.03	0.04	0.39	0.00	0.08	0.00	0.08	0.02	0.00	0.02	84.71	0.00	0.00	2.31	0.00	0.00	2.33
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	6	20	0.03	0.04	0.39	0.00	0.08	0.00	0.08	0.02	0.00	0.02	84.71	0.00	0.00	0.77	0.00	0.00	0.78
Energy Dissipation - Re-vegetation and site demob	12/16/2024	1/24/2025	30	2024	8	20	0.04	0.05	0.52	0.00	0.10	0.00	0.10	0.03	0.00	0.03	112.95	0.00	0.00	1.54	0.00	0.00	1.55
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	30	2023	10	20	0.05	0.06	0.69	0.00	0.13	0.00	0.13	0.03	0.00	0.04	143.47	0.01	0.01	1.95	0.00	0.00	1.97
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/2023	5/26/2023	30	2023	8	20.73068182	0.04	0.05	0.57	0.00	0.11	0.00	0.11	0.03	0.00	0.03	118.91	0.00	0.00	1.62	0.00	0.00	1.64
Spillway modification - Improve access road	8/21/2023	9/8/2023	15	2023	8	20.73068182	0.04	0.05	0.57	0.00	0.11	0.00	0.11	0.03	0.00	0.03	118.91	0.00	0.00	0.81	0.00	0.00	0.82
Spillway modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	10	20.73068182	0.05	0.07	0.71	0.00	0.13	0.00	0.14	0.04	0.00	0.04	148.64	0.01	0.01	1.35	0.00	0.00	1.36
Spillway modification - Installation of erosion control/silt fencing	9/11/2023	9/22/2023	10	2023	6	20.73068182	0.03	0.04	0.43	0.00	0.08	0.00	0.08	0.02	0.00	0.02	89.18	0.00	0.00	0.40	0.00	0.00	0.41
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	24	20.73068182	0.12	0.16	1.72	0.00	0.32	0.00	0.33	0.09	0.00	0.09	356.73	0.01	0.01	9.71	0.00	0.00	9.82
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	24	20.73068182	0.11	0.15	1.59	0.00	0.32	0.00	0.32	0.09	0.00	0.09	351.05	0.01	0.01	9.55	0.00	0.00	9.66
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/2024	4/19/2024	20	2024	8	20.73068182	0.04	0.05	0.53	0.00	0.11	0.00	0.11	0.03	0.00	0.03	117.02	0.00	0.00	1.06	0.00	0.00	1.07
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	120	2024	20	20.73068182	0.09	0.12	1.33	0.00	0.27	0.00	0.27	0.07	0.00	0.07	292.55	0.01	0.01	15.92	0.00	0.00	16.09
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	80	2024	20	20.73068182	0.09	0.12	1.33	0.00	0.27	0.00	0.27	0.07	0.00	0.07	292.55	0.01	0.01	10.62	0.00	0.00	10.73
Spillway modification - Site cleanup and demobilization	10/7/2024	11/1/2024	20	2024	8	20.73068182	0.04	0.05	0.53	0.00	0.11	0.00	0.11	0.03	0.00	0.03	117.02	0.00	0.00	1.06	0.00	0.00	1.07
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	10	20	0.05	0.06	0.69	0.00	0.13	0.00	0.13	0.03	0.00	0.04	143.47	0.01	0.01	0.98	0.00	0.00	0.99
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	8	20	0.04	0.05	0.56	0.00	0.10	0.00	0.10	0.03	0.00	0.03	114.77	0.00	0.00	0.78	0.00	0.00	0.79
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/2023	8/18/2023	15	2023	8	20	0.04	0.05	0.56	0.00	0.10	0.00	0.10	0.03	0.00	0.03	114.77	0.00	0.00	0.78	0.00	0.00	0.79
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	30	2023	10	20	0.05	0.06	0.69	0.00	0.13	0.00	0.13	0.03	0.00	0.04	143.47	0.01	0.01	1.95	0.00	0.00	1.97
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	6	20	0.03	0.04	0.42	0.00	0.08	0.00	0.08	0.02	0.00	0.02	86.08	0.00	0.00	1.17	0.00	0.00	1.18
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	20	2023	8	20	0.04	0.05	0.56	0.00	0.10	0.00	0.10	0.03	0.00	0.03	114.77	0.00	0.00	1.04	0.00	0.00	1.05
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	8	20	0.04	0.05	0.56	0.00	0.10	0.00	0.10	0.03	0.00	0.03	114.77	0.00	0.00	1.56	0.00	0.00	1.58
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/2023	4/12/2024	200	2023	0	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	10	20	0.05	0.06	0.69	0.00	0.13	0.00	0.13	0.03	0.00	0.04	143.47	0.01	0.01	1.95	0.00	0.00	1.97
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	146	20	0.67	0.86	9.41	0.02	1.90	0.01	1.91	0.51	0.01	0.52	2061.25	0.07	0.07	4.67	0.00	0.00	4.72
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	114	20	0.52	0.67	7.35	0.02	1.48	0.01	1.49	0.40	0.01	0.40	1609.47	0.05	0.05	131.41	0.00	0.00	132.81
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	30	2024	56	20	0.26	0.33	3.61	0.01	0.73	0.00	0.73	0.19	0.00	0.20	790.62	0.03	0.03	10.76	0.00	0.00	10.87
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	15	2023	0	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	78	20	0.36	0.46	5.03	0.01	1.01	0.01	1.02	0.27	0.01	0.28	1101.22	0.04	0.04	89.91	0.00	0.00	90.87
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	26	20	0.12	0.15	1.68	0.00	0.34	0.00	0.34	0.09	0.00	0.09	367.07	0.01	0.01	5.00	0.00	0.00	5.05

1) Accounts for all exhaust and evaporative processes

Vendor Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi) <sup>1,3</sup>	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	2	1.45	0.018	1.534	0.106	0.012	502.692	0.012	502.705	50.149	0.012	50.161	1294.563	0.001	0.204
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	6	1.45	0.018	1.534	0.106	0.012	502.692	0.012	502.705	50.149	0.012	50.161	1294.563	0.001	0.204
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	8	1.45	0.018	1.534	0.106	0.012	502.692	0.012	502.705	50.149	0.012	50.161	1294.563	0.001	0.204
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	2	1.45	0.018	1.534	0.106	0.012	502.692	0.012	502.705	50.149	0.012	50.161	1294.563	0.001	0.204
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	10	1.45	0.021	1.646	0.114	0.012	502.692	0.014	502.706	50.149	0.013	50.162	1306.317	0.001	0.206
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30	2023	8	0.34	0.021	1.646	0.114	0.012	502.692	0.014	502.706	50.149	0.013	50.162	1306.317	0.001	0.206
Spillway modification - Improve access road	8/21/23	9/8/23	15	2023	2	0.34	0.021	1.646	0.114	0.012	502.692	0.014	502.706	50.149	0.013	50.162	1306.317	0.001	0.206
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20	2023	2	0.34	0.021	1.646	0.114	0.012	502.692	0.014	502.706	50.149	0.013	50.162	1306.317	0.001	0.206
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10	2023	10	0.34	0.021	1.646	0.114	0.012	502.692	0.014	502.706	50.149	0.013	50.162	1306.317	0.001	0.206
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60	2023	8	0.34	0.021	1.646	0.114	0.012	502.692	0.014	502.706	50.149	0.013	50.162	1306.317	0.001	0.206
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60	2024	8	0.34	0.018	1.534	0.106	0.012	502.692	0.012	502.705	50.149	0.012	50.161	1294.563	0.001	0.204
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20	2024	8	0.34	0.018	1.534	0.106	0.012	502.692	0.012	502.705	50.149	0.012	50.161	1294.563	0.001	0.204
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	120	2024	24	0.34	0.018	1.534	0.106	0.012	502.692	0.012	502.705	50.149	0.012	50.161	1294.563	0.001	0.204
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80	2024	8	0.34	0.018	1.534	0.106	0.012	502.692	0.012	502.705	50.149	0.012	50.161	1294.563	0.001	0.204
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20	2024	4	0.34	0.018	1.534	0.106	0.012	502.692	0.012	502.705	50.149	0.012	50.161	1294.563	0.001	0.204
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	2	1.45	0.021	1.646	0.114	0.012	502.692	0.014	502.706	50.149	0.013	50.162	1306.317	0.001	0.206
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	2	1.45	0.021	1.646	0.114	0.012	502.692	0.014	502.706	50.149	0.013	50.162	1306.317	0.001	0.206
Energy Dissipation Structure Tunnel Portal - install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	2	1.45	0.021	1.646	0.114	0.012	502.692	0.014	502.706	50.149	0.013	50.162	1306.317	0.001	0.206
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	2	1.45	0.021	1.646	0.114	0.012	502.692	0.014	502.706	50.149	0.013	50.162	1306.317	0.001	0.206
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	8	1.45	0.021	1.646	0.114	0.012	502.692	0.014	502.706	50.149	0.013	50.162	1306.317	0.001	0.206
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	8	1.45	0.021	1.646	0.114	0.012	502.692	0.014	502.706	50.149	0.013	50.162	1306.317	0.001	0.206
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	8	1.45	0.021	1.646	0.114	0.012	502.692	0.014	502.706	50.149	0.013	50.162	1306.317	0.001	0.206
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/23	4/12/24	200	2023	8	1.45	0.021	1.646	0.114	0.012	502.692	0.014	502.706	50.149	0.013	50.162	1306.317	0.001	0.206
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	1.45	0.021	1.646	0.114	0.012	502.692	0.014	502.706	50.149	0.013	50.162	1306.317	0.001	0.206
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	1.45	0.018	1.534	0.106	0.012	502.692	0.012	502.705	50.149	0.012	50.161	1294.563	0.001	0.204
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	10	1.45	0.018	1.534	0.106	0.012	502.692	0.012	502.705	50.149	0.012	50.161	1294.563	0.001	0.204
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	1.45	0.018	1.534	0.106	0.012	502.692	0.012	502.705	50.149	0.012	50.161	1294.563	0.001	0.204
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	8	1.45	0.021	1.646	0.114	0.012	502.692	0.014	502.706	50.149	0.013	50.162	1306.317	0.001	0.206
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	10	1.45	0.018	1.534	0.106	0.012	502.692	0.012	502.705	50.149	0.012	50.161	1294.563	0.001	0.204
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0	1.45	0.018	1.534	0.106	0.012	502.692	0.012	502.705	50.149	0.012	50.161	1294.563	0.001	0.204

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Vendor Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi) <sup>1,3</sup>	Non-Running Emission Factors (g/trip) <sup>1</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	2	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	6	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	8	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	2	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	10	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30	2023	8	0.34	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Spillway modification - Improve access road	8/21/23	9/8/23	15	2023	2	0.34	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20	2023	2	0.34	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10	2023	10	0.34	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60	2023	8	0.34	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60	2024	8	0.34	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20	2024	8	0.34	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	120	2024	24	0.34	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80	2024	8	0.34	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20	2024	4	0.34	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	2	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	2	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	2	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	2	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	8	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	8	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	8	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/23	4/12/24	200	2023	8	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	10	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	8	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	10	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Vendor Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi) <sup>1,3</sup>	Emissions (lb/day) <sup>2</sup>										Total MT						
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	2	1.45	0.00	0.03	0.01	0.00	1.45	0.00	1.45	0.14	0.00	0.14	10.76	0.00	0.00	0.10	0.00	0.00	0.10
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	6	1.45	0.00	0.10	0.04	0.00	4.34	0.00	4.34	0.43	0.00	0.43	32.28	0.00	0.01	0.88	0.00	0.00	0.92
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	8	1.45	0.00	0.13	0.06	0.00	5.79	0.00	5.79	0.58	0.00	0.58	43.04	0.00	0.01	0.39	0.00	0.00	0.41
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	2	1.45	0.00	0.03	0.01	0.00	1.45	0.00	1.45	0.14	0.00	0.14	10.76	0.00	0.00	0.15	0.00	0.00	0.15
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	10	1.45	0.01	0.16	0.08	0.00	7.23	0.00	7.23	0.72	0.00	0.72	54.40	0.00	0.01	0.74	0.00	0.00	0.78
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30	2023	8	0.34	0.00	0.10	0.06	0.00	1.36	0.00	1.36	0.14	0.00	0.14	17.97	0.00	0.00	0.24	0.00	0.00	0.26
Spillway modification - Improve access road	8/21/23	9/8/23	15	2023	2	0.34	0.00	0.02	0.01	0.00	0.34	0.00	0.34	0.03	0.00	0.03	4.49	0.00	0.00	0.03	0.00	0.00	0.03
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20	2023	2	0.34	0.00	0.02	0.01	0.00	0.34	0.00	0.34	0.03	0.00	0.03	4.49	0.00	0.00	0.04	0.00	0.00	0.04
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10	2023	10	0.34	0.00	0.12	0.07	0.00	1.70	0.00	1.70	0.17	0.00	0.17	22.46	0.00	0.00	0.10	0.00	0.00	0.11
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60	2023	8	0.34	0.00	0.10	0.06	0.00	1.36	0.00	1.36	0.14	0.00	0.14	17.97	0.00	0.00	0.49	0.00	0.00	0.51
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60	2024	8	0.34	0.00	0.10	0.06	0.00	1.36	0.00	1.36	0.14	0.00	0.14	17.71	0.00	0.00	0.48	0.00	0.00	0.50
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20	2024	8	0.34	0.00	0.10	0.06	0.00	1.36	0.00	1.36	0.14	0.00	0.14	17.71	0.00	0.00	0.16	0.00	0.00	0.17
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	120	2024	24	0.34	0.01	0.30	0.17	0.00	4.08	0.00	4.08	0.41	0.00	0.41	53.14	0.00	0.01	2.89	0.00	0.00	3.03
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80	2024	8	0.34	0.00	0.10	0.06	0.00	1.36	0.00	1.36	0.14	0.00	0.14	17.71	0.00	0.00	0.64	0.00	0.00	0.67
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20	2024	4	0.34	0.00	0.05	0.03	0.00	0.68	0.00	0.68	0.07	0.00	0.07	8.86	0.00	0.00	0.08	0.00	0.00	0.08
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	2	1.45	0.00	0.03	0.02	0.00	1.45	0.00	1.45	0.14	0.00	0.14	10.88	0.00	0.00	0.07	0.00	0.00	0.08
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	2	1.45	0.00	0.03	0.02	0.00	1.45	0.00	1.45	0.14	0.00	0.14	10.88	0.00	0.00	0.07	0.00	0.00	0.08
Energy Dissipation Structure Tunnel Portal - install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	2	1.45	0.00	0.03	0.02	0.00	1.45	0.00	1.45	0.14	0.00	0.14	10.88	0.00	0.00	0.07	0.00	0.00	0.08
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	2	1.45	0.00	0.03	0.02	0.00	1.45	0.00	1.45	0.14	0.00	0.14	10.88	0.00	0.00	0.15	0.00	0.00	0.16
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	8	1.45	0.00	0.13	0.06	0.00	5.79	0.00	5.79	0.58	0.00	0.58	43.52	0.00	0.01	0.59	0.00	0.00	0.62
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	8	1.45	0.00	0.13	0.06	0.00	5.79	0.00	5.79	0.58	0.00	0.58	43.52	0.00	0.01	0.39	0.00	0.00	0.41
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	8	1.45	0.00	0.13	0.06	0.00	5.79	0.00	5.79	0.58	0.00	0.58	43.52	0.00	0.01	0.59	0.00	0.00	0.62
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/23	4/12/24	200	2023	8	1.45	0.00	0.13	0.06	0.00	5.79	0.00	5.79	0.58	0.00	0.58	43.52	0.00	0.01	3.95	0.00	0.00	4.13
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	10	1.45	0.01	0.16	0.07	0.00	7.23	0.00	7.23	0.72	0.00	0.72	53.79	0.00	0.01	4.39	0.00	0.00	4.60
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	8	1.45	0.00	0.13	0.06	0.00	5.79	0.00	5.79	0.58	0.00	0.58	43.52	0.00	0.01	0.30	0.00	0.00	0.31
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	10	1.45	0.01	0.16	0.07	0.00	7.23	0.00	7.23	0.72	0.00	0.72	53.79	0.00	0.01	4.39	0.00	0.00	4.60
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Vendor Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	2	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	6	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	8	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	2	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	10	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30	2023	8	20.73068182	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Spillway modification - Improve access road	8/21/23	9/8/23	15	2023	2	20.73068182	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20	2023	2	20.73068182	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10	2023	10	20.73068182	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60	2023	8	20.73068182	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60	2024	8	20.73068182	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20	2024	8	20.73068182	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	120	2024	24	20.73068182	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80	2024	8	20.73068182	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20	2024	4	20.73068182	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	2	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	2	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	2	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	2	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	8	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	8	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	8	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	8	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	10	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	8	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	10	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216

1) Off-site would only be cement trips

Vendor Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	2	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	6	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	8	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	2	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	10	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30	2023	8	20.73068182	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Spillway modification - Improve access road	8/21/23	9/8/23	15	2023	2	20.73068182	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20	2023	2	20.73068182	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10	2023	10	20.73068182	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60	2023	8	20.73068182	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60	2024	8	20.73068182	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20	2024	8	20.73068182	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	120	2024	24	20.73068182	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80	2024	8	20.73068182	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20	2024	4	20.73068182	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	2	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	2	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	2	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	2	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	8	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	8	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	8	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	8	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	10	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	8	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	10	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089

1) Off-site would only be cement trips

Vendor Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day)													Total MT			
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	2	20	0.00	0.16	0.02	0.00	0.03	0.00	0.03	0.01	0.00	0.01	123.61	0.00	0.02	1.12	0.00	0.00	1.17
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	6	20	0.01	0.49	0.07	0.00	0.09	0.01	0.10	0.03	0.01	0.03	370.83	0.00	0.06	10.09	0.00	0.00	10.57
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	8	20	0.01	0.65	0.09	0.00	0.13	0.01	0.13	0.04	0.01	0.04	494.44	0.00	0.08	4.49	0.00	0.00	4.70
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	2	20	0.00	0.16	0.02	0.00	0.03	0.00	0.03	0.01	0.00	0.01	123.61	0.00	0.02	1.68	0.00	0.00	1.76
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	10	20	0.02	0.86	0.12	0.01	0.16	0.01	0.17	0.04	0.01	0.06	624.23	0.00	0.10	8.49	0.00	0.00	8.89
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30	2023	8	20.73068182	0.01	0.71	0.10	0.00	0.13	0.01	0.14	0.04	0.01	0.05	517.26	0.00	0.08	7.04	0.00	0.00	7.37
Spillway modification - Improve access road	8/21/23	9/8/23	15	2023	2	20.73068182	0.00	0.18	0.02	0.00	0.03	0.00	0.04	0.01	0.00	0.01	129.31	0.00	0.02	0.88	0.00	0.00	0.92
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20	2023	2	20.73068182	0.00	0.18	0.02	0.00	0.03	0.00	0.04	0.01	0.00	0.01	129.31	0.00	0.02	1.17	0.00	0.00	1.23
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10	2023	10	20.73068182	0.02	0.88	0.12	0.01	0.16	0.01	0.18	0.05	0.01	0.06	646.57	0.00	0.10	2.93	0.00	0.00	3.07
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60	2023	8	20.73068182	0.01	0.71	0.10	0.00	0.13	0.01	0.14	0.04	0.01	0.05	517.26	0.00	0.08	14.08	0.00	0.00	14.74
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60	2024	8	20.73068182	0.01	0.67	0.10	0.00	0.13	0.01	0.14	0.04	0.01	0.05	512.14	0.00	0.08	13.94	0.00	0.00	14.59
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20	2024	8	20.73068182	0.01	0.67	0.10	0.00	0.13	0.01	0.14	0.04	0.01	0.05	512.14	0.00	0.08	4.65	0.00	0.00	4.86
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	120	2024	24	20.73068182	0.04	2.02	0.29	0.01	0.39	0.03	0.42	0.11	0.02	0.14	1536.43	0.00	0.24	83.63	0.00	0.01	87.56
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80	2024	8	20.73068182	0.01	0.67	0.10	0.00	0.13	0.01	0.14	0.04	0.01	0.05	512.14	0.00	0.08	18.58	0.00	0.00	19.46
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20	2024	4	20.73068182	0.01	0.34	0.05	0.00	0.07	0.00	0.07	0.02	0.00	0.02	256.07	0.00	0.04	2.32	0.00	0.00	2.43
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	2	20	0.00	0.17	0.02	0.00	0.03	0.00	0.03	0.01	0.00	0.01	124.85	0.00	0.02	0.85	0.00	0.00	0.89
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	2	20	0.00	0.17	0.02	0.00	0.03	0.00	0.03	0.01	0.00	0.01	124.85	0.00	0.02	0.85	0.00	0.00	0.89
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	2	20	0.00	0.17	0.02	0.00	0.03	0.00	0.03	0.01	0.00	0.01	124.85	0.00	0.02	0.85	0.00	0.00	0.89
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	2	20	0.00	0.17	0.02	0.00	0.03	0.00	0.03	0.01	0.00	0.01	124.85	0.00	0.02	1.70	0.00	0.00	1.78
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	8	20	0.01	0.68	0.10	0.00	0.13	0.01	0.14	0.04	0.01	0.04	499.38	0.00	0.08	6.80	0.00	0.00	7.11
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	8	20	0.01	0.68	0.10	0.00	0.13	0.01	0.14	0.04	0.01	0.04	499.38	0.00	0.08	4.53	0.00	0.00	4.74
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	8	20	0.01	0.68	0.10	0.00	0.13	0.01	0.14	0.04	0.01	0.04	499.38	0.00	0.08	6.80	0.00	0.00	7.11
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	8	20	0.01	0.68	0.10	0.00	0.13	0.01	0.14	0.04	0.01	0.04	499.38	0.00	0.08	45.30	0.00	0.01	47.43
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	10	20	0.02	0.82	0.12	0.01	0.16	0.01	0.17	0.04	0.01	0.05	618.05	0.00	0.10	50.46	0.00	0.01	52.83
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	8	20	0.01	0.68	0.10	0.00	0.13	0.01	0.14	0.04	0.01	0.04	499.38	0.00	0.08	3.40	0.00	0.00	3.56
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	10	20	0.02	0.82	0.12	0.01	0.16	0.01	0.17	0.04	0.01	0.05	618.05	0.00	0.10	50.46	0.00	0.01	52.83
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1) Off-site would only be cement trips

Haul Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	122	0.38	0.02	2.03	0.11	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1592.30	0.00	0.25
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0	0.14	0.02	2.03	0.11	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1592.30	0.00	0.25
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	4	0.14	0.02	2.03	0.11	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1592.30	0.00	0.25
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	16	1.46	0.02	2.03	0.11	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1592.30	0.00	0.25
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0	0.58	0.02	2.15	0.12	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1612.53	0.00	0.25
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30	2023	0	0.34	0.02	2.15	0.12	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1612.53	0.00	0.25
Spillway modification - Improve access road	8/21/23	9/8/23	15	2023	0	0.34	0.02	2.15	0.12	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1612.53	0.00	0.25
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20	2023	0	0.34	0.02	2.15	0.12	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1612.53	0.00	0.25
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10	2023	0	0.34	0.02	2.15	0.12	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1612.53	0.00	0.25
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60	2023	2	0.34	0.02	2.15	0.12	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1612.53	0.00	0.25
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60	2024	140	0.86	0.02	2.03	0.11	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1592.30	0.00	0.25
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20	2024	0	0.34	0.02	2.03	0.11	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1592.30	0.00	0.25
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	120	2024	20	0.34	0.02	2.03	0.11	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1592.30	0.00	0.25
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80	2024	76	1.21	0.02	2.03	0.11	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1592.30	0.00	0.25
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20	2024	4	0.34	0.02	2.03	0.11	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1592.30	0.00	0.25
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	54	1.25	0.02	2.15	0.12	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1612.53	0.00	0.25
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0	0.15	0.02	2.15	0.12	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1612.53	0.00	0.25
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0	0.14	0.02	2.15	0.12	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1612.53	0.00	0.25
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0	0.15	0.02	2.15	0.12	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1612.53	0.00	0.25
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0	0.14	0.02	2.15	0.12	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1612.53	0.00	0.25
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0	0.14	0.02	2.15	0.12	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1612.53	0.00	0.25
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	4	1.45	0.02	2.15	0.12	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1612.53	0.00	0.25
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	4	1.45	0.02	2.15	0.12	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1612.53	0.00	0.25
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	0.14	0.02	2.15	0.12	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1612.53	0.00	0.25
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	1.45	0.02	2.03	0.11	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1592.30	0.00	0.25
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	6	1.45	0.02	2.03	0.11	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1592.30	0.00	0.25
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	1.45	0.02	2.03	0.11	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1592.30	0.00	0.25
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0	0.38	0.02	2.15	0.12	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1612.53	0.00	0.25
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	0	0.38	0.02	2.03	0.11	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1592.30	0.00	0.25
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	2	1.45	0.02	2.03	0.11	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1592.30	0.00	0.25



Haul Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	122	0.38	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0	0.14	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	4	0.14	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	16	1.46	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0	0.58	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30	2023	0	0.34	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Spillway modification - Improve access road	8/21/23	9/8/23	15	2023	0	0.34	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20	2023	0	0.34	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10	2023	0	0.34	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60	2023	2	0.34	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60	2024	140	0.86	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20	2024	0	0.34	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	120	2024	20	0.34	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80	2024	76	1.21	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20	2024	4	0.34	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	54	1.25	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0	0.15	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0	0.14	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0	0.15	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0	0.14	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0	0.14	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	4	1.45	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	4	1.45	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	0.14	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	1.45	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	6	1.45	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	1.45	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0	0.38	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	0	0.38	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	2	1.45	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15

Haul Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day) <sup>2</sup>													Total MT			
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	122	0.38	0.11	2.25	1.58	0.00	30.61	0.00	30.61	3.06	0.00	3.06	413.30	0.01	0.07	3.75	0.00	0.00	3.93
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	4	0.14	0.00	0.07	0.05	0.00	0.37	0.00	0.37	0.04	0.00	0.04	10.19	0.00	0.00	0.09	0.00	0.00	0.10
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	16	1.46	0.01	0.37	0.21	0.00	15.49	0.00	15.49	1.55	0.00	1.55	115.00	0.00	0.02	1.56	0.00	0.00	1.64
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30	2023	0	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spillway modification - Improve access road	8/21/23	9/8/23	15	2023	0	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20	2023	0	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10	2023	0	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60	2023	2	0.34	0.00	0.04	0.03	0.00	0.45	0.00	0.45	0.05	0.00	0.05	6.62	0.00	0.00	0.18	0.00	0.00	0.19
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60	2024	140	0.86	0.13	2.88	1.83	0.01	79.46	0.00	79.47	7.93	0.00	7.94	709.21	0.01	0.11	19.30	0.00	0.00	20.21
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20	2024	0	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	120	2024	20	0.34	0.02	0.37	0.26	0.00	4.52	0.00	4.52	0.45	0.00	0.45	65.09	0.00	0.01	3.54	0.00	0.00	3.71
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80	2024	76	1.21	0.07	1.69	1.00	0.00	60.88	0.00	60.88	6.08	0.00	6.08	479.04	0.00	0.08	17.38	0.00	0.00	18.20
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20	2024	4	0.34	0.00	0.07	0.05	0.00	0.90	0.00	0.90	0.09	0.00	0.09	13.02	0.00	0.00	0.12	0.00	0.00	0.12
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	54	1.25	0.05	1.20	0.71	0.00	44.71	0.00	44.72	4.46	0.00	4.47	353.39	0.00	0.06	2.40	0.00	0.00	2.52
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	4	1.45	0.00	0.09	0.05	0.00	3.84	0.00	3.84	0.38	0.00	0.38	29.02	0.00	0.00	0.39	0.00	0.00	0.41
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	4	1.45	0.00	0.09	0.05	0.00	3.84	0.00	3.84	0.38	0.00	0.38	29.02	0.00	0.00	2.63	0.00	0.00	2.76
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	6	1.45	0.01	0.14	0.08	0.00	5.76	0.00	5.76	0.58	0.00	0.58	42.89	0.00	0.01	3.50	0.00	0.00	3.67
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	0	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	2	1.45	0.00	0.05	0.03	0.00	1.92	0.00	1.92	0.19	0.00	0.19	14.30	0.00	0.00	0.19	0.00	0.00	0.20

Haul Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	122	0	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0	0	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	4	27	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	16	20	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Spillway modification - Improve access road	8/21/23	9/8/23	15	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60	2023	2	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60	2024	140	0.73068182	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20	2024	0	0	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	120	2024	20	20.73068182	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80	2024	76	0.73068182	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20	2024	4	27.73068182	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	54	20.73068182	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	4	27	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	4	27	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	0	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	6	27	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	0	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	0	0	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	2	27	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25

Haul Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>													
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	122	0	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15	
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0	0	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15	
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	4	27	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15	
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	16	20	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15	
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15	
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15	
Spillway modification - Improve access road	8/21/23	9/8/23	15	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15	
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15	
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15	
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60	2023	2	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15	
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60	2024	140	0.73068182	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15	
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20	2024	0	0	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15	
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	120	2024	20	20.73068182	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15	
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80	2024	76	0.73068182	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15	
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20	2024	4	27.73068182	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15	
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	54	20.73068182	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15	
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15	
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15	
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15	
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15	
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15	
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	4	27	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15	
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	4	27	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15	
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15	
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	0	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15	
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	6	27	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15	
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	0	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15	
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15	
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	0	0	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15	
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	2	27	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15	

Haul Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day)														Total MT				
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e		
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	122	0	0.11	2.04	1.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	251.08	0.01	0.04	2.28	0.00	0.00	2.39
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	4	27	0.01	0.51	0.07	0.00	0.09	0.01	0.10	0.03	0.01	0.03	0.00	0.00	391.49	0.00	0.06	3.55	0.00	0.00	3.72
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	16	20	0.03	1.57	0.26	0.01	0.27	0.02	0.29	0.08	0.02	0.10	0.00	0.00	1168.50	0.00	0.18	15.90	0.00	0.00	16.65
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spillway modification - Improve access road	8/21/23	9/8/23	15	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60	2023	2	0	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.20	0.00	0.00	0.11	0.00	0.00	0.12
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60	2024	140	0.73068182	0.13	2.76	1.82	0.01	0.09	0.01	0.09	0.02	0.01	0.03	0.00	0.00	651.13	0.01	0.10	17.72	0.00	0.00	18.56
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20	2024	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	120	2024	20	20.73068182	0.03	2.02	0.33	0.01	0.35	0.03	0.38	0.10	0.03	0.13	0.00	0.00	1512.49	0.00	0.24	82.33	0.00	0.01	86.19
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80	2024	76	0.73068182	0.07	1.50	0.99	0.00	0.05	0.00	0.05	0.01	0.00	0.02	0.00	0.00	353.47	0.00	0.06	12.83	0.00	0.00	13.43
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20	2024	4	27.73068182	0.01	0.52	0.07	0.00	0.09	0.01	0.10	0.03	0.01	0.03	0.00	0.00	401.86	0.00	0.06	3.65	0.00	0.00	3.82
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	54	20.73068182	0.09	5.62	0.90	0.04	0.95	0.07	1.02	0.27	0.07	0.34	0.00	0.00	4141.80	0.00	0.65	28.18	0.00	0.00	29.50
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	4	27	0.01	0.52	0.07	0.00	0.09	0.01	0.10	0.03	0.01	0.03	0.00	0.00	397.04	0.00	0.06	5.40	0.00	0.00	5.66
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	4	27	0.01	0.52	0.07	0.00	0.09	0.01	0.10	0.03	0.01	0.03	0.00	0.00	397.04	0.00	0.06	36.02	0.00	0.01	37.71
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	6	27	0.01	0.76	0.10	0.01	0.14	0.01	0.15	0.04	0.01	0.05	0.00	0.00	587.23	0.00	0.09	47.95	0.00	0.01	50.20
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	2	27	0.00	0.25	0.03	0.00	0.05	0.00	0.05	0.01	0.00	0.02	0.00	0.00	195.74	0.00	0.03	2.66	0.00	0.00	2.79



Paving Off-Gassing Emissions

Phase Name	Acres	Off-Gassing EF (lb/acre)	Total Emissions (lbs)
	0.00	2.62	0.00
	0.00	2.62	0.00

\*No paving within the North Central Coast Air Basin

Combined Phase Name5	Start Date5	End Date5	# of Workdays5	Emissions (lb/day)
				ROG
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20.00	0.00
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60.00	0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20.00	0.00
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30.00	0.00
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30.00	0.00
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30.00	0.00
Spillway modification - Improve access road	8/21/23	9/8/23	15.00	0.00
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20.00	0.00
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10.00	0.00
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60.00	0.00
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60.00	0.00
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20.00	0.00
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	120.00	0.00
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80.00	0.00
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20.00	0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15.00	0.00
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15.00	0.00
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15.00	0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30.00	0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30.00	0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20.00	0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30.00	0.00
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/23	4/12/24	200.00	0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30.00	0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5.00	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180.00	0.00
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30.00	0.00
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15.00	0.00
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180.00	0.00
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30.00	0.00

**Mechanical or Explosive Dismemberment**

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

EF emission factor (lb/ton)  
 k particle size multiplier, AP-42 default for PM10: 0.35; PM2.5: 0.053  
 U mean wind speed, m/s to mph  
 M material moisture content (%), AP-42 Default: 2

Parameter	PM10	PM2.5	CalEEMod Wind Speed (m/s)	Changes based on Project Location
	Value	Value	2.8	CEC Forecast Zone 4
k (unitless)	0.35	0.053	<--confirm these parameters for location	
U (m/s to mph)	6.26	6.26	<--confirm these parameters for location	
M (%)	2	2	<--confirm these parameters for location	
<b>EF (lb/ton)</b>	<b>1.50E-03</b>	<b>2.27E-04</b>		

**Debris Loading**

$$EF_L = k \times EF_{L-TSP}$$

EF<sub>L</sub> emission factor (lb/ton)  
 k particle size multiplier, AP-42 default for PM10: 0.35; PM2.5: 0.053

Default EF<sub>L-TSP</sub> 0.058

lb/ton of debris	
PM10	PM2.5
0.0203	0.003074

**Total DEMO EF**

lb/ton of debris	
PM10	PM2.5
2.18E-02	3.30E-03

**Mechanical or Explosive Dismemberment**  
 Based on the MRI report, there is no AP-42 emission factor data available for this mechanical or explosive dismemberment. Thus, the emission factor for dismemberment and collapse of a structure is calculated using the following AP-42 equation for batch drop operations:

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

Where:  
 EF<sub>D</sub> = emission factor (lb PM/ton of debris)  
 EF<sub>D-PM10</sub> = 0.0011 lb PM<sub>10</sub>/ton of debris  
 EF<sub>D-PM2.5</sub> = 0.00017 lb PM<sub>2.5</sub>/ton of debris  
 k = particle size multiplier. The AP-42 default value for PM<sub>10</sub> is 0.35 and that for PM<sub>2.5</sub> is 0.053.  
 U = mean wind speed. The program selects the default mean wind speed based on the wind speed (m/s) provided on the project characteristics screen.  
 M = material moisture content. The program uses 2% as the default based on the MRI report.

The dust emissions are calculated by multiplying the above emission factors with the total weight of building waste using the following equation:

$$E_D = EF_D \times W$$

Where:  
 E<sub>D</sub> = emissions (lb of PM)  
 EF<sub>D</sub> = emission factor (lb of PM/ton of debris)  
 W = building waste (ton of debris)

<sup>10</sup>Midwest Research Institute, 1988. Gap Filling PM10 Emission Factors for Selected Open Area Dust Sources.

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**Debris Loading**  
 The dust emission factor of PM<sub>10</sub> and PM<sub>2.5</sub> in pounds per ton building waste is estimated based on the measured total suspended particulates (TSP) emission factor using the following equation:

$$EF_L = k \times EF_{L-TSP}$$

Where:  
 EF<sub>L</sub> = emission factor (lb/ton)  
 k = particle size multiplier. The AP-42 default value for PM<sub>10</sub> is 0.35 and that for PM<sub>2.5</sub> is 0.053.

The default value for EF<sub>L-TSP</sub> is 0.058 lb/ton, the average of the two TSP factor (i.e. 0.053 and 0.063 lb/ton) measured from two tests of the filling of trucks with crushed limestone using a front-end loader.

The dust emissions from debris loading are then calculated following the same methodology used for mechanical and or explosive dismemberment:

$$E_L = EF_L \times SF \times 0.046(\text{ton} / \text{ft}^2)$$

Where:  
 E<sub>L</sub> = emissions (lb)  
 EF<sub>L</sub> = emission factor (lb/ton)  
 SF = building square footage (ft<sup>2</sup>)

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Truck Loading Emissions

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

- EF emission factor (lb/ton)
- k particle size multiplier, AP-42 default for PM10: 0.35; PM2.5: 0.053
- U mean wind speed, m/s to mph
- M material moisture content (%), AP-42 Default: 12

Parameter	CalEEMod Wind Speed (m/s)		Changes based on Project Location
	PM10	PM2.5	2.8 CEC Forecast Zone 4
k (unitless)	0.35	0.053	<--confirm these parameters for location
U (m/s to mph)	6.26	6.26	<--confirm these parameters for location
M (%)	14	14	MJA, DRAFT - Preliminary Geotechnical Design Recommendations , February 2019.
EF (lb/ton)	9.85E-05	1.49E-05	

Emissions

**E=EF x TP**

- EF Emission factor (lb/ton)
- TP Throughput (tons)
- CY 177893 <--Enter in Project Value
- tons/CY 1.2641662
- TP 224886.32
- # of days with truck loading 275

13.2.4.2

EMISSION FACTORS

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Table 13.2.4-1. TYPICAL SILT AND MOISTURE CONTENTS OF MATERIALS AT VARIOUS INDUSTRIES\*

Industry	No. Of Facilities	Material	Silt Content (%)			Moisture Content (%)		
			No. Of Samples	Range	Mean	No. Of Samples	Range	Mean
Iron and steel production	9	Pellet ore	13	1.3 - 13	4.3	11	0.64 - 4.0	2.2
		Lump ore	9	2.8 - 19	9.5	6	1.6 - 8.0	5.4
		Coal	12	2.0 - 7.7	4.6	11	2.8 - 11	4.8
		Slag	3	3.0 - 7.3	5.3	3	0.25 - 2.0	0.92
		Flue dust	3	2.7 - 23	13	1	—	7
		Coke breeze	2	4.4 - 5.4	4.9	2	6.4 - 9.2	7.8
		Blended ore	1	—	15	1	—	6.6
		Sinter	1	—	0.7	0	—	—
		Limestone	3	0.4 - 2.3	1.0	2	ND	0.2
		Crushed limestone	2	1.3 - 1.9	1.6	2	0.3 - 1.1	0.7
Stone quarrying and processing	2	Various limestone products	8	0.8 - 14	3.9	8	0.46 - 5.0	2.1
		Pellets	9	2.2 - 5.4	3.4	7	0.05 - 2.0	0.9
Taconite mining and processing	1	Tailings	2	ND	11	1	—	0.4
		Coal	15	3.4 - 16	6.2	7	2.8 - 20	6.9
Western surface coal mining	4	Overburden	15	3.8 - 15	7.5	0	—	—
		Exposed ground	3	5.1 - 21	15	3	0.8 - 6.4	3.4
		Coal (as received)	60	0.6 - 4.8	2.2	59	2.7 - 7.4	4.5
Coal-fired power plant	1	Sand	1	—	2.6	1	—	7.4
		Slag	2	3.0 - 4.7	3.8	2	2.3 - 4.9	3.6
Municipal solid waste landfills	4	Cover	5	5.0 - 16	9.0	5	8.9 - 16	12
		Clay/dirt mix	1	—	9.2	1	—	14
		Clay	2	4.5 - 7.4	6.0	2	8.9 - 11	10
		Fly ash	4	78 - 81	80	4	26 - 29	27
		Misc. fill materials	1	—	12	1	—	11

\* References 1-10. ND = no data.

**Truck Loading**

Processes such as truck dumping on the pile or loading out from the pile to a truck with a front-end loader also cause fugitive dust emissions. The program calculates these emissions using the methodology described in Section 13.2, Introduction to Fugitive Dust Sources, of USEPA AP-42. The emission factor that is based on the material moisture content and mean wind speed is calculated using the following formula:

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

Where:

EF = emission factor (lb/ton)

K = particle size multiplier. The AP-42 default value for PM<sub>10</sub> is 0.35 and that for PM<sub>2.5</sub> is 0.053

U = mean wind speed. The program selects wind speed based on the value listed on the Project Characteristics screen. It has been converted internally to miles per hour.

M = material moisture content (%). The moisture contents of different materials are listed in Table 13.2.4-1 of AP-42. The program uses the moisture content of cover (12%) as default.

The fugitive dust emissions are calculated by multiplying the emission factor with the throughput of loaded and unloaded material that is entered by the user.

$$E = EF \times TP$$

Where:

E = emissions (lb)

EF = emission factor (lb/ton)

TP = throughput of loaded and unloaded materials (ton)

CalEEMod assumes that 1.2641662 tons per cubic yard based on a bulk density of 1.5 grams per cubic centimeter. Typical soil densities range from about 1.25 to about 1.6 and 1.5 is the approximate density of a silty loam soil which is relatively common in most other parts of the state. The density reported above does not account for watering to suppress dust, it only accounts for natural moisture.

**Bulldozing Emissions**

$$EF_{TSP} = \frac{C_{TSP} \times S^{1.2}}{M^{1.3}}, \text{ and } EF_{PM_{2.5}} = EF_{TSP} \times F_{PM_{2.5}}$$

$$EF_{PM_{15}} = \frac{C_{PM_{15}} \times S^{1.5}}{M^{1.4}}, \text{ and } EF_{PM_{10}} = EF_{PM_{15}} \times F_{PM_{10}}$$

EF emission factor (lb/hr)  
 C arbitrary coefficient use by AP-42  
 M material moisture content (%)  
 S material silt content (%)  
 F scaling factor

C <sub>TSP</sub> (unitless)	5.7
C <sub>PM15</sub> (unitless)	1
M(%)	7.9
s (%)	6.9
F <sub>PM10</sub> (unitless)	0.75
F <sub>PM2.5</sub> (unitless)	0.105

EF <sub>TSP</sub>	3.941
EF <sub>PM15</sub>	1.004

**Emission Factors (lb/hr)**

EF <sub>PM10</sub>	<b>0.753</b> Emission Factor Method Confirmed with comparison to CalEPA
EF <sub>PM2.5</sub>	<b>0.414</b> Emission Factor Method Confirmed with comparison to CalEPA

**Bulldozing**

Similar to the grading equipment passes emission estimation, the bulldozing emission factors for PM<sub>10</sub> and PM<sub>2.5</sub> are scaled from those of PM<sub>15</sub> and TSP. Based on Section 11.9 of AP-42, the dust emission factor for bulldozing is calculated using the following equations:

$$EF_{TSP} = \frac{C_{TSP} \times S^{1.2}}{M^{1.3}}, \text{ and } EF_{PM_{2.5}} = EF_{TSP} \times F_{PM_{2.5}}$$

$$EF_{PM_{15}} = \frac{C_{PM_{15}} \times S^{1.5}}{M^{1.4}}, \text{ and } EF_{PM_{10}} = EF_{PM_{15}} \times F_{PM_{10}}$$

Where:

EF = emission factor (lb/hr)  
 C = arbitrary coefficient used by AP-42  
 M = material moisture content (%)  
 S = material silt content (%)  
 F = scaling factor

C, M, s, and F vary depending on the bulldozed material. The following table summarizes the constants for overburden<sup>8</sup> presented in AP-42<sup>9</sup>.

**Bulldozing Fugitive Emission Factors**

Constant	Overburden
C <sub>TSP</sub>	5.7
C <sub>PM15</sub>	1.0
M	7.9%
s	6.9%
F <sub>PM10</sub>	0.75
F <sub>PM2.5</sub>	0.105

The program uses the constants associated with overburden as default for calculation of bulldozing dust emissions since overburden more closely models the bulldozed materials during the development construction. The dust emissions are calculated by multiplying the emission factor with the hours of operation for the dozers listed in the equipment list using the formula below:

$$E = EF \times Hr$$

Where:

E = emissions (lb)  
 EF = emission factor (lb/hr)  
 Hr = hours of operation

<sup>8</sup> The earth that is between the topsoil and the coal seam (USEPA AP-42).

<sup>9</sup> Tables 11.9-1 and 11.9-3 of USEPA AP-42

**Grading Emissions**

EFPM15

$$EF_{PM15} = 0.051 \times (S)^{2.0}, \text{ and } EF_{PM10} = EF_{PM15} \times F_{PM10}$$

$$EF_{TSP} = 0.04 \times (S)^{2.5}, \text{ and } EF_{PM2.5} = EF_{TSP} \times F_{PM2.5}$$

EF	Emission Factor (lb/VMT)	
S	mean vehicle speed (mph), AP-42 Default: 7.1 mph	
F <sub>PM2.5</sub>	PM2.5 scaling factor, AP-42 default: 0.031	
F <sub>PM10</sub>	PM10 scaling factor, AP-42 default: 0.6	
S	7.1	
F <sub>PM2.5</sub>	0.031	
F <sub>PM10</sub>	0.6	
EF <sub>PM15</sub>	2.57	
EF <sub>TSP</sub>	5.37	
Emission factor (lb/VMT)		
EF <sub>PM10</sub>	1.543	
EF <sub>PM2.5</sub>	0.167	

**Emissions= EF x VMT**

VMT:

A <sub>site</sub>	acreage of grading site
W <sub>b</sub>	Width of blade, default: 12 feet
Feet/acre conversion	43560
feet/mile conversion	5280
Acres per 8-hr day	amount of acres graded per day, see calc below

The grading dust emissions are calculated by multiplying the emission factors with the total vehicle miles traveled (VMT) for the grading equipment (i.e., grader). The VMT are estimated based on the dimensions of the grading area and the blade width of the grading equipment.

$$E = EF \times VMT, \text{ and}$$

$$VMT = A_s / W_b \times 43,560(\text{sqft} / \text{acre}) / 5,280(\text{ft} / \text{mile})$$

Where:

- E: emissions (lb)
- EF: emission factor (lb/VMT)
- VMT: vehicle miles traveled (mile)
- A<sub>s</sub>: the acreage of the grading site (acre)
- W<sub>b</sub>: Blade width of the grading equipment. The program uses a default blade width of 12 ft. based on Caterpillar's 140 Motor Grader<sup>7</sup>.

Note that the dimensions (e.g., length and width) of the grading site have no impact on the calculation, only the total area to be graded. In order to properly grade a piece of land multiple passes with equipment may be required. The acres is based on the equipment list and days in grading or site preparation phase according to the anticipated maximum number of acres a given piece of equipment can pass over in an 8-hour workday. The equipment-specific grading rates are given in the following table as determined by SCAQMD in consultation with building estimator references.

Equipment Type	Acres/8hr-day
Crawler Tractors	0.5
Graders	0.5
Rubber Tired Dozers	0.5
Scrapers	1

Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	NOX	CO	SO2	PM10	PM2.5	CO2	CH4
Aerial Lifts	1990	6	15	5.436	1.804	9.999	4.999	0.833	0.968	0.968	568.299	0.162
Aerial Lifts	1990	16	25	8.446	2.213	6.92	5	0.679	0.735	0.735	568.299	0.199
Aerial Lifts	1990	26	50	22.237	3.256	7.372	6.91	0.692	0.948	0.948	568.299	0.293
Aerial Lifts	1990	51	120	25.547	1.927	13.323	5.026	0.628	1.005	1.005	568.299	0.173
Aerial Lifts	1990	251	500	90.051	1.214	11.7	6.888	0.525	0.605	0.605	568.299	0.109
Aerial Lifts	1990	501	750	162.768	1.214	11.7	6.887	0.538	0.605	0.605	568.299	0.109
Aerial Lifts	2000	6	15	4.911	1.629	8.804	4.729	0.079	0.737	0.737	568.299	0.147
Aerial Lifts	2000	16	25	7.927	2.077	6.401	4.749	0.064	0.569	0.569	568.299	0.187
Aerial Lifts	2000	26	50	21.066	3.084	6.596	6.643	0.065	0.711	0.711	568.3	0.278
Aerial Lifts	2000	51	120	20.809	1.569	9.602	4.216	0.059	0.705	0.705	568.299	0.141
Aerial Lifts	2000	251	500	60.706	0.819	8.191	3.931	0.049	0.31	0.31	568.3	0.073
Aerial Lifts	2000	501	750	109.732	0.819	8.191	3.931	0.051	0.31	0.31	568.299	0.073
Aerial Lifts	2005	6	15	2.733	0.907	5.927	3.649	0.079	0.424	0.424	568.3	0.081
Aerial Lifts	2005	16	25	5.948	1.558	5.978	3.804	0.064	0.474	0.474	568.299	0.14
Aerial Lifts	2005	26	50	18.56	2.717	6.139	6.122	0.065	0.657	0.657	568.299	0.245
Aerial Lifts	2005	51	120	17.765	1.34	8.079	3.898	0.059	0.651	0.651	568.299	0.12
Aerial Lifts	2005	251	500	41.275	0.556	6.521	2.307	0.049	0.217	0.217	568.299	0.05
Aerial Lifts	2005	501	750	76.693	0.572	6.666	2.307	0.051	0.219	0.219	568.299	0.051
Aerial Lifts	2010	6	15	0.646663	0.543	4.927	3.62771	0.005	0.322	0.296	583.4159	0.17
Aerial Lifts	2010	16	25	0.646663	0.543	4.927	3.62771	0.005	0.322	0.296	583.4159	0.17
Aerial Lifts	2010	26	50	0.646663	0.543	4.927	3.62771	0.005	0.322	0.296	583.4159	0.17
Aerial Lifts	2010	51	120	0.478206	0.402	5.13121	3.35167	0.005	0.329	0.303	524.5713	0.153
Aerial Lifts	2010	251	500	0.542967	0.456	7.02372	1.70527	0.005	0.22	0.202	524.505	0.153
Aerial Lifts	2010	501	750	54.853	0.409	5.216	1.535	0.005	0.16	0.16	568.299	0.036
Aerial Lifts	2011	6	15	0.492997	0.414	4.84101	3.43961	0.005	0.274	0.253	581.9574	0.17
Aerial Lifts	2011	16	25	0.492997	0.414	4.84101	3.43961	0.005	0.274	0.253	581.9574	0.17
Aerial Lifts	2011	26	50	0.492997	0.414	4.84101	3.43961	0.005	0.274	0.253	581.9574	0.17
Aerial Lifts	2011	51	120	0.406188	0.341	4.72007	3.31532	0.005	0.287	0.264	523.2599	0.153
Aerial Lifts	2011	251	500	0.547278	0.46	7.05257	1.71344	0.005	0.222	0.204	523.1938	0.153
Aerial Lifts	2011	501	750	50.06	0.373	4.839	1.402	0.005	0.144	0.144	568.299	0.033
Aerial Lifts	2012	6	15	0.448839	0.377	4.66755	3.41137	0.005	0.247	0.227	580.4989	0.17
Aerial Lifts	2012	16	25	0.448839	0.377	4.66755	3.41137	0.005	0.247	0.227	580.4989	0.17
Aerial Lifts	2012	26	50	0.448839	0.377	4.66755	3.41137	0.005	0.247	0.227	580.4989	0.17
Aerial Lifts	2012	51	120	0.348327	0.293	4.38748	3.28979	0.005	0.251	0.231	521.9485	0.153
Aerial Lifts	2012	251	500	0.551589	0.463	7.08141	1.72161	0.005	0.225	0.207	521.8825	0.153
Aerial Lifts	2012	501	750	46.364	0.346	4.488	1.307	0.005	0.131	0.131	568.299	0.031
Aerial Lifts	2013	6	15	0.365114	0.307	4.33199	3.29997	0.005	0.196	0.18	577.5818	0.17
Aerial Lifts	2013	16	25	0.365114	0.307	4.33199	3.29997	0.005	0.196	0.18	577.5818	0.17
Aerial Lifts	2013	26	50	0.365114	0.307	4.33199	3.29997	0.005	0.196	0.18	577.5818	0.17
Aerial Lifts	2013	51	120	0.288639	0.243	3.92887	3.25075	0.005	0.202	0.186	519.3256	0.153
Aerial Lifts	2013	251	500	0.277309	0.233	4.58384	0.97787	0.005	0.1	0.092	519.26	0.153
Aerial Lifts	2013	501	750	43.268	0.322	4.155	1.237	0.005	0.119	0.119	568.299	0.029
Aerial Lifts	2014	6	15	0.309966	0.26	4.09559	3.23337	0.005	0.158	0.145	574.6647	0.17
Aerial Lifts	2014	16	25	0.309966	0.26	4.09559	3.23337	0.005	0.158	0.145	574.6647	0.17
Aerial Lifts	2014	26	50	0.309966	0.26	4.09559	3.23337	0.005	0.158	0.145	574.6647	0.17
Aerial Lifts	2014	51	120	0.240786	0.202	3.37278	3.2195	0.005	0.161	0.148	516.7028	0.153
Aerial Lifts	2014	251	500	0.281092	0.236	4.60231	0.98271	0.005	0.101	0.093	516.6375	0.153
Aerial Lifts	2014	501	750	40.165	0.299	3.761	1.178	0.005	0.109	0.109	568.299	0.027
Aerial Lifts	2015	6	15	0.295589	0.248	3.93284	3.23342	0.005	0.136	0.125	568.8305	0.17
Aerial Lifts	2015	16	25	0.295589	0.248	3.93284	3.23342	0.005	0.136	0.125	568.8305	0.17
Aerial Lifts	2015	26	50	0.295589	0.248	3.93284	3.23342	0.005	0.136	0.125	568.8305	0.17
Aerial Lifts	2015	51	120	0.226785	0.191	3.1134	3.21782	0.005	0.143	0.132	511.457	0.153
Aerial Lifts	2015	251	500	0.284874	0.239	4.62077	0.98755	0.005	0.102	0.094	511.3924	0.153
Aerial Lifts	2015	501	750	37.246	0.278	3.38	1.13	0.005	0.098	0.098	568.299	0.025
Aerial Lifts	2016	6	15	0.271111	0.228	3.67571	3.19737	0.005	0.105	0.096	562.9964	0.17
Aerial Lifts	2016	16	25	0.271111	0.228	3.67571	3.19737	0.005	0.105	0.096	562.9964	0.17
Aerial Lifts	2016	26	50	0.271111	0.228	3.67571	3.19737	0.005	0.105	0.096	562.9964	0.17
Aerial Lifts	2016	51	120	0.196986	0.166	2.72218	3.20103	0.005	0.112	0.103	506.2113	0.153
Aerial Lifts	2016	251	500	0.288656	0.243	4.63924	0.99238	0.005	0.103	0.095	506.1474	0.153
Aerial Lifts	2016	501	750	34.529	0.257	3.015	1.089	0.005	0.088	0.088	568.299	0.023
Aerial Lifts	2017	6	15	0.248829	0.209	3.46956	3.16913	0.005	0.079	0.073	554.2451	0.17
Aerial Lifts	2017	16	25	0.248829	0.209	3.46956	3.16913	0.005	0.079	0.073	554.2451	0.17
Aerial Lifts	2017	26	50	0.248829	0.209	3.46956	3.16913	0.005	0.079	0.073	554.2451	0.17
Aerial Lifts	2017	51	120	0.169799	0.143	2.36368	3.18429	0.005	0.083	0.077	498.3428	0.153
Aerial Lifts	2017	251	500	0.292438	0.246	4.6577	0.99722	0.005	0.105	0.096	498.2798	0.153
Aerial Lifts	2017	501	750	32.148	0.239	2.68	1.059	0.005	0.079	0.079	568.299	0.021
Aerial Lifts	2018	6	15	0.216292	0.182	3.2101	3.11639	0.005	0.054	0.05	545.4939	0.17
Aerial Lifts	2018	16	25	0.216292	0.182	3.2101	3.11639	0.005	0.054	0.05	545.4939	0.17
Aerial Lifts	2018	26	50	0.216292	0.182	3.2101	3.11639	0.005	0.054	0.05	545.4939	0.17
Aerial Lifts	2018	51	120	0.145088	0.122	2.0636	3.16685	0.005	0.057	0.052	490.4742	0.153
Aerial Lifts	2018	251	500	0.074117	0.062	0.63368	0.93655	0.005	0.009	0.008	490.4122	0.153
Aerial Lifts	2018	501	750	30.169	0.225	2.385	1.037	0.005	0.071	0.071	568.299	0.02
Aerial Lifts	2019	6	15	0.204518	0.172	3.07945	3.11451	0.005	0.042	0.038	536.7427	0.17
Aerial Lifts	2019	16	25	0.204518	0.172	3.07945	3.11451	0.005	0.042	0.038	536.7427	0.17
Aerial Lifts	2019	26	50	0.204518	0.172	3.07945	3.11451	0.005	0.042	0.038	536.7427	0.17
Aerial Lifts	2019	51	120	0.14071	0.118	1.97658	3.17254	0.005	0.049	0.045	482.6056	0.153
Aerial Lifts	2019	251	500	0.077988	0.066	0.63586	0.94139	0.005	0.009	0.008	482.5446	0.153
Aerial Lifts	2019	501	750	28.429	0.212	2.117	1.023	0.005	0.064	0.064	568.299	0.019
Aerial Lifts	2020	6	15	0.199447	0.168	2.95486	3.09942	0.005	0.031	0.028	525.0743	0.17
Aerial Lifts	2020	16	25	0.199447	0.168	2.95486	3.09942	0.005	0.031	0.028	525.0743	0.17
Aerial Lifts	2020	26	50	0.199447	0.168	2.95486	3.09942	0.005	0.031	0.028	525.0743	0.17
Aerial Lifts	2020	51	120	0.136778	0.115	1.86859	3.1768	0.005	0.042	0.038	472.1143	0.153
Aerial Lifts	2020	251	500	0.081859	0.069	0.63803	0.94623	0.005	0.009	0.008	472.0545	0.153
Aerial Lifts	2020	501	750	26.846	0.2	1.868	1.013	0.005	0.057	0.057	568.299	0.018
Aerial Lifts	2021	6	15	0.196174	0.165	2.92238	3.11369	0.005	0.027	0.024	525.0743	0.17
Aerial Lifts	2021	16	25	0.196174	0.165	2.92238	3.11369	0.005	0.027	0.024	525.0743	0.17

Year	Year	Horsepower	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	TOG
2018	Aerial Lifts	63	0.12	2.06	3.17	0.01	0.00	0.06	0.06	0.00	0.05	0.05	490.47	0.15	0.02	0.15
2018	Air Compressors	78	0.60	4.05	3.74	0.01	0.00	0.30	0.30	0.00	0.30	0.30	568.30	0.05	0.03	10.22
2018	Bore/Drill Rigs	221	0.16	2.15	1.07	0.01	0.00	0.06	0.06	0.00						

Aerial Lifts	2021	26	50	0.196174	0.165	2.92238	3.11369	0.005	0.027	0.024	525.0743	0.17
Aerial Lifts	2021	51	120	0.129509	0.109	1.74368	3.17624	0.005	0.033	0.031	472.1142	0.153
Aerial Lifts	2021	251	500	0.08573	0.072	0.64021	0.95107	0.005	0.009	0.008	472.0545	0.153
Aerial Lifts	2021	501	750	25.065	0.187	1.61	1.004	0.005	0.05	0.05	568.299	0.016
Aerial Lifts	2022	6	15	0.192664	0.162	2.90676	3.11231	0.005	0.024	0.022	525.0743	0.17
Aerial Lifts	2022	16	25	0.192664	0.162	2.90676	3.11231	0.005	0.024	0.022	525.0743	0.17
Aerial Lifts	2022	26	50	0.192664	0.162	2.90676	3.11231	0.005	0.024	0.022	525.0743	0.17
Aerial Lifts	2022	51	120	0.124613	0.105	1.62659	3.17602	0.005	0.03	0.028	472.1142	0.153
Aerial Lifts	2022	251	500	0.089601	0.075	0.64238	0.95591	0.005	0.009	0.008	472.0545	0.153
Aerial Lifts	2022	501	750	23.788	0.177	1.424	0.998	0.005	0.044	0.044	568.299	0.016
Aerial Lifts	2023	6	15	0.19346	0.163	2.89722	3.12196	0.005	0.023	0.021	525.0743	0.17
Aerial Lifts	2023	16	25	0.19346	0.163	2.89722	3.12196	0.005	0.023	0.021	525.0743	0.17
Aerial Lifts	2023	26	50	0.19346	0.163	2.89722	3.12196	0.005	0.023	0.021	525.0743	0.17
Aerial Lifts	2023	51	120	0.119594	0.1	1.5481	3.17029	0.005	0.027	0.025	472.1142	0.153
Aerial Lifts	2023	251	500	0.093472	0.079	0.64456	0.96074	0.005	0.009	0.008	472.0545	0.153
Aerial Lifts	2023	501	750	22.675	0.169	1.265	0.995	0.005	0.038	0.038	568.299	0.015
Aerial Lifts	2024	6	15	0.188737	0.159	2.88821	3.11285	0.005	0.022	0.02	525.0743	0.17
Aerial Lifts	2024	16	25	0.188737	0.159	2.88821	3.11285	0.005	0.022	0.02	525.0743	0.17
Aerial Lifts	2024	26	50	0.188737	0.159	2.88821	3.11285	0.005	0.022	0.02	525.0743	0.17
Aerial Lifts	2024	51	120	0.119572	0.1	1.52789	3.17255	0.005	0.026	0.024	472.1142	0.153
Aerial Lifts	2024	251	500	0.097343	0.082	0.64674	0.96558	0.005	0.009	0.009	472.0545	0.153
Aerial Lifts	2024	501	750	21.618	0.161	1.115	0.991	0.005	0.033	0.033	568.299	0.014
Aerial Lifts	2025	6	15	0.182854	0.154	2.87882	3.08837	0.005	0.021	0.019	525.0743	0.17
Aerial Lifts	2025	16	25	0.182854	0.154	2.87882	3.08837	0.005	0.021	0.019	525.0743	0.17
Aerial Lifts	2025	26	50	0.182854	0.154	2.87882	3.08837	0.005	0.021	0.019	525.0743	0.17
Aerial Lifts	2025	51	120	0.117586	0.099	1.51077	3.16742	0.005	0.026	0.024	472.1142	0.153
Aerial Lifts	2025	251	500	0.101214	0.085	0.64891	0.97042	0.005	0.009	0.009	472.0545	0.153
Aerial Lifts	2025	501	750	20.597	0.153	0.974	0.989	0.005	0.028	0.028	568.299	0.013
Aerial Lifts	2030	6	15	1.993	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Aerial Lifts	2030	16	25	2.616	0.685	4.332	3.239	0.007	0.162	0.162	568.299	0.061
Aerial Lifts	2030	26	50	2.317	0.339	3.135	3.764	0.007	0.04	0.04	568.3	0.03
Aerial Lifts	2030	51	120	2.504	0.188	1.657	3.352	0.006	0.036	0.036	568.299	0.017
Aerial Lifts	2030	251	500	9.37	0.126	0.479	0.986	0.005	0.016	0.016	568.299	0.011
Aerial Lifts	2030	501	750	16.962	0.126	0.485	0.986	0.005	0.016	0.016	568.299	0.011
Aerial Lifts	2035	6	15	1.993	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Aerial Lifts	2035	16	25	2.616	0.685	4.332	3.239	0.007	0.161	0.161	568.299	0.061
Aerial Lifts	2035	26	50	2.033	0.297	3.017	3.726	0.007	0.019	0.019	568.299	0.026
Aerial Lifts	2035	51	120	2.202	0.166	1.466	3.345	0.006	0.017	0.017	568.299	0.014
Aerial Lifts	2035	251	500	8.659	0.116	0.33	0.986	0.005	0.011	0.011	568.299	0.01
Aerial Lifts	2035	501	750	15.653	0.116	0.33	0.986	0.005	0.011	0.011	568.299	0.01
Aerial Lifts	2040	6	15	1.993	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Aerial Lifts	2040	16	25	2.616	0.685	4.332	3.239	0.007	0.161	0.161	568.299	0.061
Aerial Lifts	2040	26	50	2.015	0.295	2.966	3.723	0.007	0.013	0.013	568.299	0.026
Aerial Lifts	2040	51	120	2.141	0.161	1.407	3.344	0.006	0.012	0.012	568.299	0.014
Aerial Lifts	2040	251	500	8.324	0.112	0.279	0.986	0.005	0.009	0.009	568.299	0.01
Aerial Lifts	2040	501	750	15.046	0.112	0.279	0.986	0.005	0.009	0.009	568.299	0.01
Air Compressors	1990	6	15	4.702	1.804	9.999	4.999	1.018	0.974	0.974	568.299	0.162
Air Compressors	1990	16	25	11.537	2.213	6.919	4.999	0.83	0.74	0.74	568.299	0.199
Air Compressors	1990	26	50	34.016	4.232	7.735	8.684	0.846	1.152	1.152	568.3	0.381
Air Compressors	1990	51	120	37.275	2.2	14.348	5.46	0.768	1.216	1.216	568.299	0.198
Air Compressors	1990	121	175	48.032	1.504	12.906	4.835	0.736	0.806	0.806	568.299	0.135
Air Compressors	1990	176	250	71.231	1.504	12.906	4.835	0.736	0.806	0.806	568.299	0.135
Air Compressors	1990	251	500	112.803	1.348	12.363	9.633	0.642	0.704	0.704	568.299	0.121
Air Compressors	1990	501	750	174.334	1.348	12.363	9.633	0.658	0.704	0.704	568.299	0.121
Air Compressors	1990	751	1000	235.953	1.344	12.363	9.633	0.658	0.699	0.699	568.3	0.121
Air Compressors	2000	6	15	4.493	1.723	9.08	4.875	0.747	0.747	0.747	568.299	0.155
Air Compressors	2000	16	25	10.924	2.095	6.405	4.783	0.665	0.569	0.569	568.299	0.189
Air Compressors	2000	26	50	31.858	3.963	6.902	8.261	0.666	0.851	0.851	568.299	0.357
Air Compressors	2000	51	120	30.02	1.771	10.276	4.544	0.06	0.835	0.835	568.3	0.159
Air Compressors	2000	121	175	37.86	1.185	9.332	3.7	0.057	0.494	0.494	568.299	0.106
Air Compressors	2000	176	250	47.101	0.994	8.985	2.949	0.057	0.406	0.406	568.299	0.089
Air Compressors	2000	251	500	76.009	0.908	8.611	5.008	0.05	0.36	0.36	568.299	0.082
Air Compressors	2000	501	750	117.469	0.908	8.611	5.008	0.051	0.36	0.36	568.299	0.082
Air Compressors	2000	751	1000	176.359	1.004	9.212	5.6	0.051	0.379	0.379	568.299	0.09
Air Compressors	2005	6	15	3.634	1.394	7.817	4.38	0.079	0.621	0.621	568.299	0.125
Air Compressors	2005	16	25	8.461	1.622	6.014	3.922	0.065	0.483	0.483	568.299	0.146
Air Compressors	2005	26	50	28.493	3.545	6.447	7.671	0.066	0.792	0.792	568.299	0.319
Air Compressors	2005	51	120	25.731	1.518	8.646	4.196	0.06	0.775	0.775	568.299	0.137
Air Compressors	2005	121	175	31.762	0.994	7.911	3.339	0.057	0.428	0.428	568.299	0.089
Air Compressors	2005	176	250	33.701	0.711	7.465	1.989	0.057	0.281	0.281	568.299	0.064
Air Compressors	2005	251	500	52.734	0.63	6.868	2.602	0.05	0.252	0.252	568.299	0.056
Air Compressors	2005	501	750	83.252	0.644	7.019	2.602	0.051	0.255	0.255	568.299	0.058
Air Compressors	2005	751	1000	135.834	0.773	8.036	3.154	0.051	0.271	0.271	568.299	0.069
Air Compressors	2010	6	15	2.931	1.124	6.554	4.027	0.008	0.473	0.473	568.299	0.101
Air Compressors	2010	16	25	6.607	1.267	5.477	3.209	0.007	0.384	0.384	568.299	0.114
Air Compressors	2010	26	50	23.546	2.929	6.067	7.121	0.007	0.669	0.669	568.299	0.264
Air Compressors	2010	51	120	20.566	1.213	7.183	4.044	0.006	0.653	0.653	568.299	0.109
Air Compressors	2010	121	175	25.827	0.808	6.422	3.277	0.006	0.361	0.361	568.299	0.072
Air Compressors	2010	176	250	24.871	0.525	6.008	1.468	0.006	0.198	0.198	568.299	0.047
Air Compressors	2010	251	500	39.447	0.471	5.363	1.648	0.005	0.182	0.182	568.299	0.042
Air Compressors	2010	501	750	62.011	0.479	5.507	1.648	0.005	0.185	0.185	568.299	0.043
Air Compressors	2010	751	1000	105.623	0.601	6.994	2.147	0.005	0.209	0.209	568.299	0.054
Air Compressors	2011	6	15	2.782	1.067	6.283	3.952	0.008	0.441	0.441	568.299	0.096
Air Compressors	2011	16	25	6.215	1.192	5.36	3.179	0.007	0.361	0.361	568.299	0.107
Air Compressors	2011	26	50	22.03	2.741	5.972	6.919	0.007	0.636	0.636	568.299	0.247
Air Compressors	2011	51	120	19.321	1.14	6.805	4.005	0.006	0.626	0.626	568.299	0.102
Air Compressors	2011	121	175	24.432	0.765	6.065	3.264	0.006	0.347	0.347	568.299	0.069
Air Compressors	2011	176	250	22.999	0.485	5.603	1.372	0.006	0.177	0.177	568.299	0.043
Air Compressors	2011	251	500	36.661	0.438	4.981	1.497	0.005	0.165	0.165	568.299	0.039

Other General Industrial Equipment	2020	88	0.45	4.06	3.77	0.01	0.00	0.30	0.30	0.00	0.27	0.27	470.00	0.15	0.02	0.53
Other Material Handling Equipment	2020	168	0.25	2.37	3.17	0.01	0.00	0.12	0.12	0.00	0.11	0.11	472.22	0.15	0.02	0.30
Pavers	2020	130	0.27	2.92	3.01	0.01	0.00	0.14	0.14	0.00	0.13	0.13	472.77	0.15	0.02	0.32
Paving Equipment	2020	132	0.25	2.55	3.02											

Air Compressors	2011	501	750	57.58	0.445	5.123	1.497	0.005	0.167	0.167	568.299	0.04
Air Compressors	2011	751	1000	98.738	0.562	6.637	1.971	0.005	0.196	0.196	568.299	0.05
Air Compressors	2012	6	15	2.626	1.007	5.999	3.874	0.008	0.407	0.407	568.299	0.09
Air Compressors	2012	16	25	5.803	1.113	5.239	3.043	0.007	0.337	0.337	568.299	0.1
Air Compressors	2012	26	50	20.318	2.527	5.869	6.682	0.007	0.6	0.6	568.299	0.228
Air Compressors	2012	51	120	17.991	1.061	6.39	3.964	0.006	0.587	0.587	568.299	0.095
Air Compressors	2012	121	175	22.92	0.717	5.684	3.251	0.006	0.324	0.324	568.299	0.064
Air Compressors	2012	176	250	21.576	0.455	5.216	1.312	0.006	0.161	0.161	568.299	0.041
Air Compressors	2012	251	500	34.608	0.413	4.618	1.392	0.005	0.15	0.15	568.299	0.037
Air Compressors	2012	501	750	54.283	0.419	4.758	1.392	0.005	0.153	0.153	568.299	0.037
Air Compressors	2012	751	1000	91.671	0.522	6.263	1.8	0.005	0.183	0.183	568.299	0.047
Air Compressors	2013	6	15	2.471	0.948	5.716	3.796	0.008	0.373	0.373	568.299	0.085
Air Compressors	2013	16	25	5.393	1.034	5.117	2.907	0.007	0.314	0.314	568.299	0.093
Air Compressors	2013	26	50	18.508	2.302	5.643	6.43	0.007	0.553	0.553	568.299	0.207
Air Compressors	2013	51	120	16.632	0.981	5.978	3.921	0.006	0.543	0.543	568.299	0.088
Air Compressors	2013	121	175	21.377	0.669	5.321	3.238	0.006	0.298	0.298	568.299	0.06
Air Compressors	2013	176	250	20.386	0.43	4.839	1.271	0.006	0.147	0.147	568.299	0.038
Air Compressors	2013	251	500	32.936	0.393	4.268	1.313	0.005	0.137	0.137	568.3	0.035
Air Compressors	2013	501	750	51.584	0.399	4.406	1.313	0.005	0.14	0.14	568.299	0.036
Air Compressors	2013	751	1000	84.725	0.482	5.883	1.639	0.005	0.17	0.17	568.299	0.043
Air Compressors	2014	6	15	2.324	0.891	5.445	3.723	0.008	0.341	0.341	568.3	0.08
Air Compressors	2014	16	25	5.008	0.96	5	2.78	0.007	0.291	0.291	568.299	0.086
Air Compressors	2014	26	50	16.691	2.076	5.421	6.181	0.007	0.505	0.505	568.299	0.187
Air Compressors	2014	51	120	15.28	0.901	5.608	3.88	0.006	0.495	0.495	568.299	0.081
Air Compressors	2014	121	175	19.856	0.621	4.973	3.227	0.006	0.272	0.272	568.299	0.056
Air Compressors	2014	176	250	19.194	0.405	4.399	1.237	0.006	0.134	0.134	568.299	0.036
Air Compressors	2014	251	500	31.25	0.373	3.855	1.249	0.005	0.125	0.125	568.299	0.033
Air Compressors	2014	501	750	48.868	0.378	3.991	1.249	0.005	0.128	0.128	568.299	0.034
Air Compressors	2014	751	1000	78.19	0.445	5.512	1.493	0.005	0.157	0.157	568.3	0.04
Air Compressors	2015	6	15	2.191	0.84	5.196	3.658	0.008	0.311	0.311	568.299	0.075
Air Compressors	2015	16	25	4.662	0.894	4.89	2.666	0.007	0.27	0.27	568.299	0.08
Air Compressors	2015	26	50	15.015	1.868	5.223	5.968	0.007	0.459	0.459	568.299	0.168
Air Compressors	2015	51	120	13.925	0.821	5.19	3.84	0.006	0.446	0.446	568.299	0.074
Air Compressors	2015	121	175	18.243	0.571	4.504	3.218	0.006	0.245	0.245	568.299	0.051
Air Compressors	2015	176	250	18.067	0.381	3.967	1.207	0.006	0.121	0.121	568.299	0.034
Air Compressors	2015	251	500	29.662	0.354	3.455	1.198	0.005	0.113	0.113	568.3	0.032
Air Compressors	2015	501	750	46.316	0.358	3.586	1.198	0.005	0.116	0.116	568.299	0.032
Air Compressors	2015	751	1000	71.885	0.409	5.157	1.37	0.005	0.142	0.142	568.299	0.036
Air Compressors	2016	6	15	2.109	0.809	5.023	3.622	0.008	0.289	0.289	568.299	0.073
Air Compressors	2016	16	25	4.462	0.855	4.803	2.604	0.007	0.255	0.255	568.299	0.077
Air Compressors	2016	26	50	13.429	1.67	5.042	5.779	0.007	0.415	0.415	568.299	0.15
Air Compressors	2016	51	120	12.618	0.744	4.79	3.804	0.006	0.397	0.397	568.299	0.067
Air Compressors	2016	121	175	16.69	0.522	4.052	3.211	0.006	0.219	0.219	568.299	0.047
Air Compressors	2016	176	250	17.023	0.359	3.553	1.182	0.006	0.109	0.109	568.299	0.032
Air Compressors	2016	251	500	28.188	0.337	3.08	1.155	0.005	0.102	0.102	568.299	0.03
Air Compressors	2016	501	750	43.972	0.34	3.201	1.155	0.005	0.104	0.104	568.299	0.03
Air Compressors	2016	751	1000	67.278	0.383	4.854	1.295	0.005	0.131	0.131	568.299	0.034
Air Compressors	2017	6	15	2.05	0.786	4.887	3.599	0.008	0.272	0.272	568.299	0.07
Air Compressors	2017	16	25	4.327	0.83	4.729	2.564	0.007	0.243	0.243	568.299	0.074
Air Compressors	2017	26	50	11.908	1.481	4.871	5.604	0.007	0.371	0.371	568.299	0.133
Air Compressors	2017	51	120	11.385	0.671	4.412	3.772	0.006	0.35	0.35	568.299	0.06
Air Compressors	2017	121	175	15.244	0.477	3.627	3.207	0.006	0.194	0.194	568.299	0.043
Air Compressors	2017	176	250	16.09	0.339	3.163	1.162	0.006	0.098	0.098	568.299	0.03
Air Compressors	2017	251	500	26.901	0.321	2.755	1.123	0.005	0.092	0.092	568.299	0.029
Air Compressors	2017	501	750	41.87	0.323	2.845	1.123	0.005	0.094	0.094	568.299	0.029
Air Compressors	2017	751	1000	63.572	0.362	4.583	1.246	0.005	0.121	0.121	568.299	0.032
Air Compressors	2018	6	15	1.998	0.766	4.762	3.58	0.008	0.256	0.256	568.299	0.069
Air Compressors	2018	16	25	4.211	0.807	4.661	2.531	0.007	0.232	0.232	568.3	0.072
Air Compressors	2018	26	50	10.449	1.3	4.707	5.439	0.007	0.329	0.329	568.299	0.117
Air Compressors	2018	51	120	10.218	0.603	4.05	3.744	0.006	0.304	0.304	568.3	0.054
Air Compressors	2018	121	175	13.906	0.435	3.228	3.205	0.006	0.17	0.17	568.299	0.039
Air Compressors	2018	176	250	15.223	0.321	2.797	1.146	0.006	0.087	0.087	568.3	0.029
Air Compressors	2018	251	500	25.723	0.307	2.465	1.101	0.005	0.083	0.083	568.299	0.027
Air Compressors	2018	501	750	39.953	0.309	2.533	1.101	0.005	0.084	0.084	568.299	0.027
Air Compressors	2018	751	1000	60.205	0.343	4.325	1.21	0.005	0.111	0.111	568.299	0.03
Air Compressors	2019	6	15	1.951	0.748	4.647	3.562	0.008	0.241	0.241	568.299	0.067
Air Compressors	2019	16	25	4.106	0.787	4.596	2.501	0.007	0.222	0.222	568.299	0.071
Air Compressors	2019	26	50	9.076	1.129	4.546	5.283	0.007	0.287	0.287	568.299	0.101
Air Compressors	2019	51	120	9.123	0.538	3.706	3.718	0.006	0.26	0.26	568.299	0.048
Air Compressors	2019	121	175	12.833	0.401	2.874	3.204	0.006	0.15	0.15	568.299	0.036
Air Compressors	2019	176	250	14.416	0.304	2.469	1.132	0.006	0.078	0.078	568.299	0.027
Air Compressors	2019	251	500	24.559	0.293	2.193	1.086	0.005	0.075	0.075	568.299	0.026
Air Compressors	2019	501	750	38.104	0.294	2.247	1.086	0.005	0.076	0.076	568.299	0.026
Air Compressors	2019	751	1000	56.984	0.324	4.073	1.182	0.005	0.102	0.102	568.299	0.029
Air Compressors	2020	6	15	1.907	0.731	4.542	3.546	0.008	0.227	0.227	568.299	0.066
Air Compressors	2020	16	25	4.009	0.769	4.538	2.473	0.007	0.212	0.212	568.3	0.069
Air Compressors	2020	26	50	8.048	1.001	4.397	5.164	0.007	0.25	0.25	568.299	0.09
Air Compressors	2020	51	120	8.287	0.489	3.4	3.698	0.006	0.224	0.224	568.299	0.044
Air Compressors	2020	121	175	11.957	0.374	2.558	3.203	0.006	0.133	0.133	568.299	0.033
Air Compressors	2020	176	250	13.668	0.288	2.172	1.121	0.006	0.069	0.069	568.299	0.026
Air Compressors	2020	251	500	23.406	0.279	1.935	1.076	0.005	0.067	0.067	568.299	0.025
Air Compressors	2020	501	750	36.303	0.28	1.982	1.076	0.005	0.067	0.067	568.299	0.025
Air Compressors	2020	751	1000	53.87	0.306	3.828	1.158	0.005	0.093	0.093	568.3	0.027
Air Compressors	2021	6	15	1.87	0.717	4.462	3.531	0.008	0.214	0.214	568.299	0.064
Air Compressors	2021	16	25	3.923	0.752	4.497	2.446	0.007	0.201	0.201	568.299	0.067
Air Compressors	2021	26	50	7.136	0.887	4.221	5.021	0.007	0.212	0.212	568.299	0.08
Air Compressors	2021	51	120	7.502	0.442	3.083	3.67	0.006	0.19	0.19	568.299	0.039
Air Compressors	2021	121	175	10.967	0.343	2.218	3.192	0.006	0.115	0.115	568.299	0.03
Air Compressors	2021	176	250	12.728	0.268	1.859	1.108	0.006	0.06	0.06	568.299	0.024

Aerial Lifts	2023	63	0.10	1.55	3.17	0.01	0.00	0.03	0.03	0.00	0.03	0.03	472.11	0.15	0.02	0.12
Air Compressors	2023	78	0.39	2.63	3.66	0.01	0.00	0.14	0.14	0.00	0.14	0.14	568.30	0.03	0.03	6.57
Bore/Drill Rigs	2023	221	0.11	1.05	1.04	0.01	0.00	0.03	0.03	0.00	0.03	0.03	469.71	0.15	0.02	0.13
Cement and Mortar Mixers	2023	9	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.03	1.08
Concrete/Industrial Saws	2023	81														

Air Compressors	2021	251	500	21.887	0.261	1.663	1.064	0.005	0.058	0.058	568.299	0.023
Air Compressors	2021	501	750	33.933	0.262	1.699	1.064	0.005	0.058	0.058	568.299	0.023
Air Compressors	2021	751	1000	49.951	0.284	3.565	1.134	0.005	0.082	0.082	568.3	0.025
Air Compressors	2022	6	15	1.844	0.707	4.408	3.519	0.008	0.203	0.203	568.299	0.063
Air Compressors	2022	16	25	3.857	0.739	4.47	2.426	0.007	0.193	0.193	568.299	0.066
Air Compressors	2022	26	50	6.549	0.814	4.093	4.959	0.007	0.183	0.183	568.299	0.073
Air Compressors	2022	51	120	7.001	0.413	2.844	3.662	0.006	0.165	0.165	568.299	0.037
Air Compressors	2022	121	175	10.29	0.322	1.959	3.194	0.006	0.101	0.101	568.299	0.029
Air Compressors	2022	176	250	12.099	0.255	1.617	1.102	0.006	0.052	0.052	568.3	0.023
Air Compressors	2022	251	500	20.881	0.249	1.472	1.059	0.005	0.051	0.051	568.299	0.022
Air Compressors	2022	501	750	32.363	0.25	1.502	1.059	0.005	0.051	0.051	568.299	0.022
Air Compressors	2022	751	1000	47.338	0.269	3.378	1.117	0.005	0.075	0.075	568.3	0.024
Air Compressors	2023	6	15	1.82	0.698	4.359	3.508	0.008	0.194	0.194	568.299	0.063
Air Compressors	2023	16	25	3.798	0.728	4.447	2.407	0.007	0.186	0.186	568.299	0.065
Air Compressors	2023	26	50	6.056	0.753	3.975	4.913	0.007	0.156	0.156	568.299	0.067
Air Compressors	2023	51	120	6.568	0.387	2.631	3.657	0.006	0.143	0.143	568.299	0.034
Air Compressors	2023	121	175	9.693	0.303	1.748	3.197	0.006	0.089	0.089	568.299	0.027
Air Compressors	2023	176	250	11.532	0.243	1.42	1.099	0.006	0.045	0.045	568.299	0.021
Air Compressors	2023	251	500	19.964	0.238	1.305	1.055	0.005	0.044	0.044	568.299	0.021
Air Compressors	2023	501	750	30.933	0.239	1.331	1.055	0.005	0.044	0.044	568.299	0.021
Air Compressors	2023	751	1000	44.985	0.256	3.221	1.102	0.005	0.068	0.068	568.299	0.023
Air Compressors	2024	6	15	1.799	0.69	4.316	3.499	0.008	0.188	0.188	568.3	0.062
Air Compressors	2024	16	25	3.746	0.718	4.426	2.39	0.007	0.181	0.181	568.3	0.064
Air Compressors	2024	26	50	5.647	0.702	3.864	4.88	0.007	0.135	0.135	568.299	0.063
Air Compressors	2024	51	120	6.194	0.365	2.461	3.655	0.006	0.123	0.123	568.299	0.032
Air Compressors	2024	121	175	9.143	0.286	1.561	3.202	0.006	0.077	0.077	568.299	0.025
Air Compressors	2024	176	250	10.986	0.232	1.247	1.096	0.006	0.039	0.039	568.299	0.02
Air Compressors	2024	251	500	19.07	0.228	1.148	1.053	0.005	0.038	0.038	568.299	0.02
Air Compressors	2024	501	750	29.542	0.228	1.171	1.053	0.005	0.038	0.038	568.299	0.02
Air Compressors	2024	751	1000	42.762	0.243	3.082	1.09	0.005	0.061	0.061	568.299	0.021
Air Compressors	2025	6	15	1.781	0.683	4.278	3.491	0.008	0.183	0.183	568.3	0.061
Air Compressors	2025	16	25	3.701	0.709	4.407	2.376	0.007	0.177	0.177	568.299	0.064
Air Compressors	2025	26	50	5.297	0.659	3.755	4.851	0.007	0.116	0.116	568.299	0.059
Air Compressors	2025	51	120	5.855	0.345	2.313	3.653	0.006	0.104	0.104	568.299	0.031
Air Compressors	2025	121	175	8.602	0.269	1.383	3.205	0.006	0.065	0.065	568.299	0.024
Air Compressors	2025	176	250	10.451	0.22	1.086	1.094	0.006	0.033	0.033	568.299	0.019
Air Compressors	2025	251	500	18.188	0.217	1.001	1.051	0.005	0.032	0.032	568.299	0.019
Air Compressors	2025	501	750	28.169	0.217	1.021	1.051	0.005	0.032	0.032	568.299	0.019
Air Compressors	2025	751	1000	40.592	0.231	2.954	1.079	0.005	0.055	0.055	568.299	0.02
Air Compressors	2030	6	15	1.73	0.663	4.164	3.47	0.008	0.166	0.166	568.299	0.059
Air Compressors	2030	16	25	3.582	0.687	4.347	2.34	0.007	0.165	0.165	568.299	0.061
Air Compressors	2030	26	50	4.073	0.506	3.34	4.712	0.007	0.046	0.046	568.299	0.045
Air Compressors	2030	51	120	4.485	0.264	1.729	3.63	0.006	0.041	0.041	568.299	0.023
Air Compressors	2030	121	175	6.186	0.193	0.633	3.205	0.006	0.027	0.027	568.299	0.017
Air Compressors	2030	176	250	8.495	0.179	0.529	1.092	0.006	0.018	0.018	568.299	0.016
Air Compressors	2030	251	500	14.937	0.178	0.499	1.048	0.005	0.017	0.017	568.299	0.016
Air Compressors	2030	501	750	23.104	0.178	0.505	1.048	0.005	0.017	0.017	568.3	0.016
Air Compressors	2030	751	1000	32.103	0.182	2.6	1.049	0.005	0.033	0.033	568.299	0.016
Air Compressors	2035	6	15	1.724	0.661	4.143	3.469	0.008	0.162	0.162	568.3	0.059
Air Compressors	2035	16	25	3.574	0.685	4.332	2.339	0.007	0.162	0.162	568.299	0.061
Air Compressors	2035	26	50	3.722	0.463	3.215	4.674	0.007	0.023	0.023	568.299	0.041
Air Compressors	2035	51	120	4.047	0.238	1.53	3.623	0.006	0.02	0.02	568.299	0.021
Air Compressors	2035	121	175	5.429	0.17	0.391	3.205	0.006	0.015	0.015	568.3	0.015
Air Compressors	2035	176	250	7.862	0.166	0.347	1.091	0.006	0.012	0.012	568.299	0.014
Air Compressors	2035	251	500	13.882	0.166	0.343	1.048	0.005	0.012	0.012	568.299	0.014
Air Compressors	2035	501	750	21.455	0.166	0.344	1.048	0.005	0.012	0.012	568.299	0.014
Air Compressors	2035	751	1000	29.363	0.167	2.473	1.048	0.005	0.026	0.026	568.299	0.015
Air Compressors	2040	6	15	1.724	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Air Compressors	2040	16	25	3.574	0.685	4.332	2.339	0.007	0.161	0.161	568.3	0.061
Air Compressors	2040	26	50	3.683	0.458	3.159	4.659	0.007	0.016	0.016	568.3	0.041
Air Compressors	2040	51	120	3.94	0.232	1.468	3.619	0.006	0.015	0.015	568.299	0.02
Air Compressors	2040	121	175	5.155	0.161	0.307	3.201	0.006	0.012	0.012	568.299	0.014
Air Compressors	2040	176	250	7.58	0.16	0.291	1.09	0.006	0.01	0.01	568.299	0.014
Air Compressors	2040	251	500	13.386	0.16	0.291	1.047	0.005	0.01	0.01	568.3	0.014
Air Compressors	2040	501	750	20.688	0.16	0.291	1.047	0.005	0.01	0.01	568.299	0.014
Air Compressors	2040	751	1000	28.179	0.16	2.439	1.047	0.005	0.023	0.023	568.299	0.014
Bore/Drill Rigs	1990	6	15	4.968	1.804	9.999	4.999	1.049	0.975	0.975	568.299	0.162
Bore/Drill Rigs	1990	16	25	9.418	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Bore/Drill Rigs	1990	26	50	34.076	4.124	7.685	8.505	0.871	1.134	1.134	568.299	0.372
Bore/Drill Rigs	1990	51	120	42.911	2.09	13.647	5.23	0.791	1.172	1.172	568.299	0.188
Bore/Drill Rigs	1990	121	175	53.24	1.417	12.365	4.578	0.758	0.749	0.749	568.299	0.127
Bore/Drill Rigs	1990	176	250	70.987	1.417	12.365	4.578	0.758	0.749	0.749	568.299	0.127
Bore/Drill Rigs	1990	251	500	105.966	1.278	11.861	8.788	0.662	0.658	0.658	568.299	0.115
Bore/Drill Rigs	1990	501	750	209.372	1.278	11.861	8.788	1.018	0.67	0.67	568.3	0.115
Bore/Drill Rigs	1990	751	1000	313.129	1.267	11.861	8.788	1.018	0.656	0.656	568.3	0.114
Bore/Drill Rigs	2000	6	15	4.063	1.475	8.242	4.49	0.079	0.676	0.676	568.299	0.133
Bore/Drill Rigs	2000	16	25	8.334	1.958	6.358	4.53	0.065	0.563	0.563	568.299	0.176
Bore/Drill Rigs	2000	26	50	27.226	3.295	6.48	7.058	0.066	0.748	0.748	568.299	0.297
Bore/Drill Rigs	2000	51	120	30.002	1.461	8.27	3.947	0.06	0.726	0.726	568.299	0.131
Bore/Drill Rigs	2000	121	175	37.634	1.002	7.789	3.062	0.057	0.405	0.405	568.3	0.09
Bore/Drill Rigs	2000	176	250	32.523	0.649	7.203	1.698	0.057	0.238	0.238	568.3	0.058
Bore/Drill Rigs	2000	251	500	51.06	0.616	6.993	1.728	0.05	0.224	0.224	568.299	0.055
Bore/Drill Rigs	2000	501	750	100.887	0.616	6.993	1.728	0.052	0.224	0.224	568.299	0.055
Bore/Drill Rigs	2000	751	1000	199.748	0.808	8.005	2.73	0.052	0.282	0.282	568.299	0.072
Bore/Drill Rigs	2005	6	15	2.109	0.766	5.228	3.469	0.079	0.361	0.361	568.299	0.069
Bore/Drill Rigs	2005	16	25	3.913	0.919	5.412	2.642	0.065	0.347	0.347	568.299	0.082
Bore/Drill Rigs	2005	26	50	20.086	2.431	5.697	5.897	0.066	0.625	0.625	568.299	0.219
Bore/Drill Rigs	2005	51	120	24.211	1.179	6.895	3.812	0.06	0.64	0.64	568.3	0.106
Bore/Drill Rigs	2005	121	175	27.251	0.725	6.246	3.035	0.057	0.328	0.328	568.299	0.065

Paving Equipment	2025	132	0.18	1.51	3.04	0.01	0.00	0.08	0.08	0.00	0.07	0.07	470.48	0.15	0.02	0.21
Plate Compactors	2025	8	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.03	0.79
Pressure Washers	2025	13	0.61	4.27	3.49	0.01	0.00	0.18	0.18	0.00	0.18	0.18	568.30	0.05	0.03	1.67
Pumps	2025	84	0.26	2.21	3.39	0.01	0.00	0.09	0.09	0.00	0.09	0.09	568.30	0.02	0.03	

Bore/Drill Rigs	2005	176	250	19.806	0.395	5.8	1.094	0.057	0.145	0.145	568.299	0.035
Bore/Drill Rigs	2005	251	500	27.527	0.332	5.051	1.068	0.05	0.133	0.133	568.299	0.029
Bore/Drill Rigs	2005	501	750	58.103	0.354	5.347	1.068	0.052	0.138	0.138	568.299	0.032
Bore/Drill Rigs	2005	751	1000	132.307	0.535	6.8	1.427	0.052	0.183	0.183	568.299	0.048
Bore/Drill Rigs	2010	6	15	1.052412	0.884	5.42137	4.58435	0.006	0.406	0.374	604.3903	0.176
Bore/Drill Rigs	2010	16	25	1.052412	0.884	5.42137	4.58435	0.006	0.406	0.374	604.3903	0.176
Bore/Drill Rigs	2010	26	50	1.052412	0.884	5.42137	4.58435	0.006	0.406	0.374	604.3903	0.176
Bore/Drill Rigs	2010	51	120	0.45108	0.379	4.84273	3.31487	0.005	0.313	0.288	505.1218	0.147
Bore/Drill Rigs	2010	121	175	0.420915	0.354	4.77962	3.03422	0.005	0.231	0.213	533.3654	0.155
Bore/Drill Rigs	2010	176	250	0.301395	0.253	4.60173	1.2308	0.005	0.139	0.128	525.165	0.153
Bore/Drill Rigs	2010	251	500	0.270831	0.228	3.90774	1.39755	0.005	0.131	0.12	517.3193	0.151
Bore/Drill Rigs	2010	501	750	0.19905	0.167	3.03556	1.08296	0.005	0.108	0.099	533.5969	0.155
Bore/Drill Rigs	2010	751	1000	0.189693	0.159	4.32965	0.96001	0.005	0.099	0.091	524.3394	0.153
Bore/Drill Rigs	2011	6	15	1.019273	0.856	5.41672	4.60411	0.006	0.4	0.368	602.9382	0.176
Bore/Drill Rigs	2011	16	25	1.019273	0.856	5.41672	4.60411	0.006	0.4	0.368	602.9382	0.176
Bore/Drill Rigs	2011	26	50	1.019273	0.856	5.41672	4.60411	0.006	0.4	0.368	602.9382	0.176
Bore/Drill Rigs	2011	51	120	0.435142	0.366	4.72727	3.32121	0.005	0.303	0.279	504.2171	0.147
Bore/Drill Rigs	2011	121	175	0.404145	0.34	4.59259	3.03462	0.005	0.219	0.202	531.8097	0.155
Bore/Drill Rigs	2011	176	250	0.289986	0.244	4.34748	1.21102	0.005	0.132	0.122	522.3643	0.152
Bore/Drill Rigs	2011	251	500	0.264468	0.222	3.72448	1.36917	0.005	0.125	0.115	512.0559	0.149
Bore/Drill Rigs	2011	501	750	0.195451	0.164	2.89424	1.06361	0.005	0.098	0.09	532.4717	0.155
Bore/Drill Rigs	2011	751	1000	0.200744	0.169	4.35634	0.96855	0.005	0.101	0.093	523.0129	0.153
Bore/Drill Rigs	2012	6	15	1.043679	0.877	5.45218	4.70758	0.006	0.406	0.374	601.7336	0.176
Bore/Drill Rigs	2012	16	25	1.043679	0.877	5.45218	4.70758	0.006	0.406	0.374	601.7336	0.176
Bore/Drill Rigs	2012	26	50	1.043679	0.877	5.45218	4.70758	0.006	0.406	0.374	601.7336	0.176
Bore/Drill Rigs	2012	51	120	0.439737	0.37	4.70854	3.34211	0.005	0.302	0.278	503.4212	0.147
Bore/Drill Rigs	2012	121	175	0.401496	0.337	4.52801	3.05178	0.005	0.215	0.198	531.6414	0.156
Bore/Drill Rigs	2012	176	250	0.299105	0.251	4.31574	1.23628	0.005	0.134	0.123	520.9621	0.152
Bore/Drill Rigs	2012	251	500	0.271498	0.228	3.71268	1.3973	0.005	0.124	0.115	511.0099	0.149
Bore/Drill Rigs	2012	501	750	0.195855	0.165	2.78397	1.06675	0.005	0.094	0.086	530.0759	0.155
Bore/Drill Rigs	2012	751	1000	0.210392	0.177	4.3794	0.976	0.005	0.103	0.094	521.6821	0.153
Bore/Drill Rigs	2013	6	15	1.019153	0.856	5.44353	4.71588	0.006	0.398	0.366	598.6307	0.176
Bore/Drill Rigs	2013	16	25	1.019153	0.856	5.44353	4.71588	0.006	0.398	0.366	598.6307	0.176
Bore/Drill Rigs	2013	26	50	1.019153	0.856	5.44353	4.71588	0.006	0.398	0.366	598.6307	0.176
Bore/Drill Rigs	2013	51	120	0.417421	0.351	4.52552	3.33685	0.005	0.279	0.257	501.3795	0.147
Bore/Drill Rigs	2013	121	175	0.380511	0.32	4.3027	3.04123	0.005	0.199	0.183	527.5089	0.155
Bore/Drill Rigs	2013	176	250	0.286183	0.24	4.0183	1.21872	0.005	0.124	0.114	517.8225	0.152
Bore/Drill Rigs	2013	251	500	0.260559	0.219	3.49492	1.35236	0.005	0.115	0.106	507.7707	0.149
Bore/Drill Rigs	2013	501	750	0.192576	0.162	2.57636	1.07935	0.005	0.088	0.081	527.7286	0.155
Bore/Drill Rigs	2013	751	1000	0.160352	0.135	3.46658	0.96188	0.005	0.082	0.075	519.8525	0.153
Bore/Drill Rigs	2014	6	15	0.992547	0.834	5.33236	4.69064	0.006	0.382	0.351	591.4418	0.175
Bore/Drill Rigs	2014	16	25	0.992547	0.834	5.33236	4.69064	0.006	0.382	0.351	591.4418	0.175
Bore/Drill Rigs	2014	26	50	0.992547	0.834	5.33236	4.69064	0.006	0.382	0.351	591.4418	0.175
Bore/Drill Rigs	2014	51	120	0.379477	0.319	4.19515	3.32686	0.005	0.249	0.229	501.365	0.148
Bore/Drill Rigs	2014	121	175	0.366384	0.308	4.06571	3.04026	0.005	0.186	0.171	524.0522	0.155
Bore/Drill Rigs	2014	176	250	0.258607	0.217	3.52453	1.17442	0.005	0.105	0.097	512.3362	0.151
Bore/Drill Rigs	2014	251	500	0.240166	0.202	3.18617	1.239	0.005	0.101	0.093	506.1536	0.15
Bore/Drill Rigs	2014	501	750	0.186731	0.157	2.37324	1.08678	0.005	0.08	0.074	525.2397	0.155
Bore/Drill Rigs	2014	751	1000	0.12496	0.105	2.98435	0.95104	0.005	0.058	0.054	516.5998	0.153
Bore/Drill Rigs	2015	6	15	1.007942	0.847	5.30345	4.73461	0.006	0.379	0.349	585.1707	0.175
Bore/Drill Rigs	2015	16	25	1.007942	0.847	5.30345	4.73461	0.006	0.379	0.349	585.1707	0.175
Bore/Drill Rigs	2015	26	50	1.007942	0.847	5.30345	4.73461	0.006	0.379	0.349	585.1707	0.175
Bore/Drill Rigs	2015	51	120	0.378573	0.318	4.02775	3.3349	0.005	0.239	0.22	496.9494	0.148
Bore/Drill Rigs	2015	121	175	0.359562	0.302	3.90422	3.03526	0.005	0.176	0.162	517.2068	0.154
Bore/Drill Rigs	2015	176	250	0.253803	0.213	3.3245	1.17834	0.005	0.1	0.092	506.5047	0.151
Bore/Drill Rigs	2015	251	500	0.237097	0.199	3.00307	1.25564	0.005	0.096	0.088	499.9023	0.149
Bore/Drill Rigs	2015	501	750	0.19253	0.162	2.37558	1.10541	0.005	0.081	0.074	520.4733	0.155
Bore/Drill Rigs	2015	751	1000	0.130029	0.109	2.99386	0.95583	0.005	0.059	0.054	511.2533	0.153
Bore/Drill Rigs	2016	6	15	1.034535	0.869	5.29821	4.79659	0.006	0.383	0.352	579.3262	0.175
Bore/Drill Rigs	2016	16	25	1.034535	0.869	5.29821	4.79659	0.006	0.383	0.352	579.3262	0.175
Bore/Drill Rigs	2016	26	50	1.034535	0.869	5.29821	4.79659	0.006	0.383	0.352	579.3262	0.175
Bore/Drill Rigs	2016	51	120	0.365397	0.307	3.82088	3.32648	0.005	0.221	0.204	491.6548	0.148
Bore/Drill Rigs	2016	121	175	0.33987	0.286	3.61582	3.02337	0.005	0.162	0.149	511.4327	0.154
Bore/Drill Rigs	2016	176	250	0.229144	0.193	2.9021	1.13299	0.005	0.085	0.078	502.128	0.151
Bore/Drill Rigs	2016	251	500	0.203588	0.171	2.50955	1.13338	0.005	0.077	0.071	494.7606	0.149
Bore/Drill Rigs	2016	501	750	0.182018	0.153	2.16636	1.11952	0.005	0.072	0.066	514.8829	0.155
Bore/Drill Rigs	2016	751	1000	0.137307	0.115	3.00833	0.96409	0.005	0.059	0.055	505.9997	0.153
Bore/Drill Rigs	2017	6	15	0.957137	0.804	5.06335	4.65158	0.006	0.351	0.323	563.9173	0.173
Bore/Drill Rigs	2017	16	25	0.957137	0.804	5.06335	4.65158	0.006	0.351	0.323	563.9173	0.173
Bore/Drill Rigs	2017	26	50	0.957137	0.804	5.06335	4.65158	0.006	0.351	0.323	563.9173	0.173
Bore/Drill Rigs	2017	51	120	0.354597	0.298	3.68536	3.33142	0.005	0.211	0.194	485.322	0.149
Bore/Drill Rigs	2017	121	175	0.290928	0.244	2.98245	3.0013	0.005	0.131	0.121	503.7704	0.154
Bore/Drill Rigs	2017	176	250	0.20647	0.173	2.5215	1.1021	0.005	0.072	0.067	494.1381	0.151
Bore/Drill Rigs	2017	251	500	0.197407	0.166	2.36747	1.11891	0.005	0.072	0.067	489.4612	0.15
Bore/Drill Rigs	2017	501	750	0.184153	0.155	2.15656	1.13653	0.005	0.071	0.066	505.1248	0.155
Bore/Drill Rigs	2017	751	1000	0.143503	0.121	3.02051	0.97127	0.005	0.06	0.055	498.1225	0.153
Bore/Drill Rigs	2018	6	15	0.9127	0.767	4.86917	4.56857	0.005	0.329	0.303	554.2038	0.173
Bore/Drill Rigs	2018	16	25	0.9127	0.767	4.86917	4.56857	0.005	0.329	0.303	554.2038	0.173
Bore/Drill Rigs	2018	26	50	0.9127	0.767	4.86917	4.56857	0.005	0.329	0.303	554.2038	0.173
Bore/Drill Rigs	2018	51	120	0.320098	0.269	3.39962	3.32325	0.005	0.184	0.17	479.6719	0.149
Bore/Drill Rigs	2018	121	175	0.241793	0.203	2.35662	2.96107	0.005	0.103	0.095	495.0734	0.154
Bore/Drill Rigs	2018	176	250	0.183927	0.155	2.15308	1.07328	0.005	0.061	0.056	484.5605	0.151
Bore/Drill Rigs	2018	251	500	0.160513	0.135	1.74562	1.03203	0.005	0.052	0.048	485.6893	0.151
Bore/Drill Rigs	2018	501	750	0.14994	0.126	1.67873	1.00559	0.005	0.054	0.05	489.7301	0.152
Bore/Drill Rigs	2018	751	1000	0.149052	0.125	3.03153	0.97772	0.005	0.06	0.056	490.2427	0.153
Bore/Drill Rigs	2019	6	15	0.858717	0.722	4.71795	4.49723	0.005	0.303	0.278	545.293	0.173
Bore/Drill Rigs	2019	16	25	0.858717	0.722	4.71795	4.49723	0.005	0.303	0.278	545.293	0.173
Bore/Drill Rigs	2019	26	50	0.858717	0.722	4.71795	4.49723	0.005	0.303	0.278	545.293	0.173



Bore/Drill Rigs	2019	121	175	0.215784	0.181	2.01775	2.95563	0.005	0.088	0.081	487.3552	0.154
Bore/Drill Rigs	2019	176	250	0.170614	0.143	1.8943	1.06058	0.005	0.054	0.049	475.7896	0.151
Bore/Drill Rigs	2019	251	500	0.153732	0.129	1.55098	1.03449	0.005	0.048	0.044	477.0462	0.151
Bore/Drill Rigs	2019	501	750	0.138617	0.116	1.44865	0.97074	0.005	0.048	0.044	481.8363	0.152
Bore/Drill Rigs	2019	751	1000	0.153944	0.129	3.04139	0.98342	0.005	0.061	0.056	482.3593	0.153
Bore/Drill Rigs	2020	6	15	0.851825	0.716	4.6451	4.51013	0.006	0.294	0.271	535.2948	0.173
Bore/Drill Rigs	2020	16	25	0.851825	0.716	4.6451	4.51013	0.006	0.294	0.271	535.2948	0.173
Bore/Drill Rigs	2020	26	50	0.851825	0.716	4.6451	4.51013	0.006	0.294	0.271	535.2948	0.173
Bore/Drill Rigs	2020	51	120	0.292949	0.246	3.06601	3.32347	0.005	0.159	0.146	463.5827	0.15
Bore/Drill Rigs	2020	121	175	0.207426	0.174	1.87149	2.96948	0.005	0.082	0.076	477.722	0.155
Bore/Drill Rigs	2020	176	250	0.169462	0.142	1.80732	1.06766	0.005	0.052	0.048	466.8342	0.151
Bore/Drill Rigs	2020	251	500	0.148188	0.125	1.40938	1.01263	0.005	0.045	0.041	466.8219	0.151
Bore/Drill Rigs	2020	501	750	0.129293	0.109	1.23085	0.97413	0.005	0.041	0.038	473.6679	0.153
Bore/Drill Rigs	2020	751	1000	0.158163	0.133	3.05008	0.98839	0.005	0.061	0.056	471.8492	0.153
Bore/Drill Rigs	2021	6	15	0.845639	0.711	4.63432	4.54836	0.006	0.291	0.268	535.3782	0.173
Bore/Drill Rigs	2021	16	25	0.845639	0.711	4.63432	4.54836	0.006	0.291	0.268	535.3782	0.173
Bore/Drill Rigs	2021	26	50	0.845639	0.711	4.63432	4.54836	0.006	0.291	0.268	535.3782	0.173
Bore/Drill Rigs	2021	51	120	0.258162	0.217	2.73675	3.30573	0.005	0.131	0.12	464.9725	0.15
Bore/Drill Rigs	2021	121	175	0.183454	0.154	1.5983	2.9614	0.005	0.07	0.064	477.0482	0.154
Bore/Drill Rigs	2021	176	250	0.157647	0.132	1.55102	1.06418	0.005	0.047	0.043	467.9916	0.151
Bore/Drill Rigs	2021	251	500	0.139268	0.117	1.22069	1.01479	0.005	0.041	0.038	469.8158	0.152
Bore/Drill Rigs	2021	501	750	0.116134	0.098	0.95517	0.97176	0.005	0.033	0.031	474.079	0.153
Bore/Drill Rigs	2021	751	1000	0.161679	0.136	3.05759	0.99261	0.005	0.061	0.057	471.8158	0.153
Bore/Drill Rigs	2022	6	15	0.751445	0.631	4.28474	4.33356	0.005	0.241	0.221	529.8703	0.171
Bore/Drill Rigs	2022	16	25	0.751445	0.631	4.28474	4.33356	0.005	0.241	0.221	529.8703	0.171
Bore/Drill Rigs	2022	26	50	0.751445	0.631	4.28474	4.33356	0.005	0.241	0.221	529.8703	0.171
Bore/Drill Rigs	2022	51	120	0.227425	0.191	2.42459	3.25974	0.005	0.107	0.099	462.2674	0.15
Bore/Drill Rigs	2022	121	175	0.162807	0.137	1.28831	2.95431	0.005	0.057	0.052	477.3719	0.154
Bore/Drill Rigs	2022	176	250	0.136848	0.115	1.16293	1.04734	0.005	0.037	0.034	468.7604	0.152
Bore/Drill Rigs	2022	251	500	0.12801	0.108	1.03525	1.00212	0.005	0.035	0.032	467.1923	0.151
Bore/Drill Rigs	2022	501	750	0.10809	0.091	0.77309	0.97519	0.005	0.028	0.026	477.141	0.154
Bore/Drill Rigs	2022	751	1000	0.067607	0.057	2.27813	0.9452	0.005	0.018	0.017	472.9214	0.153
Bore/Drill Rigs	2023	6	15	0.721105	0.606	4.20831	4.31077	0.005	0.226	0.208	531.9856	0.172
Bore/Drill Rigs	2023	16	25	0.721105	0.606	4.20831	4.31077	0.005	0.226	0.208	531.9856	0.172
Bore/Drill Rigs	2023	26	50	0.721105	0.606	4.20831	4.31077	0.005	0.226	0.208	531.9856	0.172
Bore/Drill Rigs	2023	51	120	0.222828	0.187	2.35656	3.25754	0.005	0.102	0.093	461.214	0.149
Bore/Drill Rigs	2023	121	175	0.149078	0.125	1.07773	2.9693	0.005	0.048	0.044	479.6465	0.155
Bore/Drill Rigs	2023	176	250	0.131367	0.11	1.04653	1.04309	0.005	0.034	0.031	469.7058	0.152
Bore/Drill Rigs	2023	251	500	0.120261	0.101	0.89764	0.98883	0.005	0.03	0.028	464.0407	0.15
Bore/Drill Rigs	2023	501	750	0.108039	0.091	0.71664	0.98235	0.005	0.026	0.024	479.2199	0.155
Bore/Drill Rigs	2023	751	1000	0.062646	0.053	2.26246	0.93615	0.005	0.018	0.016	472.0201	0.153
Bore/Drill Rigs	2024	6	15	0.724524	0.609	4.15902	4.33098	0.005	0.219	0.202	529.8661	0.171
Bore/Drill Rigs	2024	16	25	0.724524	0.609	4.15902	4.33098	0.005	0.219	0.202	529.8661	0.171
Bore/Drill Rigs	2024	26	50	0.724524	0.609	4.15902	4.33098	0.005	0.219	0.202	529.8661	0.171
Bore/Drill Rigs	2024	51	120	0.211018	0.177	2.21634	3.25123	0.005	0.09	0.083	461.2076	0.149
Bore/Drill Rigs	2024	121	175	0.148172	0.125	1.02855	2.97803	0.005	0.046	0.043	478.9441	0.155
Bore/Drill Rigs	2024	176	250	0.128551	0.108	0.97542	1.04591	0.005	0.032	0.03	470.7115	0.152
Bore/Drill Rigs	2024	251	500	0.122153	0.103	0.86053	0.99426	0.005	0.029	0.027	464.4796	0.15
Bore/Drill Rigs	2024	501	750	0.10623	0.089	0.67139	0.98491	0.005	0.026	0.024	480.2246	0.155
Bore/Drill Rigs	2024	751	1000	0.067347	0.057	2.27306	0.94304	0.005	0.018	0.017	471.9261	0.153
Bore/Drill Rigs	2025	6	15	0.703036	0.591	3.97786	4.2728	0.005	0.193	0.178	532.8212	0.172
Bore/Drill Rigs	2025	16	25	0.703036	0.591	3.97786	4.2728	0.005	0.193	0.178	532.8212	0.172
Bore/Drill Rigs	2025	26	50	0.703036	0.591	3.97786	4.2728	0.005	0.193	0.178	532.8212	0.172
Bore/Drill Rigs	2025	51	120	0.183914	0.155	1.96363	3.21758	0.005	0.067	0.062	459.8291	0.149
Bore/Drill Rigs	2025	121	175	0.135422	0.114	0.88787	2.9736	0.005	0.039	0.036	478.2657	0.155
Bore/Drill Rigs	2025	176	250	0.127813	0.107	0.95717	1.04484	0.005	0.031	0.029	470.6535	0.152
Bore/Drill Rigs	2025	251	500	0.120956	0.102	0.82299	0.99738	0.005	0.028	0.026	467.2892	0.151
Bore/Drill Rigs	2025	501	750	0.100521	0.084	0.59628	0.98349	0.005	0.023	0.021	481.2495	0.156
Bore/Drill Rigs	2025	751	1000	0.07426	0.062	2.28923	0.95339	0.005	0.019	0.017	471.9168	0.153
Bore/Drill Rigs	2030	6	15	1.821	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Bore/Drill Rigs	2030	16	25	2.917	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Bore/Drill Rigs	2030	26	50	2.88	0.348	3.02	4.029	0.007	0.013	0.013	568.299	0.031
Bore/Drill Rigs	2030	51	120	3.773	0.183	1.415	3.434	0.006	0.012	0.012	568.299	0.016
Bore/Drill Rigs	2030	121	175	4.786	0.127	0.279	3.038	0.006	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2030	176	250	6.363	0.127	0.274	1.035	0.006	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2030	251	500	10.531	0.127	0.274	1.006	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2030	501	750	20.808	0.127	0.274	1.006	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2030	751	1000	31.441	0.127	2.372	1.006	0.005	0.021	0.021	568.299	0.011
Bore/Drill Rigs	2035	6	15	1.821	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Bore/Drill Rigs	2035	16	25	2.917	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Bore/Drill Rigs	2035	26	50	2.881	0.348	3.019	4.03	0.007	0.013	0.013	568.299	0.031
Bore/Drill Rigs	2035	51	120	3.768	0.183	1.411	3.434	0.006	0.012	0.012	568.3	0.016
Bore/Drill Rigs	2035	121	175	4.767	0.126	0.272	3.039	0.006	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2035	176	250	6.357	0.126	0.272	1.035	0.006	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2035	251	500	10.52	0.126	0.272	1.006	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2035	501	750	20.787	0.126	0.272	1.006	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2035	751	1000	31.372	0.126	2.372	1.006	0.005	0.021	0.021	568.299	0.011
Bore/Drill Rigs	2040	6	15	1.821	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Bore/Drill Rigs	2040	16	25	2.917	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Bore/Drill Rigs	2040	26	50	2.883	0.348	3.019	4.032	0.007	0.013	0.013	568.3	0.031
Bore/Drill Rigs	2040	51	120	3.77	0.183	1.411	3.435	0.006	0.012	0.012	568.299	0.016
Bore/Drill Rigs	2040	121	175	4.77	0.127	0.272	3.039	0.006	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2040	176	250	6.36	0.127	0.272	1.035	0.006	0.01	0.01	568.3	0.011
Bore/Drill Rigs	2040	251	500	10.526	0.127	0.272	1.006	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2040	501	750	20.799	0.127	0.272	1.006	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2040	751	1000	31.389	0.127	2.372	1.006	0.005	0.021	0.021	568.299	0.011
Cement and Mortar Mixer:	1990	6	15	2.932	1.804	9.999	4.999	1.049	0.975	0.975	568.299	0.162
Cement and Mortar Mixer:	1990	16	25	9.992	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Cement and Mortar Mixer:	2000	6	15	2.702	1.662	8.911	4.78	0.079	0.745	0.745	568.299	0.15

Cement and Mortar Mixer:	2000	16	25	9.397	2.081	6.401	4.757	0.065	0.569	0.569	568.299	0.187
Cement and Mortar Mixer:	2005	6	15	1.628	1.001	6.3	3.791	0.079	0.465	0.465	568.299	0.09
Cement and Mortar Mixer:	2005	16	25	6.992	1.548	5.963	3.786	0.065	0.471	0.471	568.299	0.139
Cement and Mortar Mixer:	2010	6	15	1.153	0.709	4.545	3.492	0.008	0.26	0.26	568.299	0.064
Cement and Mortar Mixer:	2010	16	25	5.056	1.119	5.286	3.049	0.007	0.346	0.346	568.299	0.101
Cement and Mortar Mixer:	2011	6	15	1.114	0.685	4.351	3.479	0.008	0.231	0.231	568.299	0.061
Cement and Mortar Mixer:	2011	16	25	4.656	1.031	5.144	2.897	0.007	0.319	0.319	568.299	0.093
Cement and Mortar Mixer:	2012	6	15	1.096	0.674	4.272	3.472	0.008	0.209	0.209	568.299	0.06
Cement and Mortar Mixer:	2012	16	25	4.288	0.949	5.012	2.757	0.007	0.293	0.293	568.299	0.085
Cement and Mortar Mixer:	2013	6	15	1.087	0.669	4.223	3.469	0.008	0.191	0.191	568.299	0.06
Cement and Mortar Mixer:	2013	16	25	3.952	0.875	4.887	2.63	0.007	0.269	0.269	568.299	0.078
Cement and Mortar Mixer:	2014	6	15	1.082	0.666	4.191	3.469	0.008	0.177	0.177	568.299	0.06
Cement and Mortar Mixer:	2014	16	25	3.783	0.837	4.793	2.57	0.007	0.253	0.253	568.299	0.075
Cement and Mortar Mixer:	2015	6	15	1.079	0.663	4.168	3.469	0.008	0.171	0.171	568.3	0.059
Cement and Mortar Mixer:	2015	16	25	3.664	0.811	4.712	2.531	0.007	0.24	0.24	568.299	0.073
Cement and Mortar Mixer:	2016	6	15	1.076	0.662	4.153	3.469	0.008	0.167	0.167	568.3	0.059
Cement and Mortar Mixer:	2016	16	25	3.558	0.788	4.636	2.496	0.007	0.227	0.227	568.299	0.071
Cement and Mortar Mixer:	2017	6	15	1.075	0.661	4.145	3.469	0.008	0.165	0.165	568.299	0.059
Cement and Mortar Mixer:	2017	16	25	3.466	0.767	4.567	2.466	0.007	0.216	0.216	568.299	0.069
Cement and Mortar Mixer:	2018	6	15	1.075	0.661	4.142	3.469	0.008	0.163	0.163	568.299	0.059
Cement and Mortar Mixer:	2018	16	25	3.384	0.749	4.504	2.44	0.007	0.205	0.205	568.299	0.067
Cement and Mortar Mixer:	2019	6	15	1.075	0.661	4.142	3.469	0.008	0.162	0.162	568.299	0.059
Cement and Mortar Mixer:	2019	16	25	3.321	0.735	4.469	2.417	0.007	0.196	0.196	568.299	0.066
Cement and Mortar Mixer:	2020	6	15	1.075	0.661	4.142	3.47	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2020	16	25	3.265	0.723	4.442	2.397	0.007	0.187	0.187	568.299	0.065
Cement and Mortar Mixer:	2021	6	15	1.075	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2021	16	25	3.219	0.712	4.419	2.381	0.007	0.18	0.18	568.299	0.064
Cement and Mortar Mixer:	2022	6	15	1.075	0.661	4.142	3.47	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2022	16	25	3.182	0.704	4.399	2.367	0.007	0.175	0.175	568.299	0.063
Cement and Mortar Mixer:	2023	6	15	1.075	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2023	16	25	3.151	0.697	4.382	2.356	0.007	0.172	0.172	568.299	0.062
Cement and Mortar Mixer:	2024	6	15	1.075	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2024	16	25	3.129	0.693	4.369	2.349	0.007	0.17	0.17	568.299	0.062
Cement and Mortar Mixer:	2025	6	15	1.075	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2025	16	25	3.113	0.689	4.357	2.344	0.007	0.168	0.168	568.299	0.062
Cement and Mortar Mixer:	2030	6	15	1.075	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2030	16	25	3.095	0.685	4.333	2.339	0.007	0.162	0.162	568.299	0.061
Cement and Mortar Mixer:	2035	6	15	1.075	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2035	16	25	3.095	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Cement and Mortar Mixer:	2040	6	15	1.075	0.661	4.142	3.47	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2040	16	25	3.095	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	1990	16	25	4.947	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Concrete/Industrial Saws	1990	26	50	20.26	4.943	8.008	9.962	0.871	1.297	1.297	568.299	0.446
Concrete/Industrial Saws	1990	51	120	24.821	2.467	15.608	5.934	0.791	1.385	1.385	568.299	0.222
Concrete/Industrial Saws	1990	121	175	45.581	2.097	15.952	5.376	0.758	1.172	1.172	568.3	0.189
Concrete/Industrial Saws	2000	16	25	4.266	1.908	6.326	4.438	0.065	0.555	0.555	568.299	0.172
Concrete/Industrial Saws	2000	26	50	14.64	3.572	6.784	7.547	0.066	0.789	0.789	568.299	0.322
Concrete/Industrial Saws	2000	51	120	16.713	1.661	9.903	4.354	0.06	0.77	0.77	568.299	0.149
Concrete/Industrial Saws	2000	121	175	24.252	1.115	9.017	3.531	0.057	0.452	0.452	568.3	0.1
Concrete/Industrial Saws	2005	16	25	1.899	0.849	5.321	2.519	0.065	0.333	0.333	568.299	0.076
Concrete/Industrial Saws	2005	26	50	13.023	3.177	6.32	6.994	0.066	0.732	0.732	568.299	0.286
Concrete/Industrial Saws	2005	51	120	14.366	1.428	8.401	4.05	0.06	0.714	0.714	568.299	0.128
Concrete/Industrial Saws	2005	121	175	20.277	0.932	7.685	3.223	0.057	0.393	0.393	568.299	0.084
Concrete/Industrial Saws	2010	16	25	1.545	0.691	4.411	2.339	0.007	0.216	0.216	568.299	0.062
Concrete/Industrial Saws	2010	26	50	9.492	2.316	5.774	6.039	0.007	0.565	0.565	568.299	0.208
Concrete/Industrial Saws	2010	51	120	10.348	1.028	6.592	3.813	0.006	0.551	0.551	568.299	0.092
Concrete/Industrial Saws	2010	121	175	14.859	0.683	5.838	3.116	0.006	0.306	0.306	568.299	0.061
Concrete/Industrial Saws	2011	16	25	1.539	0.688	4.372	2.339	0.007	0.193	0.193	568.299	0.062
Concrete/Industrial Saws	2011	26	50	8.781	2.142	5.68	5.854	0.007	0.534	0.534	568.299	0.193
Concrete/Industrial Saws	2011	51	120	9.617	0.955	6.222	3.775	0.006	0.524	0.524	568.299	0.086
Concrete/Industrial Saws	2011	121	175	13.917	0.64	5.491	3.104	0.006	0.293	0.293	568.299	0.057
Concrete/Industrial Saws	2012	16	25	1.535	0.686	4.348	2.339	0.007	0.173	0.173	568.299	0.061
Concrete/Industrial Saws	2012	26	50	8.071	1.969	5.59	5.671	0.007	0.503	0.503	568.299	0.177
Concrete/Industrial Saws	2012	51	120	8.902	0.884	5.844	3.74	0.006	0.489	0.489	568.299	0.079
Concrete/Industrial Saws	2012	121	175	12.992	0.597	5.146	3.094	0.006	0.272	0.272	568.299	0.053
Concrete/Industrial Saws	2013	16	25	1.533	0.685	4.335	2.339	0.007	0.168	0.168	568.299	0.061
Concrete/Industrial Saws	2013	26	50	7.362	1.796	5.377	5.489	0.007	0.463	0.463	568.299	0.162
Concrete/Industrial Saws	2013	51	120	8.209	0.816	5.483	3.706	0.006	0.451	0.451	568.299	0.073
Concrete/Industrial Saws	2013	121	175	12.096	0.556	4.829	3.086	0.006	0.25	0.25	568.299	0.05
Concrete/Industrial Saws	2014	16	25	1.532	0.685	4.332	2.339	0.007	0.164	0.164	568.299	0.061
Concrete/Industrial Saws	2014	26	50	6.665	1.626	5.172	5.313	0.007	0.424	0.424	568.299	0.146
Concrete/Industrial Saws	2014	51	120	7.539	0.749	5.16	3.675	0.006	0.412	0.412	568.299	0.067
Concrete/Industrial Saws	2014	121	175	11.238	0.517	4.531	3.08	0.006	0.228	0.228	568.299	0.046
Concrete/Industrial Saws	2015	16	25	1.532	0.685	4.332	2.339	0.007	0.162	0.162	568.299	0.061
Concrete/Industrial Saws	2015	26	50	6.027	1.47	4.989	5.165	0.007	0.386	0.386	568.299	0.132
Concrete/Industrial Saws	2015	51	120	6.878	0.683	4.789	3.647	0.006	0.372	0.372	568.3	0.061
Concrete/Industrial Saws	2015	121	175	10.333	0.475	4.112	3.077	0.006	0.207	0.207	568.299	0.042
Concrete/Industrial Saws	2016	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2016	26	50	5.419	1.322	4.818	5.029	0.007	0.35	0.35	568.3	0.119
Concrete/Industrial Saws	2016	51	120	6.237	0.62	4.432	3.62	0.006	0.333	0.333	568.3	0.055
Concrete/Industrial Saws	2016	121	175	9.455	0.435	3.708	3.074	0.006	0.186	0.186	568.299	0.039
Concrete/Industrial Saws	2017	16	25	1.532	0.685	4.332	2.34	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2017	26	50	4.816	1.175	4.652	4.894	0.007	0.313	0.313	568.299	0.106
Concrete/Industrial Saws	2017	51	120	5.61	0.557	4.086	3.595	0.006	0.294	0.294	568.299	0.05
Concrete/Industrial Saws	2017	121	175	8.602	0.395	3.316	3.073	0.006	0.165	0.165	568.299	0.035
Concrete/Industrial Saws	2018	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2018	26	50	4.233	1.032	4.492	4.766	0.007	0.277	0.277	568.299	0.093
Concrete/Industrial Saws	2018	51	120	5.014	0.498	3.754	3.571	0.006	0.256	0.256	568.299	0.044
Concrete/Industrial Saws	2018	121	175	7.805	0.359	2.945	3.072	0.006	0.145	0.145	568.299	0.032

Concrete/Industrial Saws	2019	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2019	26	50	3.686	0.899	4.338	4.645	0.007	0.242	0.242	568.299	0.081
Concrete/Industrial Saws	2019	51	120	4.463	0.443	3.441	3.55	0.006	0.22	0.22	568.3	0.04
Concrete/Industrial Saws	2019	121	175	7.177	0.33	2.618	3.072	0.006	0.128	0.128	568.299	0.029
Concrete/Industrial Saws	2020	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2020	26	50	3.271	0.798	4.196	4.552	0.007	0.212	0.212	568.299	0.072
Concrete/Industrial Saws	2020	51	120	4.042	0.401	3.163	3.535	0.006	0.19	0.19	568.299	0.036
Concrete/Industrial Saws	2020	121	175	6.669	0.306	2.324	3.072	0.006	0.114	0.114	568.299	0.027
Concrete/Industrial Saws	2021	16	25	1.532	0.685	4.332	2.34	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2021	26	50	2.959	0.722	4.063	4.481	0.007	0.184	0.184	568.3	0.065
Concrete/Industrial Saws	2021	51	120	3.721	0.369	2.913	3.523	0.006	0.166	0.166	568.299	0.033
Concrete/Industrial Saws	2021	121	175	6.227	0.286	2.055	3.072	0.006	0.101	0.101	568.299	0.025
Concrete/Industrial Saws	2022	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2022	26	50	2.705	0.66	3.936	4.422	0.007	0.158	0.158	568.3	0.059
Concrete/Industrial Saws	2022	51	120	3.457	0.343	2.686	3.514	0.006	0.144	0.144	568.299	0.031
Concrete/Industrial Saws	2022	121	175	5.819	0.267	1.806	3.072	0.006	0.089	0.089	568.3	0.024
Concrete/Industrial Saws	2023	16	25	1.532	0.685	4.332	2.34	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2023	26	50	2.484	0.606	3.815	4.372	0.007	0.134	0.134	568.299	0.054
Concrete/Industrial Saws	2023	51	120	3.223	0.32	2.478	3.507	0.006	0.123	0.123	568.3	0.028
Concrete/Industrial Saws	2023	121	175	5.453	0.25	1.599	3.072	0.006	0.077	0.077	568.299	0.022
Concrete/Industrial Saws	2024	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2024	26	50	2.303	0.561	3.701	4.33	0.007	0.115	0.115	568.3	0.05
Concrete/Industrial Saws	2024	51	120	3.023	0.3	2.315	3.5	0.006	0.106	0.106	568.299	0.027
Concrete/Industrial Saws	2024	121	175	5.117	0.235	1.418	3.072	0.006	0.067	0.067	568.299	0.021
Concrete/Industrial Saws	2025	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2025	26	50	2.153	0.525	3.592	4.297	0.007	0.099	0.099	568.299	0.047
Concrete/Industrial Saws	2025	51	120	2.849	0.283	2.176	3.495	0.006	0.089	0.089	568.3	0.025
Concrete/Industrial Saws	2025	121	175	4.8	0.22	1.249	3.073	0.006	0.056	0.056	568.3	0.019
Concrete/Industrial Saws	2030	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2030	26	50	1.679	0.409	3.222	4.199	0.007	0.041	0.041	568.299	0.036
Concrete/Industrial Saws	2030	51	120	2.226	0.221	1.667	3.48	0.006	0.036	0.036	568.299	0.019
Concrete/Industrial Saws	2030	121	175	3.551	0.163	0.59	3.074	0.006	0.025	0.025	568.299	0.014
Concrete/Industrial Saws	2035	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2035	26	50	1.54	0.375	3.107	4.174	0.007	0.021	0.021	568.3	0.033
Concrete/Industrial Saws	2035	51	120	2.015	0.2	1.491	3.476	0.006	0.018	0.018	568.299	0.018
Concrete/Industrial Saws	2035	121	175	3.121	0.143	0.374	3.075	0.006	0.014	0.014	568.299	0.012
Concrete/Industrial Saws	2040	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2040	26	50	1.532	0.373	3.058	4.175	0.007	0.014	0.014	568.299	0.033
Concrete/Industrial Saws	2040	51	120	1.968	0.195	1.434	3.477	0.006	0.013	0.013	568.299	0.017
Concrete/Industrial Saws	2040	121	175	2.965	0.136	0.297	3.076	0.006	0.011	0.011	568.3	0.012
Cranes	1990	26	50	13.537	5.179	8.093	10.396	0.871	1.345	1.345	568.299	0.467
Cranes	1990	51	120	14.178	2.508	15.674	5.983	0.791	1.427	1.427	568.299	0.226
Cranes	1990	121	175	18.412	2.033	15.601	5.387	0.758	1.142	1.142	568.299	0.183
Cranes	1990	176	250	25.703	2.033	15.601	5.387	0.758	1.142	1.142	568.299	0.183
Cranes	1990	251	500	36.191	1.782	14.718	12.529	0.662	0.968	0.968	568.299	0.16
Cranes	1990	501	750	60.897	1.782	14.718	12.529	1.018	0.986	0.986	568.299	0.16
Cranes	1990	1001	9999	194.538	1.778	14.718	12.529	1.018	0.98	0.98	568.299	0.16
Cranes	2000	26	50	12.119	4.636	7.163	9.507	0.666	0.958	0.958	568.3	0.418
Cranes	2000	51	120	10.887	1.926	10.905	4.81	0.06	0.93	0.93	568.299	0.173
Cranes	2000	121	175	11.77	1.299	9.929	3.932	0.057	0.552	0.552	568.299	0.117
Cranes	2000	176	250	14.291	1.13	9.635	3.285	0.057	0.47	0.47	568.299	0.101
Cranes	2000	251	500	20.704	1.019	9.139	5.545	0.05	0.411	0.411	568.299	0.092
Cranes	2000	501	750	34.838	1.019	9.139	5.545	0.052	0.411	0.411	568.299	0.092
Cranes	2000	1001	9999	116.509	1.064	9.643	6.045	0.052	0.394	0.394	568.299	0.096
Cranes	2005	26	50	10.96	4.193	6.736	8.893	0.666	0.898	0.898	568.3	0.378
Cranes	2005	51	120	9.53	1.686	9.357	4.493	0.06	0.875	0.875	568.299	0.152
Cranes	2005	121	175	10.036	1.108	8.542	3.6	0.057	0.487	0.487	568.299	0.099
Cranes	2005	176	250	10.718	0.847	8.163	2.367	0.057	0.343	0.343	568.299	0.076
Cranes	2005	251	500	15.234	0.75	7.448	3.287	0.05	0.303	0.303	568.299	0.067
Cranes	2005	501	750	25.971	0.76	7.598	3.283	0.052	0.305	0.305	568.299	0.068
Cranes	2005	1001	9999	91.74	0.838	8.503	3.718	0.052	0.293	0.293	568.299	0.075
Cranes	2010	26	50	2.786882	2.342	6.30432	7.37084	0.005	0.665	0.612	575.653	0.168
Cranes	2010	51	120	1.626435	1.367	11.2099	5.06328	0.005	0.834	0.767	522.2692	0.152
Cranes	2010	121	175	0.999512	0.84	9.06236	3.96843	0.005	0.483	0.445	527.7153	0.154
Cranes	2010	176	250	0.826087	0.694	8.39974	2.85637	0.005	0.383	0.353	525.6477	0.153
Cranes	2010	251	500	0.629842	0.529	7.05496	4.77692	0.005	0.292	0.268	524.2494	0.153
Cranes	2010	501	750	0.3105	0.261	4.49648	1.59747	0.005	0.149	0.137	523.8164	0.152
Cranes	2010	1001	9999	0.387608	0.326	6.39903	1.00751	0.005	0.151	0.139	524.505	0.153
Cranes	2011	26	50	2.66715	2.241	6.2271	7.21121	0.005	0.641	0.59	574.2181	0.168
Cranes	2011	51	120	1.579127	1.327	10.9169	5.02442	0.005	0.81	0.745	521.0055	0.152
Cranes	2011	121	175	0.990868	0.833	8.96629	3.9727	0.005	0.48	0.441	526.3466	0.154
Cranes	2011	176	250	0.818849	0.688	8.29972	2.82731	0.005	0.379	0.349	524.3412	0.153
Cranes	2011	251	500	0.613791	0.516	6.85019	4.61471	0.005	0.283	0.26	523.002	0.153
Cranes	2011	501	750	0.317708	0.267	4.47987	1.60931	0.005	0.151	0.139	522.4977	0.152
Cranes	2011	1001	9999	0.392668	0.33	6.442	1.01544	0.005	0.153	0.141	523.1938	0.153
Cranes	2012	26	50	2.575229	2.164	6.16881	7.10245	0.005	0.622	0.573	572.7834	0.168
Cranes	2012	51	120	1.549708	1.302	10.7338	4.99918	0.005	0.795	0.732	519.357	0.152
Cranes	2012	121	175	0.992021	0.834	8.9416	3.98552	0.005	0.481	0.442	525.0081	0.154
Cranes	2012	176	250	0.82388	0.692	8.30152	2.83394	0.005	0.381	0.35	522.9802	0.153
Cranes	2012	251	500	0.612564	0.515	6.7893	4.5553	0.005	0.281	0.259	521.6408	0.153
Cranes	2012	501	750	0.324471	0.273	4.45619	1.62066	0.005	0.152	0.14	521.1061	0.152
Cranes	2012	1001	9999	0.397633	0.334	6.48415	1.02322	0.005	0.156	0.144	521.8825	0.153
Cranes	2013	26	50	2.54578	2.139	6.10837	7.11869	0.005	0.61	0.561	569.9097	0.168
Cranes	2013	51	120	1.506211	1.266	10.4655	4.95084	0.005	0.775	0.713	516.6909	0.152
Cranes	2013	121	175	0.982629	0.826	8.83222	3.98019	0.005	0.476	0.438	522.3332	0.154
Cranes	2013	176	250	0.813083	0.683	8.15558	2.80099	0.005	0.375	0.345	520.3446	0.153
Cranes	2013	251	500	0.59291	0.498	6.51563	4.36265	0.005	0.27	0.248	519.0961	0.153
Cranes	2013	501	750	0.327629	0.275	4.36739	1.62896	0.005	0.15	0.138	518.355	0.152
Cranes	2013	1001	9999	0.402502	0.338	6.5255	1.03085	0.005	0.159	0.146	519.26	0.153

Cranes	2014	26	50	2.516704	2.115	6.09324	7.12566	0.005	0.607	0.559	567.0058	0.168
Cranes	2014	51	120	1.481452	1.245	10.3017	4.92305	0.005	0.765	0.704	514.0286	0.152
Cranes	2014	121	175	0.944168	0.793	8.47052	3.93186	0.005	0.457	0.42	519.5114	0.154
Cranes	2014	176	250	0.786323	0.661	7.86026	2.72625	0.005	0.36	0.331	517.6833	0.153
Cranes	2014	251	500	0.574656	0.483	6.26415	4.17708	0.005	0.26	0.239	516.5784	0.153
Cranes	2014	501	750	0.333096	0.28	4.32737	1.63547	0.005	0.151	0.139	515.6071	0.152
Cranes	2014	1001	9999	0.143297	0.12	2.28075	0.94782	0.005	0.054	0.05	516.6375	0.153
Cranes	2015	26	50	2.483294	2.087	6.07491	7.12517	0.005	0.601	0.552	561.2236	0.168
Cranes	2015	51	120	1.444394	1.214	10.0604	4.88366	0.005	0.747	0.687	508.8366	0.152
Cranes	2015	121	175	0.930749	0.782	8.3254	3.91821	0.005	0.45	0.414	514.2598	0.154
Cranes	2015	176	250	0.764242	0.642	7.62156	2.65334	0.005	0.348	0.32	512.4484	0.153
Cranes	2015	251	500	0.565318	0.475	6.12404	4.10962	0.005	0.253	0.233	511.1972	0.153
Cranes	2015	501	750	0.340293	0.286	4.31183	1.64279	0.005	0.152	0.14	510.3342	0.152
Cranes	2015	1001	9999	0.156078	0.131	2.29477	0.95679	0.005	0.055	0.051	511.3924	0.153
Cranes	2016	26	50	2.535089	2.13	6.11027	7.2684	0.005	0.61	0.561	555.4414	0.168
Cranes	2016	51	120	1.373103	1.154	9.60772	4.79702	0.005	0.709	0.653	503.5992	0.152
Cranes	2016	121	175	0.884915	0.744	7.88718	3.86156	0.005	0.427	0.393	508.9515	0.154
Cranes	2016	176	250	0.741297	0.623	7.38068	2.5822	0.005	0.335	0.308	507.1552	0.153
Cranes	2016	251	500	0.527153	0.443	5.64865	3.83445	0.005	0.233	0.215	506.0882	0.153
Cranes	2016	501	750	0.347738	0.292	4.31387	1.65024	0.005	0.153	0.141	505.0695	0.152
Cranes	2016	1001	9999	0.168646	0.142	2.30856	0.9562	0.005	0.056	0.052	506.1474	0.153
Cranes	2017	26	50	2.585562	2.173	6.14479	7.40804	0.005	0.62	0.57	546.7815	0.168
Cranes	2017	51	120	1.304913	1.096	9.15389	4.71022	0.005	0.678	0.624	495.7534	0.152
Cranes	2017	121	175	0.828528	0.696	7.36009	3.78744	0.005	0.397	0.366	501.093	0.154
Cranes	2017	176	250	0.667136	0.561	6.65526	2.38452	0.005	0.297	0.273	499.3721	0.153
Cranes	2017	251	500	0.488095	0.41	5.23184	3.54746	0.005	0.212	0.195	498.439	0.153
Cranes	2017	501	750	0.34114	0.287	4.1579	1.63305	0.005	0.147	0.135	497.1865	0.152
Cranes	2017	1001	9999	0.181003	0.152	2.32212	0.97429	0.005	0.057	0.053	498.2798	0.153
Cranes	2018	26	50	2.466121	2.072	6.00385	7.24744	0.005	0.624	0.574	538.1219	0.168
Cranes	2018	51	120	1.108698	0.932	7.93075	4.45237	0.005	0.583	0.536	488.1172	0.152
Cranes	2018	121	175	0.739223	0.621	6.5572	3.66571	0.005	0.351	0.323	493.0451	0.153
Cranes	2018	176	250	0.574877	0.483	5.77298	2.13445	0.005	0.25	0.23	491.4069	0.153
Cranes	2018	251	500	0.440014	0.37	4.63433	3.1871	0.005	0.187	0.172	490.8912	0.153
Cranes	2018	501	750	0.322048	0.271	3.7688	1.61304	0.005	0.137	0.126	489.0536	0.152
Cranes	2018	1001	9999	0.193147	0.162	2.33544	0.98282	0.005	0.058	0.054	490.4122	0.153
Cranes	2019	26	50	2.434147	2.045	5.95197	7.24465	0.005	0.615	0.566	529.4626	0.168
Cranes	2019	51	120	0.955908	0.803	6.95786	4.26491	0.005	0.5	0.46	480.3251	0.152
Cranes	2019	121	175	0.675554	0.568	5.94857	3.5982	0.005	0.318	0.292	485.1817	0.154
Cranes	2019	176	250	0.50769	0.427	5.0842	1.94079	0.005	0.216	0.198	483.4616	0.153
Cranes	2019	251	500	0.415431	0.349	4.29654	2.96893	0.005	0.173	0.159	483.1422	0.153
Cranes	2019	501	750	0.299943	0.252	3.42803	1.44568	0.005	0.124	0.114	481.1192	0.152
Cranes	2019	1001	9999	0.205078	0.172	2.34854	0.9912	0.005	0.059	0.055	482.5446	0.153
Cranes	2020	26	50	2.47956	2.084	5.98471	7.37625	0.005	0.624	0.574	517.9263	0.168
Cranes	2020	51	120	0.871016	0.732	6.38117	4.17141	0.005	0.453	0.417	469.8821	0.152
Cranes	2020	121	175	0.638941	0.537	5.5697	3.56232	0.005	0.298	0.274	474.5939	0.153
Cranes	2020	176	250	0.45669	0.384	4.56329	1.7904	0.005	0.188	0.173	472.9488	0.153
Cranes	2020	251	500	0.381547	0.321	3.86243	2.66037	0.005	0.155	0.142	472.5579	0.153
Cranes	2020	501	750	0.287724	0.242	3.10471	1.44353	0.005	0.116	0.107	470.4254	0.152
Cranes	2020	1001	9999	0.216797	0.182	2.3614	0.99943	0.005	0.06	0.056	472.0545	0.153
Cranes	2021	26	50	2.516467	2.115	6.01375	7.48883	0.005	0.631	0.581	517.8995	0.167
Cranes	2021	51	120	0.77522	0.651	5.73085	4.06507	0.005	0.398	0.366	469.8867	0.152
Cranes	2021	121	175	0.593174	0.498	5.1125	3.51648	0.005	0.273	0.251	474.5458	0.153
Cranes	2021	176	250	0.415905	0.349	4.10439	1.67824	0.005	0.167	0.153	472.9057	0.153
Cranes	2021	251	500	0.351498	0.295	3.44253	2.44833	0.005	0.139	0.127	472.4553	0.153
Cranes	2021	501	750	0.271141	0.228	2.72739	1.43956	0.005	0.107	0.098	470.5495	0.152
Cranes	2021	1001	9999	0.228304	0.192	2.37402	1.00751	0.005	0.061	0.056	472.0545	0.153
Cranes	2022	26	50	2.41359	2.028	5.8991	7.36828	0.005	0.603	0.555	517.8722	0.167
Cranes	2022	51	120	0.687651	0.578	5.14893	3.97198	0.005	0.346	0.318	469.9929	0.152
Cranes	2022	121	175	0.543527	0.457	4.6169	3.4753	0.005	0.246	0.227	474.5887	0.153
Cranes	2022	176	250	0.375691	0.316	3.54149	1.60164	0.005	0.147	0.135	472.9832	0.153
Cranes	2022	251	500	0.31051	0.261	2.89369	2.21201	0.005	0.117	0.108	472.1806	0.153
Cranes	2022	501	750	0.238348	0.2	2.25087	1.28309	0.005	0.089	0.082	470.4755	0.152
Cranes	2022	1001	9999	0.239599	0.201	2.38641	1.01544	0.005	0.062	0.057	472.0545	0.153
Cranes	2023	26	50	2.435567	2.047	5.9225	7.45254	0.005	0.608	0.559	517.8722	0.167
Cranes	2023	51	120	0.656595	0.552	4.87461	3.9444	0.005	0.323	0.297	469.8891	0.152
Cranes	2023	121	175	0.503663	0.423	4.22184	3.44284	0.005	0.224	0.206	474.595	0.153
Cranes	2023	176	250	0.353966	0.297	3.22938	1.55262	0.005	0.135	0.124	472.9738	0.153
Cranes	2023	251	500	0.281202	0.236	2.5105	2.01	0.005	0.102	0.093	472.294	0.153
Cranes	2023	501	750	0.23207	0.195	2.07257	1.28213	0.005	0.084	0.077	470.2508	0.152
Cranes	2023	1001	9999	0.250681	0.211	2.39857	1.02322	0.005	0.063	0.058	472.0545	0.153
Cranes	2024	26	50	2.304795	1.937	5.78796	7.26852	0.005	0.577	0.531	517.8722	0.167
Cranes	2024	51	120	0.623876	0.524	4.61888	3.90649	0.005	0.301	0.277	469.9032	0.152
Cranes	2024	121	175	0.453764	0.381	3.7029	3.3893	0.005	0.196	0.18	474.6358	0.154
Cranes	2024	176	250	0.334159	0.281	2.96596	1.50208	0.005	0.123	0.114	472.9638	0.153
Cranes	2024	251	500	0.274315	0.231	2.38291	1.93263	0.005	0.096	0.089	472.0664	0.153
Cranes	2024	501	750	0.227031	0.191	1.89979	1.28334	0.005	0.08	0.073	470.3306	0.152
Cranes	2024	1001	9999	0.261551	0.22	2.4105	1.03085	0.005	0.064	0.059	472.0545	0.153
Cranes	2025	26	50	2.155227	1.811	5.63562	7.07168	0.005	0.543	0.499	517.8722	0.167
Cranes	2025	51	120	0.551396	0.463	4.13532	3.83081	0.005	0.26	0.24	469.5332	0.152
Cranes	2025	121	175	0.397698	0.334	3.16038	3.33544	0.005	0.166	0.153	474.7477	0.154
Cranes	2025	176	250	0.31508	0.265	2.68128	1.4697	0.005	0.114	0.105	472.9798	0.153
Cranes	2025	251	500	0.259914	0.218	2.15424	1.83363	0.005	0.088	0.081	471.9671	0.153
Cranes	2025	501	750	0.204336	0.172	1.63763	1.27366	0.005	0.068	0.062	470.2756	0.152
Cranes	2025	1001	9999	0.272209	0.229	2.42219	1.03833	0.005	0.065	0.06	472.0545	0.153
Cranes	2030	26	50	1.788	0.684	3.598	5.366	0.007	0.075	0.075	568.299	0.061
Cranes	2030	51	120	1.941	0.343	1.987	3.812	0.006	0.067	0.067	568.299	0.03
Cranes	2030	121	175	2.293	0.253	0.916	3.356	0.006	0.042	0.042	568.299	0.022
Cranes	2030	176	250	2.835	0.224	0.748	1.147	0.006	0.024	0.024	568.299	0.02
Cranes	2030	251	500	4.512	0.222	0.697	1.09	0.005	0.023	0.023	568.299	0.02

Cranes	2030	501	750	7.602	0.222	0.709	1.09	0.005	0.024	0.024	568.3	0.02
Cranes	2030	1001	9999	26.83	0.245	2.8	1.108	0.005	0.043	0.043	568.299	0.022
Cranes	2035	26	50	1.568	0.6	3.401	5.292	0.007	0.039	0.039	568.299	0.054
Cranes	2035	51	120	1.696	0.3	1.676	3.801	0.006	0.036	0.036	568.3	0.027
Cranes	2035	121	175	1.923	0.212	0.519	3.357	0.006	0.024	0.024	568.299	0.019
Cranes	2035	176	250	2.568	0.203	0.463	1.143	0.006	0.016	0.016	568.299	0.018
Cranes	2035	251	500	4.111	0.202	0.441	1.087	0.005	0.016	0.016	568.299	0.018
Cranes	2035	501	750	6.923	0.202	0.446	1.087	0.005	0.016	0.016	568.299	0.018
Cranes	2035	1001	9999	22.949	0.209	2.618	1.089	0.005	0.031	0.031	568.299	0.018
Cranes	2040	26	50	1.483	0.567	3.324	5.268	0.007	0.024	0.024	568.299	0.051
Cranes	2040	51	120	1.598	0.282	1.552	3.797	0.006	0.021	0.021	568.299	0.025
Cranes	2040	121	175	1.79	0.197	0.371	3.358	0.006	0.016	0.016	568.299	0.017
Cranes	2040	176	250	2.465	0.195	0.344	1.144	0.006	0.013	0.013	568.299	0.017
Cranes	2040	251	500	3.958	0.195	0.34	1.087	0.005	0.013	0.013	568.299	0.017
Cranes	2040	501	750	6.661	0.195	0.341	1.087	0.005	0.013	0.013	568.299	0.017
Cranes	2040	1001	9999	21.703	0.198	2.534	1.087	0.005	0.027	0.027	568.299	0.017
Crawler Tractors	1990	26	50	11.254	4.903	7.983	9.907	0.871	1.291	1.291	568.299	0.442
Crawler Tractors	1990	51	120	14.413	2.374	14.967	5.73	0.791	1.353	1.353	568.299	0.214
Crawler Tractors	1990	121	175	19.335	1.729	13.979	5.079	0.758	0.962	0.962	568.299	0.156
Crawler Tractors	1990	176	250	26.505	1.729	13.979	5.079	0.758	0.962	0.962	568.299	0.156
Crawler Tractors	1990	251	500	36.545	1.528	13.238	11.319	0.662	0.822	0.822	568.3	0.137
Crawler Tractors	1990	501	750	65.509	1.528	13.238	11.319	1.018	0.837	0.837	568.299	0.137
Crawler Tractors	1990	751	1000	92.189	1.518	13.238	11.319	1.018	0.826	0.826	568.299	0.137
Crawler Tractors	2000	26	50	10.858	4.73	7.197	9.675	0.666	0.973	0.973	568.299	0.426
Crawler Tractors	2000	51	120	11.94	1.966	11.097	4.886	0.06	0.949	0.949	568.299	0.177
Crawler Tractors	2000	121	175	14.976	1.339	10.157	4.018	0.057	0.57	0.57	568.3	0.12
Crawler Tractors	2000	176	250	17.901	1.168	9.863	3.367	0.057	0.486	0.486	568.299	0.105
Crawler Tractors	2000	251	500	25.11	1.049	9.341	5.849	0.05	0.424	0.424	568.299	0.094
Crawler Tractors	2000	501	750	45.011	1.049	9.341	5.849	0.052	0.424	0.424	568.299	0.094
Crawler Tractors	2000	751	1000	66.528	1.095	9.844	6.349	0.052	0.407	0.407	568.299	0.098
Crawler Tractors	2005	26	50	9.923	4.323	6.809	9.124	0.066	0.919	0.919	568.299	0.39
Crawler Tractors	2005	51	120	10.68	1.759	9.75	4.63	0.06	0.903	0.903	568.299	0.158
Crawler Tractors	2005	121	175	13.006	1.163	8.886	3.749	0.057	0.513	0.513	568.299	0.104
Crawler Tractors	2005	176	250	13.95	0.91	8.523	2.557	0.057	0.371	0.371	568.299	0.082
Crawler Tractors	2005	251	500	19.249	0.804	7.791	3.945	0.05	0.326	0.326	568.299	0.072
Crawler Tractors	2005	501	750	34.852	0.813	7.93	3.938	0.052	0.328	0.328	568.299	0.073
Crawler Tractors	2005	751	1000	54.011	0.889	8.804	4.359	0.052	0.319	0.319	568.3	0.08
Crawler Tractors	2010	26	50	3.193884	2.684	6.54779	8.18872	0.005	0.785	0.722	572.972	0.167
Crawler Tractors	2010	51	120	1.069208	0.898	7.76656	4.10668	0.005	0.628	0.578	530.0152	0.154
Crawler Tractors	2010	121	175	0.755513	0.635	7.15822	3.40812	0.005	0.378	0.348	524.4997	0.153
Crawler Tractors	2010	176	250	0.540569	0.454	6.46768	1.89919	0.005	0.249	0.229	526.1431	0.153
Crawler Tractors	2010	251	500	0.491926	0.413	5.96739	3.0665	0.005	0.227	0.209	528.681	0.154
Crawler Tractors	2010	501	750	0.418044	0.351	5.31967	1.75694	0.005	0.189	0.174	525.9395	0.153
Crawler Tractors	2010	751	1000	0.545095	0.458	7.25547	2.04187	0.005	0.21	0.193	527.6019	0.154
Crawler Tractors	2011	26	50	3.090465	2.597	6.48764	8.06059	0.005	0.762	0.701	571.2544	0.167
Crawler Tractors	2011	51	120	1.055307	0.887	7.65924	4.11149	0.005	0.624	0.574	528.5468	0.154
Crawler Tractors	2011	121	175	0.753531	0.633	7.0937	3.422	0.005	0.378	0.347	523.1105	0.153
Crawler Tractors	2011	176	250	0.541549	0.455	6.42306	1.8844	0.005	0.248	0.228	524.8932	0.153
Crawler Tractors	2011	251	500	0.494702	0.416	5.91443	3.04503	0.005	0.226	0.208	527.4003	0.154
Crawler Tractors	2011	501	750	0.416615	0.35	5.23606	1.70832	0.005	0.186	0.171	524.9577	0.153
Crawler Tractors	2011	751	1000	0.550612	0.463	7.30105	2.05264	0.005	0.212	0.195	526.3508	0.154
Crawler Tractors	2012	26	50	3.127964	2.628	6.51312	8.16399	0.005	0.77	0.708	569.8895	0.167
Crawler Tractors	2012	51	120	1.066067	0.896	7.67928	4.14375	0.005	0.633	0.582	527.2248	0.154
Crawler Tractors	2012	121	175	0.762695	0.641	7.11308	3.4484	0.005	0.382	0.351	521.7707	0.153
Crawler Tractors	2012	176	250	0.549863	0.462	6.43904	1.8924	0.005	0.25	0.23	523.5287	0.153
Crawler Tractors	2012	251	500	0.502104	0.422	5.9107	3.05662	0.005	0.227	0.209	526.0223	0.154
Crawler Tractors	2012	501	750	0.425611	0.358	5.25574	1.71661	0.005	0.189	0.173	523.7088	0.153
Crawler Tractors	2012	751	1000	0.555874	0.467	7.34463	2.06265	0.005	0.214	0.197	525.1067	0.154
Crawler Tractors	2013	26	50	3.060938	2.572	6.42928	8.10275	0.005	0.753	0.692	567.3537	0.167
Crawler Tractors	2013	51	120	1.067402	0.897	7.64718	4.16448	0.005	0.636	0.585	524.5941	0.154
Crawler Tractors	2013	121	175	0.758762	0.638	7.02367	3.4566	0.005	0.38	0.349	519.0712	0.153
Crawler Tractors	2013	176	250	0.548046	0.461	6.36771	1.8715	0.005	0.247	0.227	520.7236	0.153
Crawler Tractors	2013	251	500	0.501212	0.421	5.82738	2.99715	0.005	0.225	0.207	523.5592	0.154
Crawler Tractors	2013	501	750	0.418079	0.351	5.09878	1.67885	0.005	0.183	0.168	520.5693	0.153
Crawler Tractors	2013	751	1000	0.560878	0.471	7.3862	2.07187	0.005	0.216	0.199	522.5513	0.154
Crawler Tractors	2014	26	50	3.000333	2.521	6.39578	8.04733	0.005	0.743	0.684	564.5641	0.167
Crawler Tractors	2014	51	120	1.051605	0.884	7.52434	4.16815	0.005	0.628	0.578	522.1187	0.154
Crawler Tractors	2014	121	175	0.748303	0.629	6.87548	3.45911	0.005	0.374	0.344	516.4039	0.153
Crawler Tractors	2014	176	250	0.54035	0.454	6.23751	1.83765	0.005	0.241	0.222	518.0363	0.153
Crawler Tractors	2014	251	500	0.490461	0.412	5.61601	2.91108	0.005	0.217	0.2	520.5153	0.154
Crawler Tractors	2014	501	750	0.412689	0.347	4.89468	1.67523	0.005	0.179	0.164	517.8612	0.153
Crawler Tractors	2014	751	1000	0.565619	0.475	7.42576	2.08028	0.005	0.218	0.201	520.0052	0.154
Crawler Tractors	2015	26	50	2.990271	2.513	6.37736	8.07628	0.005	0.741	0.682	558.8878	0.167
Crawler Tractors	2015	51	120	1.05262	0.884	7.4938	4.18907	0.005	0.63	0.58	516.8433	0.154
Crawler Tractors	2015	121	175	0.751623	0.632	6.84937	3.47922	0.005	0.376	0.346	511.3059	0.153
Crawler Tractors	2015	176	250	0.536796	0.451	6.14312	1.81586	0.005	0.237	0.218	512.8973	0.153
Crawler Tractors	2015	251	500	0.485596	0.408	5.48324	2.84505	0.005	0.212	0.195	515.3725	0.154
Crawler Tractors	2015	501	750	0.41802	0.351	4.88301	1.66415	0.005	0.179	0.165	512.5402	0.153
Crawler Tractors	2015	751	1000	0.570092	0.479	7.46329	2.08783	0.005	0.22	0.202	514.83	0.154
Crawler Tractors	2016	26	50	2.99791	2.519	6.31718	8.10441	0.005	0.733	0.674	553.214	0.167
Crawler Tractors	2016	51	120	1.034441	0.869	7.34589	4.18548	0.005	0.619	0.57	511.268	0.154
Crawler Tractors	2016	121	175	0.743125	0.624	6.7205	3.48211	0.005	0.371	0.341	506.0335	0.153
Crawler Tractors	2016	176	250	0.534039	0.449	6.04745	1.80295	0.005	0.233	0.215	507.355	0.153
Crawler Tractors	2016	251	500	0.473782	0.398	5.27907	2.74397	0.005	0.205	0.188	510.3385	0.154
Crawler Tractors	2016	501	750	0.41158	0.346	4.7238	1.6206	0.005	0.174	0.16	507.2527	0.153
Crawler Tractors	2016	751	1000	0.57429	0.483	7.4988	2.09448	0.005	0.222	0.204	509.6671	0.154
Crawler Tractors	2017	26	50	2.926516	2.459	6.20834	8.00596	0.005	0.712	0.655	544.6762	0.167
Crawler Tractors	2017	51	120	1.010844	0.849	7.141	4.17611	0.005	0.604	0.555	503.2791	0.154
Crawler Tractors	2017	121	175	0.731209	0.614	6.55188	3.48322	0.005	0.364	0.335	498.1245	0.153

Crawler Tractors	2017	176	250	0.511144	0.43	5.75969	1.7418	0.005	0.22	0.202	499.832	0.153
Crawler Tractors	2017	251	500	0.458057	0.385	5.02932	2.6349	0.005	0.195	0.179	502.422	0.154
Crawler Tractors	2017	501	750	0.386074	0.324	4.36108	1.5221	0.005	0.16	0.147	499.1046	0.153
Crawler Tractors	2017	751	1000	0.578206	0.486	7.53226	2.10018	0.005	0.223	0.205	501.8777	0.154
Crawler Tractors	2018	26	50	2.910335	2.445	6.16323	8.0094	0.005	0.704	0.647	536.1409	0.167
Crawler Tractors	2018	51	120	0.949614	0.798	6.72257	4.1231	0.005	0.566	0.52	494.9217	0.154
Crawler Tractors	2018	121	175	0.660412	0.555	5.8588	3.42131	0.005	0.325	0.299	490.0002	0.153
Crawler Tractors	2018	176	250	0.473989	0.398	5.28959	1.65354	0.005	0.2	0.184	491.606	0.153
Crawler Tractors	2018	251	500	0.409351	0.344	4.37324	2.38218	0.005	0.169	0.156	493.5104	0.154
Crawler Tractors	2018	501	750	0.351876	0.296	3.8336	1.4447	0.005	0.141	0.13	491.2659	0.153
Crawler Tractors	2018	751	1000	0.581827	0.489	7.56366	2.10483	0.005	0.225	0.207	494.1052	0.154
Crawler Tractors	2019	26	50	2.648469	2.225	5.85476	7.58896	0.005	0.64	0.589	525.9767	0.166
Crawler Tractors	2019	51	120	0.901167	0.757	6.39347	4.08842	0.005	0.535	0.492	486.9909	0.154
Crawler Tractors	2019	121	175	0.615173	0.517	5.38191	3.37886	0.005	0.3	0.276	481.6222	0.152
Crawler Tractors	2019	176	250	0.45175	0.38	4.9721	1.60445	0.005	0.187	0.172	483.4489	0.153
Crawler Tractors	2019	251	500	0.37933	0.319	3.93412	2.21938	0.005	0.153	0.141	485.8645	0.154
Crawler Tractors	2019	501	750	0.316919	0.266	3.34253	1.35585	0.005	0.123	0.113	483.3879	0.153
Crawler Tractors	2019	751	1000	0.547243	0.46	7.21215	2.02037	0.005	0.211	0.194	486.2545	0.154
Crawler Tractors	2020	26	50	2.443056	2.053	5.64276	7.3	0.005	0.591	0.544	515.679	0.167
Crawler Tractors	2020	51	120	0.850709	0.715	6.00933	4.04412	0.005	0.5	0.46	476.3284	0.154
Crawler Tractors	2020	121	175	0.566576	0.476	4.87226	3.33989	0.005	0.272	0.25	471.015	0.152
Crawler Tractors	2020	176	250	0.428471	0.36	4.63225	1.55491	0.005	0.175	0.161	472.941	0.153
Crawler Tractors	2020	251	500	0.358593	0.301	3.62175	2.0875	0.005	0.141	0.13	475.2338	0.154
Crawler Tractors	2020	501	750	0.304872	0.256	3.13716	1.31018	0.005	0.115	0.106	473.3119	0.153
Crawler Tractors	2020	751	1000	0.551035	0.463	7.23682	2.02764	0.005	0.212	0.195	475.6525	0.154
Crawler Tractors	2021	26	50	2.456387	2.064	5.61511	7.34869	0.005	0.591	0.543	516.1077	0.167
Crawler Tractors	2021	51	120	0.800723	0.673	5.65746	4.00549	0.005	0.466	0.428	476.437	0.154
Crawler Tractors	2021	121	175	0.518367	0.436	4.3947	3.30982	0.005	0.245	0.225	471.421	0.152
Crawler Tractors	2021	176	250	0.407794	0.343	4.33394	1.51456	0.005	0.163	0.15	472.9246	0.153
Crawler Tractors	2021	251	500	0.337066	0.283	3.27633	2.02434	0.005	0.129	0.119	474.4843	0.153
Crawler Tractors	2021	501	750	0.284829	0.239	2.82478	1.26985	0.005	0.104	0.095	473.0941	0.153
Crawler Tractors	2021	751	1000	0.475256	0.399	6.3992	1.89563	0.005	0.182	0.167	471.8224	0.153
Crawler Tractors	2022	26	50	2.25944	1.899	5.37962	7.04118	0.005	0.539	0.496	516.1476	0.167
Crawler Tractors	2022	51	120	0.714244	0.6	5.10103	3.92498	0.005	0.408	0.375	476.0219	0.154
Crawler Tractors	2022	121	175	0.463094	0.389	3.82659	3.26382	0.005	0.214	0.197	471.5674	0.153
Crawler Tractors	2022	176	250	0.364117	0.306	3.73672	1.43975	0.005	0.141	0.13	472.0975	0.153
Crawler Tractors	2022	251	500	0.30258	0.254	2.74435	1.91628	0.005	0.111	0.102	474.4115	0.153
Crawler Tractors	2022	501	750	0.235465	0.198	2.12552	1.18638	0.005	0.079	0.073	472.876	0.153
Crawler Tractors	2022	751	1000	0.424397	0.357	5.92299	1.73227	0.005	0.162	0.149	470.7007	0.152
Crawler Tractors	2023	26	50	2.228685	1.873	5.32514	7.02687	0.005	0.526	0.484	516.1587	0.167
Crawler Tractors	2023	51	120	0.663952	0.558	4.76208	3.88936	0.005	0.373	0.343	476.1575	0.154
Crawler Tractors	2023	121	175	0.41309	0.347	3.33004	3.23526	0.005	0.185	0.17	471.7805	0.153
Crawler Tractors	2023	176	250	0.328767	0.276	3.18735	1.39549	0.005	0.124	0.114	471.6244	0.153
Crawler Tractors	2023	251	500	0.286276	0.241	2.47635	1.85216	0.005	0.102	0.094	474.6128	0.153
Crawler Tractors	2023	501	750	0.218505	0.184	1.86667	1.15892	0.005	0.069	0.064	472.5297	0.153
Crawler Tractors	2023	751	1000	0.319268	0.268	4.76968	1.6104	0.005	0.118	0.109	473.6655	0.153
Crawler Tractors	2024	26	50	2.089827	1.756	4.97522	6.68497	0.005	0.466	0.429	515.4658	0.167
Crawler Tractors	2024	51	120	0.610839	0.513	4.40892	3.85173	0.005	0.335	0.309	476.2342	0.154
Crawler Tractors	2024	121	175	0.387606	0.326	3.04107	3.22706	0.005	0.17	0.157	471.8291	0.153
Crawler Tractors	2024	176	250	0.313897	0.264	2.95319	1.36992	0.005	0.115	0.105	471.8603	0.153
Crawler Tractors	2024	251	500	0.271114	0.228	2.2441	1.77984	0.005	0.093	0.085	474.025	0.153
Crawler Tractors	2024	501	750	0.215283	0.181	1.76658	1.15921	0.005	0.066	0.061	472.2827	0.153
Crawler Tractors	2024	751	1000	0.313081	0.263	4.68945	1.58774	0.005	0.115	0.106	474.6448	0.154
Crawler Tractors	2025	26	50	2.075042	1.744	4.93567	6.68642	0.005	0.456	0.42	516.1279	0.167
Crawler Tractors	2025	51	120	0.540303	0.454	3.96126	3.78839	0.005	0.285	0.262	476.1336	0.154
Crawler Tractors	2025	121	175	0.354345	0.298	2.68768	3.20909	0.005	0.15	0.138	471.5923	0.153
Crawler Tractors	2025	176	250	0.276616	0.232	2.46158	1.30849	0.005	0.096	0.088	471.6224	0.153
Crawler Tractors	2025	251	500	0.247477	0.208	1.92007	1.71697	0.005	0.081	0.074	474.0072	0.153
Crawler Tractors	2025	501	750	0.198724	0.167	1.54452	1.12199	0.005	0.057	0.052	472.4081	0.153
Crawler Tractors	2025	751	1000	0.308836	0.26	4.59799	1.59298	0.005	0.111	0.103	475.4901	0.154
Crawler Tractors	2030	26	50	1.912	0.833	3.808	5.605	0.007	0.116	0.116	568.299	0.075
Crawler Tractors	2030	51	120	2.461	0.405	2.341	3.871	0.006	0.105	0.105	568.299	0.036
Crawler Tractors	2030	121	175	3.315	0.296	1.266	3.397	0.006	0.065	0.065	568.299	0.026
Crawler Tractors	2030	176	250	4.019	0.262	1.104	1.207	0.006	0.04	0.04	568.299	0.023
Crawler Tractors	2030	251	500	6.146	0.257	1.016	1.2	0.005	0.038	0.038	568.299	0.023
Crawler Tractors	2030	501	750	11.033	0.257	1.033	1.2	0.005	0.038	0.038	568.299	0.023
Crawler Tractors	2030	751	1000	16.147	0.265	3.094	1.225	0.005	0.056	0.056	568.3	0.023
Crawler Tractors	2035	26	50	1.626	0.708	3.558	5.493	0.007	0.066	0.066	568.299	0.063
Crawler Tractors	2035	51	120	2.099	0.345	1.922	3.85	0.006	0.06	0.06	568.299	0.031
Crawler Tractors	2035	121	175	2.772	0.247	0.794	3.391	0.006	0.038	0.038	568.299	0.022
Crawler Tractors	2035	176	250	3.521	0.229	0.695	1.182	0.006	0.026	0.026	568.299	0.02
Crawler Tractors	2035	251	500	5.432	0.227	0.657	1.145	0.005	0.025	0.025	568.299	0.02
Crawler Tractors	2035	501	750	9.744	0.227	0.664	1.145	0.005	0.025	0.025	568.299	0.02
Crawler Tractors	2035	751	1000	14.073	0.231	2.792	1.159	0.005	0.041	0.041	568.299	0.02
Crawler Tractors	2040	26	50	1.499	0.653	3.42	5.443	0.007	0.042	0.042	568.299	0.058
Crawler Tractors	2040	51	120	1.924	0.316	1.709	3.839	0.006	0.039	0.039	568.299	0.028
Crawler Tractors	2040	121	175	2.48	0.221	0.539	3.388	0.006	0.025	0.025	568.299	0.02
Crawler Tractors	2040	176	250	3.247	0.211	0.491	1.167	0.006	0.018	0.018	568.299	0.019
Crawler Tractors	2040	251	500	5.035	0.21	0.47	1.113	0.005	0.018	0.018	568.299	0.018
Crawler Tractors	2040	501	750	9.03	0.21	0.475	1.113	0.005	0.018	0.018	568.299	0.019
Crawler Tractors	2040	751	1000	12.945	0.213	2.652	1.122	0.005	0.032	0.032	568.299	0.019
Crushing/Proc. Equipment	1990	26	50	11.643	4.43	7.809	9.044	0.871	1.194	1.194	568.299	0.399
Crushing/Proc. Equipment	1990	51	120	11.193	2.255	14.555	5.547	0.791	1.258	1.258	568.299	0.203
Crushing/Proc. Equipment	1990	121	175	15.383	1.54	13.086	4.913	0.758	0.834	0.834	568.299	0.138
Crushing/Proc. Equipment	1990	176	250	22.49	1.54	13.086	4.913	0.758	0.834	0.834	568.299	0.138
Crushing/Proc. Equipment	1990	251	500	30.672	1.374	12.492	10.176	0.662	0.724	0.724	568.299	0.124
Crushing/Proc. Equipment	1990	501	750	48.337	1.374	12.492	10.175	1.018	0.737	0.737	568.299	0.124
Crushing/Proc. Equipment	1990	1001	9999	106.942	1.369	12.492	10.175	1.018	0.731	0.731	568.299	0.123
Crushing/Proc. Equipment	2000	26	50	10.827	4.12	6.954	8.551	0.066	0.876	0.876	568.299	0.371

Crushing/Proc. Equipment	2000	51	120	8.945	1.802	10.363	4.594	0.06	0.857	0.857	568.299	0.162
Crushing/Proc. Equipment	2000	121	175	12.05	1.206	9.416	3.737	0.057	0.506	0.506	568.299	0.108
Crushing/Proc. Equipment	2000	176	250	14.723	1.008	9.058	2.963	0.057	0.414	0.414	568.299	0.09
Crushing/Proc. Equipment	2000	251	500	20.487	0.918	8.658	5.011	0.05	0.366	0.366	568.299	0.082
Crushing/Proc. Equipment	2000	501	750	30.946	0.88	8.459	4.658	0.052	0.348	0.348	568.299	0.079
Crushing/Proc. Equipment	2000	1001	9999	77.281	0.989	9.138	5.329	0.052	0.37	0.37	568.299	0.089
Crushing/Proc. Equipment	2005	26	50	9.624	3.662	6.477	7.904	0.066	0.812	0.812	568.3	0.33
Crushing/Proc. Equipment	2005	51	120	7.644	1.54	8.68	4.24	0.06	0.794	0.794	568.299	0.138
Crushing/Proc. Equipment	2005	121	175	10.064	1.007	7.941	3.372	0.057	0.438	0.438	568.299	0.09
Crushing/Proc. Equipment	2005	176	250	10.399	0.712	7.484	1.97	0.057	0.282	0.282	568.299	0.064
Crushing/Proc. Equipment	2005	251	500	14.029	0.628	6.846	2.549	0.05	0.252	0.252	568.299	0.056
Crushing/Proc. Equipment	2005	501	750	22.225	0.632	6.974	2.431	0.052	0.249	0.249	568.299	0.057
Crushing/Proc. Equipment	2005	1001	9999	60.257	0.771	8.054	3.042	0.052	0.268	0.268	568.299	0.069
Crushing/Proc. Equipment	2010	26	50	7.704	2.931	6.068	7.22	0.007	0.671	0.671	568.299	0.264
Crushing/Proc. Equipment	2010	51	120	5.971	1.203	7.096	4.071	0.006	0.656	0.656	568.299	0.108
Crushing/Proc. Equipment	2010	121	175	8.033	0.804	6.322	3.307	0.006	0.362	0.362	568.299	0.072
Crushing/Proc. Equipment	2010	176	250	7.61	0.521	5.918	1.446	0.006	0.195	0.195	568.299	0.047
Crushing/Proc. Equipment	2010	251	500	10.487	0.47	5.248	1.603	0.005	0.18	0.18	568.299	0.042
Crushing/Proc. Equipment	2010	501	750	16.814	0.478	5.449	1.568	0.005	0.183	0.183	568.299	0.043
Crushing/Proc. Equipment	2010	1001	9999	46.933	0.601	6.987	2.091	0.005	0.209	0.209	568.299	0.054
Crushing/Proc. Equipment	2011	26	50	7.155	2.722	5.972	6.995	0.007	0.636	0.636	568.299	0.245
Crushing/Proc. Equipment	2011	51	120	5.588	1.125	6.704	4.03	0.006	0.625	0.625	568.3	0.101
Crushing/Proc. Equipment	2011	121	175	7.581	0.759	5.953	3.294	0.006	0.347	0.347	568.299	0.068
Crushing/Proc. Equipment	2011	176	250	7.059	0.483	5.498	1.356	0.006	0.175	0.175	568.299	0.043
Crushing/Proc. Equipment	2011	251	500	9.796	0.439	4.858	1.462	0.005	0.162	0.162	568.299	0.039
Crushing/Proc. Equipment	2011	501	750	15.681	0.446	5.054	1.435	0.005	0.165	0.165	568.299	0.04
Crushing/Proc. Equipment	2011	1001	9999	44.108	0.564	6.609	1.923	0.005	0.196	0.196	568.299	0.05
Crushing/Proc. Equipment	2012	26	50	6.538	2.488	5.867	6.733	0.007	0.596	0.596	568.299	0.224
Crushing/Proc. Equipment	2012	51	120	5.173	1.042	6.269	3.984	0.006	0.582	0.582	568.299	0.094
Crushing/Proc. Equipment	2012	121	175	7.084	0.709	5.553	3.28	0.006	0.321	0.321	568.299	0.064
Crushing/Proc. Equipment	2012	176	250	6.627	0.453	5.088	1.299	0.006	0.158	0.158	568.299	0.04
Crushing/Proc. Equipment	2012	251	500	9.273	0.415	4.48	1.362	0.005	0.147	0.147	568.3	0.037
Crushing/Proc. Equipment	2012	501	750	14.786	0.42	4.662	1.341	0.005	0.15	0.15	568.299	0.037
Crushing/Proc. Equipment	2012	1001	9999	41.105	0.526	6.197	1.755	0.005	0.182	0.182	568.299	0.047
Crushing/Proc. Equipment	2013	26	50	5.908	2.248	5.628	6.467	0.007	0.545	0.545	568.299	0.202
Crushing/Proc. Equipment	2013	51	120	4.758	0.958	5.845	3.94	0.006	0.532	0.532	568.299	0.086
Crushing/Proc. Equipment	2013	121	175	6.588	0.659	5.177	3.267	0.006	0.293	0.293	568.299	0.059
Crushing/Proc. Equipment	2013	176	250	6.27	0.429	4.695	1.26	0.006	0.144	0.144	568.299	0.038
Crushing/Proc. Equipment	2013	251	500	8.85	0.396	4.121	1.289	0.005	0.134	0.134	568.299	0.035
Crushing/Proc. Equipment	2013	501	750	14.055	0.399	4.285	1.273	0.005	0.136	0.136	568.299	0.036
Crushing/Proc. Equipment	2013	1001	9999	38.235	0.489	5.785	1.599	0.005	0.168	0.168	568.299	0.044
Crushing/Proc. Equipment	2014	26	50	5.288	2.012	5.399	6.212	0.007	0.494	0.494	568.299	0.181
Crushing/Proc. Equipment	2014	51	120	4.356	0.877	5.468	3.898	0.006	0.481	0.481	568.299	0.079
Crushing/Proc. Equipment	2014	121	175	6.112	0.612	4.823	3.256	0.006	0.265	0.265	568.299	0.055
Crushing/Proc. Equipment	2014	176	250	5.916	0.405	4.239	1.228	0.006	0.13	0.13	568.299	0.036
Crushing/Proc. Equipment	2014	251	500	8.415	0.377	3.702	1.23	0.005	0.121	0.121	568.299	0.034
Crushing/Proc. Equipment	2014	501	750	13.314	0.378	3.844	1.218	0.005	0.123	0.123	568.299	0.034
Crushing/Proc. Equipment	2014	1001	9999	35.652	0.456	5.391	1.46	0.005	0.155	0.155	568.299	0.041
Crushing/Proc. Equipment	2015	26	50	4.722	1.796	5.195	5.996	0.007	0.446	0.446	568.299	0.162
Crushing/Proc. Equipment	2015	51	120	3.959	0.797	5.04	3.859	0.006	0.43	0.43	568.299	0.071
Crushing/Proc. Equipment	2015	121	175	5.614	0.562	4.343	3.247	0.006	0.237	0.237	568.299	0.05
Crushing/Proc. Equipment	2015	176	250	5.585	0.382	3.801	1.201	0.006	0.117	0.117	568.299	0.034
Crushing/Proc. Equipment	2015	251	500	8	0.358	3.304	1.184	0.005	0.109	0.109	568.299	0.032
Crushing/Proc. Equipment	2015	501	750	12.614	0.358	3.422	1.176	0.005	0.111	0.111	568.299	0.032
Crushing/Proc. Equipment	2015	1001	9999	32.981	0.422	5.019	1.343	0.005	0.14	0.14	568.299	0.038
Crushing/Proc. Equipment	2016	26	50	4.186	1.593	5.006	5.801	0.007	0.399	0.399	568.299	0.143
Crushing/Proc. Equipment	2016	51	120	3.576	0.72	4.631	3.823	0.006	0.379	0.379	568.299	0.065
Crushing/Proc. Equipment	2016	121	175	5.132	0.513	3.883	3.241	0.006	0.21	0.21	568.299	0.046
Crushing/Proc. Equipment	2016	176	250	5.267	0.36	3.381	1.178	0.006	0.105	0.105	568.299	0.032
Crushing/Proc. Equipment	2016	251	500	7.601	0.34	2.928	1.146	0.005	0.098	0.098	568.299	0.03
Crushing/Proc. Equipment	2016	501	750	11.944	0.339	3.021	1.14	0.005	0.099	0.099	568.299	0.03
Crushing/Proc. Equipment	2016	1001	9999	31.036	0.397	4.7	1.274	0.005	0.127	0.127	568.299	0.035
Crushing/Proc. Equipment	2017	26	50	3.684	1.402	4.827	5.623	0.007	0.354	0.354	568.299	0.126
Crushing/Proc. Equipment	2017	51	120	3.216	0.647	4.244	3.791	0.006	0.33	0.33	568.299	0.058
Crushing/Proc. Equipment	2017	121	175	4.681	0.468	3.45	3.236	0.006	0.185	0.185	568.299	0.042
Crushing/Proc. Equipment	2017	176	250	4.974	0.34	2.987	1.16	0.006	0.094	0.094	568.299	0.03
Crushing/Proc. Equipment	2017	251	500	7.242	0.324	2.602	1.118	0.005	0.088	0.088	568.299	0.029
Crushing/Proc. Equipment	2017	501	750	11.359	0.323	2.664	1.114	0.005	0.088	0.088	568.299	0.029
Crushing/Proc. Equipment	2017	1001	9999	29.544	0.378	4.423	1.231	0.005	0.117	0.117	568.299	0.034
Crushing/Proc. Equipment	2018	26	50	3.219	1.225	4.657	5.461	0.007	0.31	0.31	568.299	0.11
Crushing/Proc. Equipment	2018	51	120	2.881	0.58	3.881	3.763	0.006	0.284	0.284	568.299	0.052
Crushing/Proc. Equipment	2018	121	175	4.267	0.427	3.049	3.234	0.006	0.161	0.161	568.299	0.038
Crushing/Proc. Equipment	2018	176	250	4.701	0.322	2.622	1.146	0.006	0.083	0.083	568.299	0.029
Crushing/Proc. Equipment	2018	251	500	6.912	0.309	2.312	1.099	0.005	0.079	0.079	568.299	0.027
Crushing/Proc. Equipment	2018	501	750	10.84	0.308	2.358	1.097	0.005	0.079	0.079	568.299	0.027
Crushing/Proc. Equipment	2018	1001	9999	28.23	0.361	4.168	1.198	0.005	0.107	0.107	568.299	0.032
Crushing/Proc. Equipment	2019	26	50	2.798	1.064	4.495	5.316	0.007	0.269	0.269	568.299	0.096
Crushing/Proc. Equipment	2019	51	120	2.577	0.519	3.544	3.739	0.006	0.241	0.241	568.299	0.046
Crushing/Proc. Equipment	2019	121	175	3.938	0.394	2.7	3.233	0.006	0.141	0.141	568.299	0.035
Crushing/Proc. Equipment	2019	176	250	4.451	0.304	2.3	1.134	0.006	0.074	0.074	568.299	0.027
Crushing/Proc. Equipment	2019	251	500	6.592	0.295	2.046	1.087	0.005	0.071	0.071	568.299	0.026
Crushing/Proc. Equipment	2019	501	750	10.352	0.294	2.085	1.085	0.005	0.071	0.071	568.299	0.026
Crushing/Proc. Equipment	2019	1001	9999	26.978	0.345	3.927	1.173	0.005	0.098	0.098	568.299	0.031
Crushing/Proc. Equipment	2020	26	50	2.489	0.947	4.347	5.211	0.007	0.233	0.233	568.299	0.085
Crushing/Proc. Equipment	2020	51	120	2.348	0.473	3.249	3.722	0.006	0.206	0.206	568.299	0.042
Crushing/Proc. Equipment	2020	121	175	3.673	0.367	2.392	3.234	0.006	0.124	0.124	568.299	0.033
Crushing/Proc. Equipment	2020	176	250	4.222	0.289	2.014	1.125	0.006	0.065	0.065	568.299	0.026
Crushing/Proc. Equipment	2020	251	500	6.283	0.281	1.799	1.078	0.005	0.063	0.063	568.299	0.025
Crushing/Proc. Equipment	2020	501	750	9.884	0.281	1.835	1.077	0.005	0.063	0.063	568.299	0.025

Crushing/Proc. Equipment	2020	1001	9999	25.755	0.329	3.699	1.153	0.005	0.089	0.089	568.299	0.029
Crushing/Proc. Equipment	2021	26	50	2.265	0.862	4.211	5.136	0.007	0.201	0.201	568.299	0.077
Crushing/Proc. Equipment	2021	51	120	2.176	0.438	2.989	3.711	0.006	0.178	0.178	568.299	0.039
Crushing/Proc. Equipment	2021	121	175	3.442	0.344	2.114	3.235	0.006	0.109	0.109	568.299	0.031
Crushing/Proc. Equipment	2021	176	250	4.009	0.274	1.756	1.119	0.006	0.057	0.057	568.299	0.024
Crushing/Proc. Equipment	2021	251	500	5.988	0.268	1.574	1.072	0.005	0.055	0.055	568.3	0.024
Crushing/Proc. Equipment	2021	501	750	9.434	0.268	1.606	1.072	0.005	0.055	0.055	568.299	0.024
Crushing/Proc. Equipment	2021	1001	9999	24.586	0.314	3.487	1.136	0.005	0.08	0.08	568.299	0.028
Crushing/Proc. Equipment	2022	26	50	2.09	0.795	4.083	5.081	0.007	0.172	0.172	568.299	0.071
Crushing/Proc. Equipment	2022	51	120	2.036	0.41	2.758	3.704	0.006	0.154	0.154	568.299	0.037
Crushing/Proc. Equipment	2022	121	175	3.231	0.323	1.861	3.237	0.006	0.095	0.095	568.299	0.029
Crushing/Proc. Equipment	2022	176	250	3.808	0.26	1.521	1.114	0.006	0.05	0.05	568.299	0.023
Crushing/Proc. Equipment	2022	251	500	5.706	0.255	1.389	1.067	0.005	0.048	0.048	568.299	0.023
Crushing/Proc. Equipment	2022	501	750	9.002	0.256	1.416	1.067	0.005	0.048	0.048	568.299	0.023
Crushing/Proc. Equipment	2022	1001	9999	23.492	0.3	3.31	1.121	0.005	0.073	0.073	568.299	0.027
Crushing/Proc. Equipment	2023	26	50	1.944	0.739	3.962	5.039	0.007	0.146	0.146	568.299	0.066
Crushing/Proc. Equipment	2023	51	120	1.914	0.385	2.552	3.7	0.006	0.132	0.132	568.299	0.034
Crushing/Proc. Equipment	2023	121	175	3.042	0.304	1.654	3.24	0.006	0.083	0.083	568.299	0.027
Crushing/Proc. Equipment	2023	176	250	3.623	0.248	1.33	1.111	0.006	0.043	0.043	568.299	0.022
Crushing/Proc. Equipment	2023	251	500	5.444	0.244	1.227	1.064	0.005	0.042	0.042	568.299	0.022
Crushing/Proc. Equipment	2023	501	750	8.598	0.244	1.251	1.065	0.005	0.042	0.042	568.3	0.022
Crushing/Proc. Equipment	2023	1001	9999	22.463	0.287	3.16	1.107	0.005	0.066	0.066	568.299	0.025
Crushing/Proc. Equipment	2024	26	50	1.825	0.694	3.85	5.008	0.007	0.125	0.125	568.299	0.062
Crushing/Proc. Equipment	2024	51	120	1.81	0.364	2.389	3.697	0.006	0.112	0.112	568.299	0.032
Crushing/Proc. Equipment	2024	121	175	2.866	0.287	1.472	3.243	0.006	0.071	0.071	568.299	0.025
Crushing/Proc. Equipment	2024	176	250	3.448	0.236	1.165	1.109	0.006	0.036	0.036	568.299	0.021
Crushing/Proc. Equipment	2024	251	500	5.193	0.232	1.077	1.062	0.005	0.035	0.035	568.299	0.021
Crushing/Proc. Equipment	2024	501	750	8.207	0.233	1.098	1.063	0.005	0.036	0.036	568.299	0.021
Crushing/Proc. Equipment	2024	1001	9999	21.454	0.274	3.029	1.096	0.005	0.059	0.059	568.299	0.024
Crushing/Proc. Equipment	2025	26	50	1.724	0.656	3.742	4.982	0.007	0.107	0.107	568.299	0.059
Crushing/Proc. Equipment	2025	51	120	1.716	0.345	2.248	3.694	0.006	0.095	0.095	568.299	0.031
Crushing/Proc. Equipment	2025	121	175	2.696	0.27	1.301	3.246	0.006	0.06	0.06	568.299	0.024
Crushing/Proc. Equipment	2025	176	250	3.279	0.224	1.012	1.108	0.006	0.031	0.031	568.299	0.02
Crushing/Proc. Equipment	2025	251	500	4.95	0.221	0.937	1.061	0.005	0.03	0.03	568.299	0.02
Crushing/Proc. Equipment	2025	501	750	7.826	0.222	0.955	1.061	0.005	0.03	0.03	568.299	0.02
Crushing/Proc. Equipment	2025	1001	9999	20.429	0.261	2.91	1.087	0.005	0.053	0.053	568.299	0.023
Crushing/Proc. Equipment	2030	26	50	1.381	0.525	3.351	4.857	0.007	0.043	0.043	568.299	0.047
Crushing/Proc. Equipment	2030	51	120	1.35	0.272	1.708	3.673	0.006	0.038	0.038	568.299	0.024
Crushing/Proc. Equipment	2030	121	175	1.976	0.197	0.6	3.244	0.006	0.025	0.025	568.299	0.017
Crushing/Proc. Equipment	2030	176	250	2.701	0.185	0.502	1.105	0.006	0.017	0.017	568.299	0.016
Crushing/Proc. Equipment	2030	251	500	4.113	0.184	0.476	1.058	0.005	0.017	0.017	568.299	0.016
Crushing/Proc. Equipment	2030	501	750	6.473	0.184	0.478	1.058	0.005	0.017	0.017	568.299	0.016
Crushing/Proc. Equipment	2030	1001	9999	15.345	0.196	2.59	1.059	0.005	0.032	0.032	568.299	0.017
Crushing/Proc. Equipment	2035	26	50	1.282	0.487	3.237	4.819	0.007	0.023	0.023	568.299	0.044
Crushing/Proc. Equipment	2035	51	120	1.236	0.249	1.531	3.665	0.006	0.02	0.02	568.299	0.022
Crushing/Proc. Equipment	2035	121	175	1.76	0.176	0.382	3.242	0.006	0.015	0.015	568.299	0.015
Crushing/Proc. Equipment	2035	176	250	2.521	0.172	0.342	1.104	0.006	0.012	0.012	568.3	0.015
Crushing/Proc. Equipment	2035	251	500	3.852	0.172	0.338	1.058	0.005	0.012	0.012	568.299	0.015
Crushing/Proc. Equipment	2035	501	750	6.064	0.172	0.338	1.058	0.005	0.012	0.012	568.299	0.015
Crushing/Proc. Equipment	2035	1001	9999	13.865	0.177	2.482	1.058	0.005	0.026	0.026	568.299	0.016
Crushing/Proc. Equipment	2040	26	50	1.284	0.488	3.194	4.833	0.007	0.017	0.017	568.299	0.044
Crushing/Proc. Equipment	2040	51	120	1.219	0.245	1.477	3.67	0.006	0.015	0.015	568.299	0.022
Crushing/Proc. Equipment	2040	121	175	1.698	0.17	0.306	3.246	0.006	0.012	0.012	568.299	0.015
Crushing/Proc. Equipment	2040	176	250	2.464	0.168	0.292	1.106	0.006	0.011	0.011	568.299	0.015
Crushing/Proc. Equipment	2040	251	500	3.766	0.168	0.292	1.059	0.005	0.011	0.011	568.299	0.015
Crushing/Proc. Equipment	2040	501	750	5.941	0.169	0.292	1.059	0.005	0.011	0.011	568.299	0.015
Crushing/Proc. Equipment	2040	1001	9999	13.333	0.17	2.457	1.059	0.005	0.024	0.024	568.299	0.015
Dumpers/Tenders	1990	16	25	2.645	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Dumpers/Tenders	2000	16	25	2.444	2.045	6.397	4.69	0.065	0.571	0.571	568.299	0.184
Dumpers/Tenders	2005	16	25	1.554	1.3	5.74	3.337	0.065	0.426	0.426	568.299	0.117
Dumpers/Tenders	2010	16	25	0.963	0.806	4.804	2.507	0.007	0.271	0.271	568.299	0.072
Dumpers/Tenders	2011	16	25	0.921	0.771	4.686	2.456	0.007	0.251	0.251	568.299	0.069
Dumpers/Tenders	2012	16	25	0.887	0.742	4.576	2.416	0.007	0.232	0.232	568.299	0.066
Dumpers/Tenders	2013	16	25	0.86	0.719	4.477	2.385	0.007	0.216	0.216	568.3	0.064
Dumpers/Tenders	2014	16	25	0.842	0.705	4.433	2.364	0.007	0.2	0.2	568.3	0.063
Dumpers/Tenders	2015	16	25	0.831	0.696	4.402	2.35	0.007	0.187	0.187	568.299	0.062
Dumpers/Tenders	2016	16	25	0.825	0.69	4.378	2.342	0.007	0.175	0.175	568.299	0.062
Dumpers/Tenders	2017	16	25	0.821	0.687	4.362	2.34	0.007	0.171	0.171	568.299	0.062
Dumpers/Tenders	2018	16	25	0.82	0.686	4.35	2.339	0.007	0.169	0.169	568.299	0.061
Dumpers/Tenders	2019	16	25	0.82	0.686	4.341	2.339	0.007	0.167	0.167	568.299	0.061
Dumpers/Tenders	2020	16	25	0.819	0.685	4.336	2.339	0.007	0.165	0.165	568.299	0.061
Dumpers/Tenders	2021	16	25	0.819	0.685	4.333	2.339	0.007	0.163	0.163	568.299	0.061
Dumpers/Tenders	2022	16	25	0.819	0.685	4.332	2.339	0.007	0.162	0.162	568.299	0.061
Dumpers/Tenders	2023	16	25	0.819	0.685	4.332	2.339	0.007	0.162	0.162	568.299	0.061
Dumpers/Tenders	2024	16	25	0.819	0.685	4.332	2.34	0.007	0.161	0.161	568.299	0.061
Dumpers/Tenders	2025	16	25	0.819	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Dumpers/Tenders	2030	16	25	0.819	0.685	4.332	2.34	0.007	0.161	0.161	568.299	0.061
Dumpers/Tenders	2035	16	25	0.819	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Dumpers/Tenders	2040	16	25	0.819	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Excavators	1990	16	25	5.933	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Excavators	1990	26	50	21.032	5.155	8.08	10.359	0.871	1.341	1.341	568.299	0.465
Excavators	1990	51	120	29.647	2.469	15.421	5.901	0.791	1.413	1.413	568.299	0.222
Excavators	1990	121	175	35.634	1.947	15.075	5.271	0.758	1.096	1.096	568.299	0.175
Excavators	1990	176	250	50.388	1.947	15.075	5.271	0.758	1.096	1.096	568.299	0.175
Excavators	1990	251	500	65.206	1.71	14.225	12.155	0.662	0.93	0.93	568.3	0.154
Excavators	1990	501	750	108.079	1.71	14.225	12.155	1.018	0.947	0.947	568.299	0.154
Excavators	2000	16	25	4.937	1.841	6.281	4.315	0.065	0.543	0.543	568.299	0.166
Excavators	2000	26	50	18.836	4.616	7.102	9.494	0.066	0.958	0.958	568.299	0.416
Excavators	2000	51	120	21.925	1.826	10.156	4.602	0.06	0.913	0.913	568.299	0.164



Excavators	2000	121	175	22.624	1.236	9.345	3.672	0.057	0.525	0.525	568.299	0.111
Excavators	2000	176	250	25.927	1.001	8.952	2.794	0.057	0.409	0.409	568.299	0.09
Excavators	2000	251	500	34.719	0.91	8.491	3.974	0.05	0.362	0.362	568.299	0.082
Excavators	2000	501	750	57.546	0.91	8.491	3.974	0.052	0.362	0.362	568.299	0.082
Excavators	2005	16	25	2.091	0.779	5.219	2.397	0.065	0.319	0.319	568.299	0.07
Excavators	2005	26	50	16.217	3.974	6.562	8.597	0.066	0.871	0.871	568.299	0.358
Excavators	2005	51	120	19.001	1.582	8.632	4.354	0.06	0.853	0.853	568.299	0.142
Excavators	2005	121	175	18.9	1.032	7.905	3.452	0.057	0.461	0.461	568.299	0.093
Excavators	2005	176	250	18.379	0.71	7.456	1.892	0.057	0.276	0.276	568.299	0.064
Excavators	2005	251	500	24.005	0.629	6.685	2.194	0.05	0.248	0.248	568.299	0.056
Excavators	2005	501	750	40.443	0.64	6.888	2.192	0.052	0.251	0.251	568.299	0.057
Excavators	2010	16	25	0.993664	0.835	5.19123	4.56926	0.005	0.413	0.38	584.0737	0.17
Excavators	2010	26	50	0.993664	0.835	5.19123	4.56926	0.005	0.413	0.38	584.0737	0.17
Excavators	2010	51	120	0.73275	0.616	6.10169	3.69337	0.005	0.469	0.432	518.9941	0.151
Excavators	2010	121	175	0.572846	0.481	5.82964	3.1674	0.005	0.299	0.275	525.0484	0.153
Excavators	2010	176	250	0.422004	0.355	5.78636	1.45526	0.005	0.182	0.167	525.2427	0.153
Excavators	2010	251	500	0.315965	0.265	4.38582	1.44794	0.005	0.143	0.132	522.2909	0.152
Excavators	2010	501	750	0.327987	0.276	4.52996	1.53784	0.005	0.149	0.137	520.4269	0.151
Excavators	2011	16	25	0.999474	0.84	5.21824	4.67202	0.005	0.413	0.38	582.8586	0.17
Excavators	2011	26	50	0.999474	0.84	5.21824	4.67202	0.005	0.413	0.38	582.8586	0.17
Excavators	2011	51	120	0.675188	0.567	5.70006	3.65807	0.005	0.436	0.401	517.4139	0.151
Excavators	2011	121	175	0.533269	0.448	5.44943	3.15702	0.005	0.278	0.255	523.5178	0.153
Excavators	2011	176	250	0.400356	0.336	5.41822	1.41809	0.005	0.171	0.157	523.6886	0.153
Excavators	2011	251	500	0.303301	0.255	4.1131	1.41288	0.005	0.133	0.123	521.2972	0.152
Excavators	2011	501	750	0.326107	0.274	4.42127	1.47034	0.005	0.146	0.134	519.1221	0.151
Excavators	2012	16	25	1.018057	0.855	5.19511	4.79179	0.005	0.412	0.379	581.4648	0.17
Excavators	2012	26	50	1.018057	0.855	5.19511	4.79179	0.005	0.412	0.379	581.4648	0.17
Excavators	2012	51	120	0.67458	0.567	5.63138	3.68099	0.005	0.434	0.399	516.083	0.151
Excavators	2012	121	175	0.534632	0.449	5.38897	3.17839	0.005	0.275	0.253	522.0959	0.153
Excavators	2012	176	250	0.402641	0.338	5.32577	1.42562	0.005	0.169	0.155	522.4958	0.153
Excavators	2012	251	500	0.308496	0.259	4.05714	1.4255	0.005	0.131	0.121	520.034	0.152
Excavators	2012	501	750	0.334165	0.281	4.3898	1.47962	0.005	0.145	0.134	517.8167	0.151
Excavators	2013	16	25	0.995402	0.836	5.0526	4.80774	0.005	0.393	0.362	578.236	0.17
Excavators	2013	26	50	0.995402	0.836	5.0526	4.80774	0.005	0.393	0.362	578.236	0.17
Excavators	2013	51	120	0.639011	0.537	5.3703	3.66866	0.005	0.404	0.372	513.7321	0.151
Excavators	2013	121	175	0.503929	0.423	5.08991	3.16966	0.005	0.253	0.233	519.496	0.153
Excavators	2013	176	250	0.383779	0.322	4.93756	1.40068	0.005	0.157	0.145	519.8753	0.153
Excavators	2013	251	500	0.295491	0.248	3.73509	1.38754	0.005	0.121	0.111	517.7809	0.152
Excavators	2013	501	750	0.301827	0.254	3.92892	1.36166	0.005	0.126	0.116	514.1872	0.151
Excavators	2014	16	25	0.981904	0.825	4.96504	4.84434	0.005	0.38	0.35	575.2674	0.17
Excavators	2014	26	50	0.981904	0.825	4.96504	4.84434	0.005	0.38	0.35	575.2674	0.17
Excavators	2014	51	120	0.610505	0.513	5.13137	3.66313	0.005	0.382	0.352	511.3057	0.151
Excavators	2014	121	175	0.464169	0.39	4.65701	3.15438	0.005	0.229	0.211	516.9066	0.153
Excavators	2014	176	250	0.350137	0.294	4.37384	1.34557	0.005	0.139	0.128	517.3234	0.153
Excavators	2014	251	500	0.276896	0.233	3.35284	1.32721	0.005	0.108	0.099	515.2151	0.152
Excavators	2014	501	750	0.284069	0.239	3.54089	1.34745	0.005	0.114	0.105	511.9453	0.151
Excavators	2015	16	25	0.991068	0.833	4.91817	4.92488	0.005	0.375	0.345	569.5116	0.17
Excavators	2015	26	50	0.991068	0.833	4.91817	4.92488	0.005	0.375	0.345	569.5116	0.17
Excavators	2015	51	120	0.60346	0.507	5.01907	3.67943	0.005	0.373	0.344	506.1727	0.151
Excavators	2015	121	175	0.456597	0.384	4.4807	3.16762	0.005	0.221	0.203	511.6869	0.153
Excavators	2015	176	250	0.343545	0.289	4.18222	1.33148	0.005	0.133	0.122	512.0555	0.153
Excavators	2015	251	500	0.276143	0.232	3.21395	1.31662	0.005	0.104	0.096	509.8675	0.152
Excavators	2015	501	750	0.28808	0.242	3.47287	1.35372	0.005	0.113	0.104	506.6816	0.151
Excavators	2016	16	25	0.970016	0.815	4.82432	4.94198	0.005	0.359	0.33	563.8026	0.17
Excavators	2016	26	50	0.970016	0.815	4.82432	4.94198	0.005	0.359	0.33	563.8026	0.17
Excavators	2016	51	120	0.566011	0.476	4.70806	3.66066	0.005	0.344	0.317	500.9659	0.151
Excavators	2016	121	175	0.425494	0.358	4.08095	3.15771	0.005	0.201	0.185	506.495	0.153
Excavators	2016	176	250	0.312033	0.262	3.66736	1.27749	0.005	0.116	0.107	506.544	0.153
Excavators	2016	251	500	0.253752	0.213	2.81451	1.23344	0.005	0.091	0.083	504.2899	0.152
Excavators	2016	501	750	0.287698	0.242	3.35762	1.34881	0.005	0.11	0.101	501.6596	0.151
Excavators	2017	16	25	0.91741	0.771	4.67818	4.88904	0.005	0.332	0.305	554.9101	0.17
Excavators	2017	26	50	0.91741	0.771	4.67818	4.88904	0.005	0.332	0.305	554.9101	0.17
Excavators	2017	51	120	0.523542	0.44	4.37952	3.63939	0.005	0.31	0.285	493.409	0.151
Excavators	2017	121	175	0.397029	0.334	3.69967	3.15091	0.005	0.182	0.167	498.5222	0.153
Excavators	2017	176	250	0.293543	0.247	3.31872	1.24911	0.005	0.105	0.097	498.4364	0.153
Excavators	2017	251	500	0.237788	0.2	2.50715	1.19852	0.005	0.081	0.075	496.8098	0.152
Excavators	2017	501	750	0.249769	0.21	2.71934	1.22803	0.005	0.09	0.083	494.5496	0.152
Excavators	2018	16	25	0.818091	0.687	4.39518	4.70022	0.005	0.284	0.261	545.3468	0.17
Excavators	2018	26	50	0.818091	0.687	4.39518	4.70022	0.005	0.284	0.261	545.3468	0.17
Excavators	2018	51	120	0.438055	0.368	3.76366	3.56214	0.005	0.25	0.23	486.056	0.151
Excavators	2018	121	175	0.324959	0.273	2.92361	3.09338	0.005	0.142	0.13	490.6725	0.153
Excavators	2018	176	250	0.240329	0.202	2.59377	1.15209	0.005	0.079	0.073	490.2569	0.153
Excavators	2018	251	500	0.207823	0.175	2.05045	1.13951	0.005	0.066	0.061	489.1025	0.152
Excavators	2018	501	750	0.22476	0.189	2.26567	1.22359	0.005	0.076	0.07	487.6528	0.152
Excavators	2019	16	25	0.75855	0.637	4.19867	4.59698	0.005	0.25	0.23	536.9132	0.17
Excavators	2019	26	50	0.75855	0.637	4.19867	4.59698	0.005	0.25	0.23	536.9132	0.17
Excavators	2019	51	120	0.386598	0.325	3.36874	3.52421	0.005	0.211	0.194	478.2452	0.151
Excavators	2019	121	175	0.293021	0.246	2.53264	3.08163	0.005	0.122	0.112	482.6838	0.153
Excavators	2019	176	250	0.220917	0.186	2.24187	1.12671	0.005	0.068	0.063	482.2503	0.153
Excavators	2019	251	500	0.192898	0.162	1.77986	1.1135	0.005	0.058	0.053	481.2361	0.152
Excavators	2019	501	750	0.209677	0.176	1.98661	1.17289	0.005	0.067	0.062	479.2876	0.152
Excavators	2020	16	25	0.705964	0.593	4.03131	4.50032	0.005	0.222	0.204	525.3675	0.17
Excavators	2020	26	50	0.705964	0.593	4.03131	4.50032	0.005	0.222	0.204	525.3675	0.17
Excavators	2020	51	120	0.356064	0.299	3.08964	3.50495	0.005	0.185	0.17	468.0546	0.151
Excavators	2020	121	175	0.275327	0.231	2.27838	3.08597	0.005	0.11	0.102	472.2891	0.153
Excavators	2020	176	250	0.211076	0.177	2.02738	1.11778	0.005	0.061	0.056	471.8828	0.153
Excavators	2020	251	500	0.182542	0.153	1.57199	1.1016	0.005	0.052	0.048	470.2956	0.152
Excavators	2020	501	750	0.202011	0.17	1.79718	1.14543	0.005	0.061	0.056	468.8706	0.152
Excavators	2021	16	25	0.669315	0.562	3.91866	4.46094	0.005	0.202	0.186	525.3774	0.17

Excavators	2021	26	50	0.669315	0.562	3.91866	4.46094	0.005	0.202	0.186	525.3774	0.17
Excavators	2021	51	120	0.327314	0.275	2.84891	3.49196	0.005	0.161	0.148	467.7906	0.151
Excavators	2021	121	175	0.257574	0.216	2.03357	3.08975	0.005	0.099	0.091	472.3586	0.153
Excavators	2021	176	250	0.193738	0.163	1.70572	1.10324	0.005	0.052	0.048	471.7931	0.153
Excavators	2021	251	500	0.170127	0.143	1.33174	1.08777	0.005	0.045	0.041	469.6156	0.152
Excavators	2021	501	750	0.196683	0.165	1.61856	1.14978	0.005	0.056	0.052	469.547	0.152
Excavators	2022	16	25	0.568779	0.478	3.70039	4.27341	0.005	0.16	0.147	525.4468	0.17
Excavators	2022	26	50	0.568779	0.478	3.70039	4.27341	0.005	0.16	0.147	525.4468	0.17
Excavators	2022	51	120	0.299503	0.252	2.60649	3.47329	0.005	0.138	0.127	467.6256	0.151
Excavators	2022	121	175	0.22749	0.191	1.6781	3.074	0.005	0.081	0.075	472.1917	0.153
Excavators	2022	176	250	0.176606	0.148	1.38616	1.09157	0.005	0.044	0.04	472.0412	0.153
Excavators	2022	251	500	0.152263	0.128	1.03988	1.06126	0.005	0.035	0.032	469.7105	0.152
Excavators	2022	501	750	0.178436	0.15	1.2865	1.144	0.005	0.047	0.043	469.2892	0.152
Excavators	2023	16	25	0.535724	0.45	3.59356	4.23393	0.005	0.139	0.128	525.4286	0.17
Excavators	2023	26	50	0.535724	0.45	3.59356	4.23393	0.005	0.139	0.128	525.4286	0.17
Excavators	2023	51	120	0.273823	0.23	2.38066	3.45367	0.005	0.116	0.107	467.1573	0.151
Excavators	2023	121	175	0.212046	0.178	1.46245	3.07648	0.005	0.072	0.066	472.277	0.153
Excavators	2023	176	250	0.168964	0.142	1.20943	1.08965	0.005	0.039	0.036	472.2131	0.153
Excavators	2023	251	500	0.145171	0.122	0.89311	1.05093	0.005	0.03	0.028	469.8892	0.152
Excavators	2023	501	750	0.171247	0.144	1.15865	1.13199	0.005	0.043	0.04	468.6826	0.152
Excavators	2024	16	25	0.495634	0.416	3.50816	4.20529	0.005	0.12	0.11	525.979	0.17
Excavators	2024	26	50	0.495634	0.416	3.50816	4.20529	0.005	0.12	0.11	525.979	0.17
Excavators	2024	51	120	0.258544	0.217	2.24781	3.45322	0.005	0.102	0.094	467.3843	0.151
Excavators	2024	121	175	0.202572	0.17	1.32479	3.08336	0.005	0.065	0.06	472.4279	0.153
Excavators	2024	176	250	0.165297	0.139	1.10808	1.0899	0.005	0.036	0.033	472.4415	0.153
Excavators	2024	251	500	0.144133	0.121	0.83129	1.05369	0.005	0.029	0.026	469.7108	0.152
Excavators	2024	501	750	0.169017	0.142	1.10467	1.13421	0.005	0.041	0.037	468.652	0.152
Excavators	2025	16	25	0.47994	0.403	3.45298	4.21941	0.005	0.107	0.099	525.7772	0.17
Excavators	2025	26	50	0.47994	0.403	3.45298	4.21941	0.005	0.107	0.099	525.7772	0.17
Excavators	2025	51	120	0.23878	0.201	2.08246	3.43876	0.005	0.085	0.078	466.7376	0.151
Excavators	2025	121	175	0.187811	0.158	1.15367	3.078	0.005	0.057	0.052	472.4964	0.153
Excavators	2025	176	250	0.155588	0.131	0.96211	1.08136	0.005	0.032	0.029	472.5599	0.153
Excavators	2025	251	500	0.137039	0.115	0.72641	1.05072	0.005	0.026	0.024	470.2915	0.152
Excavators	2025	501	750	0.165305	0.139	1.02571	1.13484	0.005	0.038	0.035	468.5582	0.152
Excavators	2030	16	25	1.838	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Excavators	2030	26	50	2.458	0.602	3.393	5.309	0.007	0.038	0.038	568.299	0.054
Excavators	2030	51	120	3.618	0.301	1.676	3.806	0.006	0.034	0.034	568.299	0.027
Excavators	2030	121	175	3.914	0.213	0.525	3.362	0.006	0.023	0.023	568.299	0.019
Excavators	2030	176	250	5.258	0.203	0.452	1.145	0.006	0.016	0.016	568.299	0.018
Excavators	2030	251	500	7.722	0.202	0.433	1.088	0.005	0.016	0.016	568.299	0.018
Excavators	2030	501	750	12.807	0.202	0.437	1.088	0.005	0.016	0.016	568.299	0.018
Excavators	2035	16	25	1.838	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Excavators	2035	26	50	2.333	0.572	3.323	5.287	0.007	0.024	0.024	568.299	0.051
Excavators	2035	51	120	3.411	0.284	1.551	3.802	0.006	0.021	0.021	568.299	0.025
Excavators	2035	121	175	3.622	0.197	0.365	3.363	0.006	0.015	0.015	568.299	0.017
Excavators	2035	176	250	5.059	0.195	0.342	1.145	0.006	0.013	0.013	568.3	0.017
Excavators	2035	251	500	7.45	0.195	0.337	1.089	0.005	0.013	0.013	568.299	0.017
Excavators	2035	501	750	12.348	0.195	0.338	1.088	0.005	0.013	0.013	568.299	0.017
Excavators	2040	16	25	1.838	0.685	4.332	2.339	0.007	0.161	0.161	568.3	0.061
Excavators	2040	26	50	2.314	0.567	3.29	5.283	0.007	0.019	0.019	568.299	0.051
Excavators	2040	51	120	3.36	0.279	1.507	3.802	0.006	0.017	0.017	568.299	0.025
Excavators	2040	121	175	3.532	0.193	0.311	3.363	0.006	0.013	0.013	568.299	0.017
Excavators	2040	176	250	4.971	0.192	0.3	1.145	0.006	0.011	0.011	568.299	0.017
Excavators	2040	251	500	7.322	0.192	0.3	1.089	0.005	0.011	0.011	568.299	0.017
Excavators	2040	501	750	12.137	0.192	0.3	1.089	0.005	0.011	0.011	568.299	0.017
Forklifts	1990	26	50	11.848	4.826	7.952	9.773	0.692	1.266	1.266	568.299	0.435
Forklifts	1990	51	120	12.154	2.326	14.699	5.638	0.628	1.32	1.32	568.3	0.209
Forklifts	1990	121	175	14.423	1.537	12.932	4.938	0.602	0.849	0.849	568.299	0.138
Forklifts	1990	176	250	19.845	1.537	12.932	4.938	0.602	0.849	0.849	568.299	0.138
Forklifts	1990	251	500	25.356	1.365	12.267	10.853	0.525	0.73	0.73	568.299	0.123
Forklifts	2000	26	50	10.952	4.461	7.035	9.216	0.065	0.934	0.934	568.3	0.402
Forklifts	2000	51	120	9.146	1.75	9.75	4.459	0.059	0.882	0.882	568.299	0.157
Forklifts	2000	121	175	11.149	1.188	9.001	3.519	0.057	0.502	0.502	568.299	0.107
Forklifts	2000	176	250	11.958	0.926	8.546	2.534	0.057	0.372	0.372	568.299	0.083
Forklifts	2000	251	500	15.747	0.848	8.126	3.255	0.049	0.333	0.333	568.299	0.076
Forklifts	2005	26	50	10.087	4.108	6.62	8.778	0.065	0.891	0.891	568.299	0.37
Forklifts	2005	51	120	8.425	1.612	8.602	4.35	0.059	0.876	0.876	568.299	0.145
Forklifts	2005	121	175	9.959	1.061	7.94	3.418	0.057	0.475	0.475	568.299	0.095
Forklifts	2005	176	250	8.606	0.666	7.367	1.693	0.057	0.253	0.253	568.299	0.06
Forklifts	2005	251	500	10.976	0.591	6.611	1.803	0.049	0.23	0.23	568.299	0.053
Forklifts	2010	26	50	2.846117	2.392	6.31187	7.62516	0.005	0.729	0.671	583.8704	0.17
Forklifts	2010	51	120	1.045472	0.878	7.63494	4.10764	0.005	0.625	0.575	523.9205	0.153
Forklifts	2010	121	175	0.764801	0.643	7.24303	3.54812	0.005	0.389	0.357	524.5625	0.153
Forklifts	2010	176	250	0.852639	0.716	8.49545	2.88991	0.005	0.398	0.366	525.9172	0.153
Forklifts	2010	251	500	0.814667	0.685	8.13812	5.79345	0.005	0.381	0.351	526.239	0.153
Forklifts	2011	26	50	2.771689	2.329	6.26642	7.5619	0.005	0.715	0.657	582.4107	0.17
Forklifts	2011	51	120	1.023636	0.86	7.45983	4.10232	0.005	0.617	0.568	522.6107	0.153
Forklifts	2011	121	175	0.759385	0.638	7.14122	3.55732	0.005	0.385	0.355	523.2511	0.153
Forklifts	2011	176	250	0.819463	0.689	8.17495	2.77115	0.005	0.381	0.35	524.6024	0.153
Forklifts	2011	251	500	0.787175	0.661	7.84	5.42187	0.005	0.368	0.338	524.9234	0.153
Forklifts	2012	26	50	2.800937	2.354	6.27736	7.68036	0.005	0.72	0.663	580.951	0.17
Forklifts	2012	51	120	1.026513	0.863	7.43066	4.13104	0.005	0.62	0.571	521.3009	0.153
Forklifts	2012	121	175	0.764904	0.643	7.11981	3.58413	0.005	0.387	0.356	521.9397	0.153
Forklifts	2012	176	250	0.82428	0.693	8.14199	2.77846	0.005	0.381	0.35	523.2876	0.153
Forklifts	2012	251	500	0.795085	0.668	7.85628	5.42806	0.005	0.369	0.34	523.6078	0.153
Forklifts	2013	26	50	2.655997	2.232	6.14743	7.4937	0.005	0.689	0.634	578.0317	0.17
Forklifts	2013	51	120	0.996839	0.838	7.21545	4.11855	0.005	0.603	0.555	518.6813	0.153
Forklifts	2013	121	175	0.743778	0.625	6.90229	3.57971	0.005	0.375	0.345	519.3169	0.153
Forklifts	2013	176	250	0.786493	0.661	7.77338	2.67477	0.005	0.36	0.332	520.658	0.153

Forklifts	2013	251	500	0.686735	0.577	6.91072	4.6871	0.005	0.314	0.289	520.9766	0.153
Forklifts	2014	26	50	2.515249	2.114	6.00609	7.32058	0.005	0.656	0.604	575.1123	0.17
Forklifts	2014	51	120	0.945485	0.794	6.84833	4.07936	0.005	0.574	0.528	516.0617	0.153
Forklifts	2014	121	175	0.688099	0.578	6.35205	3.52073	0.005	0.345	0.317	516.694	0.153
Forklifts	2014	176	250	0.731475	0.615	7.27612	2.50114	0.005	0.33	0.304	518.0284	0.153
Forklifts	2014	251	500	0.644228	0.541	6.35258	4.25186	0.005	0.289	0.266	518.3454	0.153
Forklifts	2015	26	50	2.466892	2.073	5.93143	7.29982	0.005	0.643	0.591	569.2736	0.17
Forklifts	2015	51	120	0.914509	0.768	6.60091	4.06346	0.005	0.555	0.51	510.8225	0.153
Forklifts	2015	121	175	0.673169	0.566	6.13482	3.51969	0.005	0.335	0.308	511.4484	0.153
Forklifts	2015	176	250	0.672054	0.565	6.69668	2.32501	0.005	0.298	0.274	512.7693	0.153
Forklifts	2015	251	500	0.539875	0.454	5.33227	3.29951	0.005	0.237	0.218	513.083	0.153
Forklifts	2016	26	50	2.217878	1.864	5.66211	6.93473	0.005	0.583	0.537	563.4349	0.17
Forklifts	2016	51	120	0.860278	0.723	6.22192	4.02311	0.005	0.52	0.479	505.5833	0.153
Forklifts	2016	121	175	0.630613	0.53	5.67466	3.47253	0.005	0.31	0.285	506.2028	0.153
Forklifts	2016	176	250	0.641979	0.539	6.35303	2.22626	0.005	0.28	0.257	507.5101	0.153
Forklifts	2016	251	500	0.419581	0.353	4.04212	2.57209	0.005	0.174	0.16	507.8206	0.153
Forklifts	2017	26	50	2.026819	1.703	5.45035	6.67251	0.005	0.536	0.493	554.6769	0.17
Forklifts	2017	51	120	0.799635	0.672	5.81772	3.97881	0.005	0.48	0.442	497.7245	0.153
Forklifts	2017	121	175	0.604568	0.508	5.36215	3.45188	0.005	0.294	0.27	498.3344	0.153
Forklifts	2017	176	250	0.589964	0.496	5.75116	2.0923	0.005	0.252	0.232	499.6213	0.153
Forklifts	2017	251	500	0.401897	0.338	3.7797	2.50803	0.005	0.161	0.148	499.927	0.153
Forklifts	2018	26	50	1.658295	1.393	5.05181	6.10276	0.005	0.447	0.411	545.9188	0.17
Forklifts	2018	51	120	0.675301	0.567	5.0153	3.85819	0.005	0.4	0.368	489.8657	0.153
Forklifts	2018	121	175	0.508414	0.427	4.42984	3.33646	0.005	0.241	0.222	490.4659	0.153
Forklifts	2018	176	250	0.506009	0.425	4.93757	1.83475	0.005	0.207	0.191	491.7326	0.153
Forklifts	2018	251	500	0.335655	0.282	3.01864	1.87814	0.005	0.125	0.115	492.0335	0.153
Forklifts	2019	26	50	1.480074	1.244	4.86189	5.88034	0.005	0.401	0.369	537.1608	0.17
Forklifts	2019	51	120	0.606336	0.509	4.54965	3.80391	0.005	0.352	0.324	482.0069	0.153
Forklifts	2019	121	175	0.454984	0.382	3.86458	3.28831	0.005	0.21	0.193	482.5975	0.153
Forklifts	2019	176	250	0.445406	0.374	4.2498	1.6773	0.005	0.175	0.161	483.8438	0.153
Forklifts	2019	251	500	0.318129	0.267	2.75148	1.814	0.005	0.112	0.103	484.1399	0.153
Forklifts	2020	26	50	1.337399	1.124	4.68572	5.70563	0.005	0.36	0.331	525.4833	0.17
Forklifts	2020	51	120	0.545921	0.459	4.13299	3.75954	0.005	0.308	0.283	471.5285	0.153
Forklifts	2020	121	175	0.402357	0.338	3.3196	3.24885	0.005	0.18	0.165	472.1062	0.153
Forklifts	2020	176	250	0.348476	0.293	3.24149	1.44178	0.005	0.126	0.116	473.3255	0.153
Forklifts	2020	251	500	0.299035	0.251	2.43991	1.47807	0.005	0.097	0.089	473.6151	0.153
Forklifts	2021	26	50	1.192536	1.002	4.5202	5.53477	0.005	0.318	0.292	525.4833	0.17
Forklifts	2021	51	120	0.490261	0.412	3.75592	3.72	0.005	0.267	0.245	471.5285	0.153
Forklifts	2021	121	175	0.366939	0.308	2.9207	3.23128	0.005	0.158	0.145	472.1062	0.153
Forklifts	2021	176	250	0.296154	0.249	2.58195	1.33672	0.005	0.099	0.091	473.3255	0.153
Forklifts	2021	251	500	0.301833	0.254	2.30266	1.48481	0.005	0.094	0.086	473.6151	0.153
Forklifts	2022	26	50	1.02259	0.859	4.31214	5.30418	0.005	0.27	0.248	525.4833	0.17
Forklifts	2022	51	120	0.430627	0.362	3.36021	3.67507	0.005	0.223	0.205	471.5285	0.153
Forklifts	2022	121	175	0.324265	0.272	2.47982	3.19749	0.005	0.132	0.122	472.1062	0.153
Forklifts	2022	176	250	0.280841	0.236	2.31941	1.3171	0.005	0.09	0.083	473.3255	0.153
Forklifts	2022	251	500	0.275829	0.232	1.99119	1.21922	0.005	0.077	0.071	473.6151	0.153
Forklifts	2023	26	50	0.911766	0.766	4.15219	5.16597	0.005	0.232	0.213	525.4833	0.17
Forklifts	2023	51	120	0.388709	0.327	3.0569	3.64655	0.005	0.189	0.174	471.5285	0.153
Forklifts	2023	121	175	0.289923	0.244	2.11214	3.1799	0.005	0.111	0.102	472.1062	0.153
Forklifts	2023	176	250	0.242474	0.204	1.80718	1.23515	0.005	0.069	0.063	473.3255	0.153
Forklifts	2023	251	500	0.261765	0.22	1.78772	1.21596	0.005	0.069	0.063	473.6151	0.153
Forklifts	2024	26	50	0.823848	0.692	4.03948	5.0885	0.005	0.203	0.187	525.4833	0.17
Forklifts	2024	51	120	0.357083	0.3	2.81432	3.62907	0.005	0.163	0.15	471.5285	0.153
Forklifts	2024	121	175	0.266701	0.224	1.86129	3.17389	0.005	0.096	0.088	472.1062	0.153
Forklifts	2024	176	250	0.232645	0.195	1.6253	1.21846	0.005	0.061	0.056	473.3255	0.153
Forklifts	2024	251	500	0.258844	0.218	1.72336	1.21901	0.005	0.065	0.06	473.6151	0.153
Forklifts	2025	26	50	0.757155	0.636	3.93206	5.02929	0.005	0.178	0.164	525.4833	0.17
Forklifts	2025	51	120	0.329382	0.277	2.60732	3.61138	0.005	0.14	0.128	471.5285	0.153
Forklifts	2025	121	175	0.248361	0.209	1.653	3.17013	0.005	0.084	0.078	472.1062	0.153
Forklifts	2025	176	250	0.226669	0.19	1.46623	1.2143	0.005	0.056	0.052	473.3255	0.153
Forklifts	2025	251	500	0.255656	0.215	1.65848	1.22207	0.005	0.062	0.057	473.6151	0.153
Forklifts	2030	26	50	1.388	0.565	3.33	5.272	0.007	0.023	0.023	568.299	0.051
Forklifts	2030	51	120	1.48	0.283	1.555	3.799	0.006	0.021	0.021	568.299	0.025
Forklifts	2030	121	175	1.875	0.199	0.391	3.36	0.006	0.015	0.015	568.299	0.018
Forklifts	2030	176	250	2.524	0.195	0.341	1.144	0.006	0.012	0.012	568.299	0.017
Forklifts	2030	251	500	3.633	0.195	0.341	1.088	0.005	0.012	0.012	568.299	0.017
Forklifts	2035	26	50	1.371	0.558	3.268	5.234	0.007	0.017	0.017	568.299	0.05
Forklifts	2035	51	120	1.438	0.275	1.495	3.787	0.006	0.016	0.016	568.299	0.024
Forklifts	2035	121	175	1.775	0.189	0.299	3.35	0.006	0.012	0.012	568.3	0.017
Forklifts	2035	176	250	2.433	0.188	0.29	1.141	0.006	0.011	0.011	568.3	0.017
Forklifts	2035	251	500	3.502	0.188	0.29	1.085	0.005	0.011	0.011	568.299	0.017
Forklifts	2040	26	50	1.38	0.562	3.272	5.256	0.007	0.017	0.017	568.299	0.05
Forklifts	2040	51	120	1.444	0.276	1.491	3.794	0.006	0.016	0.016	568.299	0.024
Forklifts	2040	121	175	1.777	0.189	0.288	3.356	0.006	0.012	0.012	568.299	0.017
Forklifts	2040	176	250	2.445	0.189	0.288	1.143	0.006	0.011	0.011	568.299	0.017
Forklifts	2040	251	500	3.518	0.189	0.288	1.087	0.005	0.011	0.011	568.299	0.017
Generator Sets	1990	6	15	4.791	1.804	10	4.999	1.018	0.974	0.974	568.299	0.162
Generator Sets	1990	16	25	10.151	2.213	6.919	4.999	0.83	0.74	0.74	568.299	0.199
Generator Sets	1990	26	50	24.936	3.13	7.325	6.681	0.846	0.928	0.928	568.299	0.282
Generator Sets	1990	51	120	38.362	1.891	13.19	4.97	0.768	0.985	0.985	568.299	0.17
Generator Sets	1990	121	175	47.754	1.292	11.864	4.395	0.736	0.653	0.653	568.3	0.116
Generator Sets	1990	176	250	71.475	1.292	11.864	4.395	0.736	0.653	0.653	568.299	0.116
Generator Sets	1990	251	500	104.891	1.196	11.613	6.53	0.642	0.596	0.596	568.299	0.107
Generator Sets	1990	501	750	169.323	1.196	11.612	6.53	0.658	0.596	0.596	568.299	0.107
Generator Sets	1990	1001	9999	326.002	1.195	11.612	6.53	0.658	0.594	0.594	568.299	0.107
Generator Sets	2000	6	15	4.033	1.518	8.846	4.875	0.079	0.613	0.613	568.299	0.137
Generator Sets	2000	16	25	7.648	1.667	6.405	4.783	0.065	0.51	0.51	568.299	0.15
Generator Sets	2000	26	50	23.582	2.96	6.55	6.415	0.066	0.692	0.692	568.299	0.267
Generator Sets	2000	51	120	31.137	1.535	9.468	4.158	0.06	0.686	0.686	568.299	0.138

Generator Sets	2000	121	175	38.027	1.029	8.612	3.381	0.057	0.404	0.404	568.299	0.092
Generator Sets	2000	176	250	46.981	0.849	8.277	2.656	0.057	0.325	0.325	568.299	0.076
Generator Sets	2000	251	500	70.308	0.802	8.102	3.7	0.05	0.301	0.301	568.299	0.072
Generator Sets	2000	501	750	113.5	0.802	8.102	3.7	0.051	0.301	0.301	568.3	0.072
Generator Sets	2000	1001	9999	251.503	0.921	8.686	4.274	0.051	0.344	0.344	568.299	0.083
Generator Sets	2005	6	15	3.219	1.212	7.615	4.38	0.079	0.505	0.505	568.299	0.109
Generator Sets	2005	16	25	5.748	1.253	6.014	3.922	0.065	0.432	0.432	568.299	0.113
Generator Sets	2005	26	50	20.78	2.608	6.099	5.919	0.066	0.64	0.64	568.3	0.235
Generator Sets	2005	51	120	26.634	1.313	7.987	3.853	0.06	0.634	0.634	568.299	0.118
Generator Sets	2005	121	175	31.579	0.854	7.306	3.067	0.057	0.35	0.35	568.299	0.077
Generator Sets	2005	176	250	33.443	0.604	6.892	1.801	0.057	0.229	0.229	568.299	0.054
Generator Sets	2005	251	500	47.834	0.545	6.465	2.206	0.05	0.211	0.211	568.299	0.049
Generator Sets	2005	501	750	79.444	0.561	6.609	2.206	0.051	0.214	0.214	568.3	0.05
Generator Sets	2005	1001	9999	195.712	0.717	7.582	2.719	0.051	0.255	0.255	568.299	0.064
Generator Sets	2010	6	15	2.532	0.953	6.387	4.027	0.008	0.38	0.38	568.299	0.086
Generator Sets	2010	16	25	4.408	0.961	5.477	3.309	0.007	0.342	0.342	568.299	0.086
Generator Sets	2010	26	50	16.299	2.045	5.68	5.353	0.007	0.522	0.522	568.299	0.184
Generator Sets	2010	51	120	20.399	1.005	6.573	3.677	0.006	0.516	0.516	568.299	0.09
Generator Sets	2010	121	175	24.447	0.661	5.87	2.986	0.006	0.286	0.286	568.299	0.059
Generator Sets	2010	176	250	23.668	0.428	5.501	1.333	0.006	0.163	0.163	568.299	0.038
Generator Sets	2010	251	500	33.685	0.384	5.015	1.482	0.005	0.153	0.153	568.299	0.034
Generator Sets	2010	501	750	56.116	0.396	5.147	1.482	0.005	0.155	0.155	568.299	0.035
Generator Sets	2010	1001	9999	147.466	0.54	6.544	1.93	0.005	0.193	0.193	568.299	0.048
Generator Sets	2011	6	15	2.413	0.908	6.134	3.952	0.008	0.358	0.358	568.299	0.081
Generator Sets	2011	16	25	4.22	0.92	5.36	3.179	0.007	0.325	0.325	568.299	0.083
Generator Sets	2011	26	50	15.152	1.901	5.585	5.2	0.007	0.495	0.495	568.3	0.171
Generator Sets	2011	51	120	19.003	0.937	6.226	3.64	0.006	0.493	0.493	568.299	0.084
Generator Sets	2011	121	175	22.889	0.619	5.544	2.974	0.006	0.274	0.274	568.299	0.055
Generator Sets	2011	176	250	21.62	0.391	5.125	1.249	0.006	0.147	0.147	568.299	0.035
Generator Sets	2011	251	500	30.74	0.35	4.654	1.36	0.005	0.138	0.138	568.299	0.031
Generator Sets	2011	501	750	51.271	0.362	4.784	1.36	0.005	0.14	0.14	568.299	0.032
Generator Sets	2011	1001	9999	137.042	0.502	6.202	1.784	0.005	0.18	0.18	568.299	0.045
Generator Sets	2012	6	15	2.298	0.865	5.874	3.874	0.008	0.338	0.338	568.299	0.078
Generator Sets	2012	16	25	4.059	0.884	5.239	3.043	0.007	0.307	0.307	568.299	0.079
Generator Sets	2012	26	50	13.912	1.746	5.485	5.03	0.007	0.466	0.466	568.299	0.157
Generator Sets	2012	51	120	17.544	0.865	5.848	3.603	0.006	0.46	0.46	568.299	0.078
Generator Sets	2012	121	175	21.243	0.575	5.198	2.963	0.006	0.254	0.254	568.299	0.051
Generator Sets	2012	176	250	19.998	0.361	4.77	1.196	0.006	0.133	0.133	568.3	0.032
Generator Sets	2012	251	500	28.44	0.324	4.315	1.275	0.005	0.125	0.125	568.299	0.029
Generator Sets	2012	501	750	47.464	0.335	4.441	1.275	0.005	0.127	0.127	568.299	0.03
Generator Sets	2012	1001	9999	126.39	0.463	5.849	1.639	0.005	0.166	0.166	568.3	0.041
Generator Sets	2013	6	15	2.187	0.823	5.616	3.796	0.008	0.318	0.318	568.299	0.074
Generator Sets	2013	16	25	3.907	0.851	5.117	2.907	0.007	0.289	0.289	568.299	0.076
Generator Sets	2013	26	50	12.634	1.585	5.263	4.854	0.007	0.428	0.428	568.299	0.143
Generator Sets	2013	51	120	16.078	0.792	5.478	3.567	0.006	0.424	0.424	568.299	0.071
Generator Sets	2013	121	175	19.587	0.53	4.873	2.953	0.006	0.233	0.233	568.299	0.047
Generator Sets	2013	176	250	18.602	0.336	4.428	1.16	0.006	0.122	0.122	568.299	0.03
Generator Sets	2013	251	500	26.484	0.302	3.989	1.211	0.005	0.114	0.114	568.299	0.027
Generator Sets	2013	501	750	44.22	0.312	4.113	1.211	0.005	0.116	0.116	568.299	0.028
Generator Sets	2013	1001	9999	115.946	0.425	5.494	1.502	0.005	0.152	0.152	568.299	0.038
Generator Sets	2014	6	15	2.081	0.783	5.369	3.723	0.008	0.298	0.298	568.299	0.07
Generator Sets	2014	16	25	3.767	0.821	5	2.78	0.007	0.272	0.272	568.299	0.074
Generator Sets	2014	26	50	11.368	1.427	5.048	4.683	0.007	0.389	0.389	568.299	0.128
Generator Sets	2014	51	120	14.638	0.721	5.147	3.532	0.006	0.385	0.385	568.299	0.065
Generator Sets	2014	121	175	17.974	0.486	4.565	2.945	0.006	0.212	0.212	568.299	0.043
Generator Sets	2014	176	250	17.205	0.311	4.025	1.13	0.006	0.111	0.111	568.3	0.028
Generator Sets	2014	251	500	24.516	0.279	3.603	1.157	0.005	0.104	0.104	568.299	0.025
Generator Sets	2014	501	750	40.956	0.289	3.724	1.157	0.005	0.106	0.106	568.299	0.026
Generator Sets	2014	1001	9999	106.127	0.389	5.15	1.377	0.005	0.138	0.138	568.299	0.035
Generator Sets	2015	6	15	1.984	0.747	5.141	3.658	0.008	0.28	0.28	568.299	0.067
Generator Sets	2015	16	25	3.639	0.793	4.89	2.666	0.007	0.256	0.256	568.299	0.071
Generator Sets	2015	26	50	10.213	1.281	4.858	4.538	0.007	0.353	0.353	568.299	0.115
Generator Sets	2015	51	120	13.208	0.651	4.769	3.499	0.006	0.347	0.347	568.299	0.058
Generator Sets	2015	121	175	16.277	0.44	4.138	2.938	0.006	0.191	0.191	568.299	0.039
Generator Sets	2015	176	250	15.884	0.287	3.633	1.104	0.006	0.1	0.1	568.3	0.025
Generator Sets	2015	251	500	22.677	0.258	3.231	1.114	0.005	0.094	0.094	568.299	0.023
Generator Sets	2015	501	750	37.88	0.267	3.347	1.114	0.005	0.096	0.096	568.299	0.024
Generator Sets	2015	1001	9999	95.984	0.351	4.822	1.269	0.005	0.124	0.124	568.299	0.031
Generator Sets	2016	6	15	1.914	0.72	4.978	3.622	0.008	0.264	0.264	568.299	0.065
Generator Sets	2016	16	25	3.548	0.773	4.803	2.604	0.007	0.244	0.244	568.299	0.069
Generator Sets	2016	26	50	9.132	1.146	4.685	4.41	0.007	0.318	0.318	568.299	0.103
Generator Sets	2016	51	120	11.84	0.583	4.41	3.469	0.006	0.309	0.309	568.299	0.052
Generator Sets	2016	121	175	14.658	0.396	3.731	2.934	0.006	0.17	0.17	568.299	0.035
Generator Sets	2016	176	250	14.652	0.265	3.259	1.081	0.006	0.09	0.09	568.299	0.023
Generator Sets	2016	251	500	21.002	0.239	2.882	1.077	0.005	0.084	0.084	568.299	0.021
Generator Sets	2016	501	750	35.041	0.247	2.989	1.077	0.005	0.086	0.086	568.3	0.022
Generator Sets	2016	1001	9999	88.441	0.324	4.542	1.204	0.005	0.113	0.113	568.299	0.029
Generator Sets	2017	6	15	1.857	0.699	4.847	3.599	0.008	0.25	0.25	568.299	0.063
Generator Sets	2017	16	25	3.476	0.757	4.729	2.564	0.007	0.233	0.233	568.299	0.068
Generator Sets	2017	26	50	8.107	1.017	4.522	4.292	0.007	0.285	0.285	568.299	0.091
Generator Sets	2017	51	120	10.557	0.52	4.072	3.442	0.006	0.274	0.274	568.299	0.046
Generator Sets	2017	121	175	13.162	0.356	3.347	2.931	0.006	0.151	0.151	568.299	0.032
Generator Sets	2017	176	250	13.548	0.245	2.91	1.063	0.006	0.081	0.081	568.299	0.022
Generator Sets	2017	251	500	19.649	0.224	2.579	1.048	0.005	0.076	0.076	568.299	0.02
Generator Sets	2017	501	750	32.544	0.23	2.66	1.048	0.005	0.077	0.077	568.299	0.02
Generator Sets	2017	1001	9999	82.27	0.301	4.293	1.161	0.005	0.104	0.104	568.299	0.027
Generator Sets	2018	6	15	1.805	0.679	4.728	3.58	0.008	0.237	0.237	568.299	0.061
Generator Sets	2018	16	25	3.412	0.744	4.661	2.531	0.007	0.224	0.224	568.299	0.067
Generator Sets	2018	26	50	7.133	0.895	4.366	4.182	0.007	0.253	0.253	568.299	0.08

Generator Sets	2018	51	120	9.356	0.461	3.752	3.418	0.006	0.239	0.239	568.299	0.041
Generator Sets	2018	121	175	11.794	0.319	2.989	2.93	0.006	0.133	0.133	568.299	0.028
Generator Sets	2018	176	250	12.549	0.226	2.582	1.048	0.006	0.072	0.072	568.299	0.02
Generator Sets	2018	251	500	18.523	0.211	2.31	1.028	0.005	0.069	0.069	568.299	0.019
Generator Sets	2018	501	750	30.476	0.215	2.37	1.028	0.005	0.07	0.07	568.299	0.019
Generator Sets	2018	1001	9999	76.62	0.28	4.058	1.128	0.005	0.095	0.095	568.299	0.025
Generator Sets	2019	6	15	1.758	0.662	4.617	3.562	0.008	0.224	0.224	568.299	0.059
Generator Sets	2019	16	25	3.356	0.731	4.596	2.501	0.007	0.214	0.214	568.299	0.066
Generator Sets	2019	26	50	6.208	0.779	4.215	4.076	0.007	0.222	0.222	568.299	0.07
Generator Sets	2019	51	120	8.233	0.405	3.446	3.396	0.006	0.206	0.206	568.299	0.036
Generator Sets	2019	121	175	10.727	0.29	2.669	2.929	0.006	0.118	0.118	568.299	0.026
Generator Sets	2019	176	250	11.695	0.211	2.285	1.036	0.006	0.064	0.064	568.299	0.019
Generator Sets	2019	251	500	17.492	0.199	2.056	1.015	0.005	0.062	0.062	568.299	0.018
Generator Sets	2019	501	750	28.675	0.202	2.104	1.015	0.005	0.062	0.062	568.299	0.018
Generator Sets	2019	1001	9999	71.228	0.261	3.829	1.103	0.005	0.087	0.087	568.299	0.023
Generator Sets	2020	6	15	1.715	0.646	4.516	3.546	0.008	0.212	0.212	568.299	0.058
Generator Sets	2020	16	25	3.307	0.721	4.538	2.473	0.007	0.205	0.205	568.299	0.065
Generator Sets	2020	26	50	5.508	0.691	4.075	3.995	0.007	0.194	0.194	568.299	0.062
Generator Sets	2020	51	120	7.383	0.364	3.173	3.38	0.006	0.179	0.179	568.299	0.032
Generator Sets	2020	121	175	9.884	0.267	2.38	2.93	0.006	0.105	0.105	568.299	0.024
Generator Sets	2020	176	250	10.963	0.198	2.016	1.026	0.006	0.057	0.057	568.299	0.017
Generator Sets	2020	251	500	16.528	0.188	1.816	1.005	0.005	0.055	0.055	568.299	0.017
Generator Sets	2020	501	750	27.045	0.191	1.858	1.005	0.005	0.056	0.056	568.299	0.017
Generator Sets	2020	1001	9999	66.08	0.242	3.608	1.082	0.005	0.079	0.079	568.3	0.021
Generator Sets	2021	6	15	1.683	0.634	4.441	3.531	0.008	0.201	0.201	568.299	0.057
Generator Sets	2021	16	25	3.268	0.712	4.497	2.446	0.007	0.196	0.196	568.299	0.064
Generator Sets	2021	26	50	4.884	0.613	3.916	3.905	0.007	0.165	0.165	568.299	0.055
Generator Sets	2021	51	120	6.62	0.326	2.888	3.361	0.006	0.153	0.153	568.299	0.029
Generator Sets	2021	121	175	8.995	0.243	2.068	2.925	0.006	0.091	0.091	568.299	0.021
Generator Sets	2021	176	250	10.146	0.183	1.73	1.016	0.006	0.049	0.049	568.299	0.016
Generator Sets	2021	251	500	15.395	0.175	1.562	0.996	0.005	0.048	0.048	568.299	0.015
Generator Sets	2021	501	750	25.135	0.177	1.596	0.996	0.005	0.048	0.048	568.299	0.016
Generator Sets	2021	1001	9999	60.247	0.22	3.372	1.06	0.005	0.07	0.07	568.3	0.019
Generator Sets	2022	6	15	1.662	0.626	4.39	3.519	0.008	0.193	0.193	568.299	0.056
Generator Sets	2022	16	25	3.242	0.706	4.47	2.426	0.007	0.188	0.188	568.299	0.063
Generator Sets	2022	26	50	4.466	0.56	3.796	3.858	0.007	0.143	0.143	568.299	0.05
Generator Sets	2022	51	120	6.113	0.301	2.671	3.353	0.006	0.134	0.134	568.299	0.027
Generator Sets	2022	121	175	8.363	0.226	1.83	2.926	0.006	0.081	0.081	568.299	0.02
Generator Sets	2022	176	250	9.575	0.173	1.508	1.01	0.006	0.043	0.043	568.299	0.015
Generator Sets	2022	251	500	14.616	0.166	1.384	0.99	0.005	0.042	0.042	568.299	0.015
Generator Sets	2022	501	750	23.822	0.168	1.412	0.99	0.005	0.043	0.043	568.299	0.015
Generator Sets	2022	1001	9999	56.346	0.206	3.202	1.045	0.005	0.063	0.063	568.299	0.018
Generator Sets	2023	6	15	1.643	0.618	4.345	3.508	0.008	0.186	0.186	568.299	0.055
Generator Sets	2023	16	25	3.219	0.701	4.447	2.407	0.007	0.182	0.182	568.299	0.063
Generator Sets	2023	26	50	4.102	0.514	3.685	3.819	0.007	0.124	0.124	568.299	0.046
Generator Sets	2023	51	120	5.671	0.279	2.477	3.347	0.006	0.117	0.117	568.299	0.025
Generator Sets	2023	121	175	7.812	0.211	1.635	2.927	0.006	0.071	0.071	568.299	0.019
Generator Sets	2023	176	250	9.077	0.164	1.328	1.006	0.006	0.038	0.038	568.299	0.014
Generator Sets	2023	251	500	13.922	0.158	1.228	0.986	0.005	0.037	0.037	568.299	0.014
Generator Sets	2023	501	750	22.664	0.16	1.253	0.986	0.005	0.037	0.037	568.299	0.014
Generator Sets	2023	1001	9999	53.06	0.194	3.058	1.031	0.005	0.058	0.058	568.299	0.017
Generator Sets	2024	6	15	1.627	0.612	4.305	3.499	0.008	0.181	0.181	568.299	0.055
Generator Sets	2024	16	25	3.2	0.697	4.426	2.39	0.007	0.178	0.178	568.299	0.062
Generator Sets	2024	26	50	3.789	0.475	3.582	3.787	0.007	0.107	0.107	568.299	0.042
Generator Sets	2024	51	120	5.287	0.26	2.321	3.342	0.006	0.101	0.101	568.299	0.023
Generator Sets	2024	121	175	7.312	0.197	1.462	2.929	0.006	0.062	0.062	568.299	0.017
Generator Sets	2024	176	250	8.611	0.155	1.169	1.003	0.006	0.033	0.033	568.299	0.014
Generator Sets	2024	251	500	13.26	0.151	1.082	0.983	0.005	0.032	0.032	568.3	0.013
Generator Sets	2024	501	750	21.567	0.152	1.104	0.983	0.005	0.032	0.032	568.299	0.013
Generator Sets	2024	1001	9999	50.108	0.183	2.929	1.018	0.005	0.052	0.052	568.3	0.016
Generator Sets	2025	6	15	1.613	0.607	4.269	3.491	0.008	0.178	0.178	568.299	0.054
Generator Sets	2025	16	25	3.185	0.694	4.407	2.376	0.007	0.175	0.175	568.299	0.062
Generator Sets	2025	26	50	3.511	0.44	3.481	3.758	0.007	0.093	0.093	568.3	0.039
Generator Sets	2025	51	120	4.942	0.243	2.185	3.338	0.006	0.087	0.087	568.299	0.021
Generator Sets	2025	121	175	6.832	0.184	1.297	2.93	0.006	0.053	0.053	568.299	0.016
Generator Sets	2025	176	250	8.168	0.147	1.02	1	0.006	0.028	0.028	568.299	0.013
Generator Sets	2025	251	500	12.627	0.144	0.945	0.981	0.005	0.027	0.027	568.3	0.013
Generator Sets	2025	501	750	20.518	0.145	0.964	0.981	0.005	0.027	0.027	568.299	0.013
Generator Sets	2025	1001	9999	47.32	0.173	2.812	1.008	0.005	0.047	0.047	568.299	0.015
Generator Sets	2030	6	15	1.573	0.592	4.164	3.47	0.008	0.166	0.166	568.299	0.053
Generator Sets	2030	16	25	3.15	0.686	4.347	2.34	0.007	0.165	0.165	568.299	0.061
Generator Sets	2030	26	50	2.512	0.315	3.107	3.64	0.007	0.038	0.038	568.299	0.028
Generator Sets	2030	51	120	3.616	0.178	1.645	3.316	0.006	0.034	0.034	568.299	0.016
Generator Sets	2030	121	175	4.837	0.13	0.601	2.929	0.006	0.023	0.023	568.299	0.011
Generator Sets	2030	176	250	6.637	0.12	0.504	0.998	0.006	0.016	0.016	568.299	0.01
Generator Sets	2030	251	500	10.441	0.119	0.476	0.978	0.005	0.015	0.015	568.299	0.01
Generator Sets	2030	501	750	16.888	0.119	0.482	0.978	0.005	0.015	0.015	568.299	0.01
Generator Sets	2030	1001	9999	35.17	0.128	2.483	0.979	0.005	0.029	0.029	568.299	0.011
Generator Sets	2035	6	15	1.565	0.589	4.143	3.47	0.008	0.162	0.162	568.299	0.053
Generator Sets	2035	16	25	3.144	0.685	4.332	2.34	0.007	0.162	0.162	568.299	0.061
Generator Sets	2035	26	50	2.206	0.276	2.991	3.607	0.007	0.018	0.018	568.299	0.024
Generator Sets	2035	51	120	3.176	0.156	1.458	3.31	0.006	0.016	0.016	568.299	0.014
Generator Sets	2035	121	175	4.187	0.113	0.373	2.929	0.006	0.013	0.013	568.299	0.01
Generator Sets	2035	176	250	6.1	0.11	0.331	0.998	0.006	0.011	0.011	568.299	0.009
Generator Sets	2035	251	500	9.666	0.11	0.328	0.978	0.005	0.011	0.011	568.299	0.009
Generator Sets	2035	501	750	15.606	0.11	0.328	0.978	0.005	0.011	0.011	568.299	0.009
Generator Sets	2035	1001	9999	31.223	0.114	2.362	0.978	0.005	0.022	0.022	568.299	0.01
Generator Sets	2040	6	15	1.565	0.589	4.142	3.469	0.008	0.161	0.161	568.299	0.053
Generator Sets	2040	16	25	3.144	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061

Generator Sets	2040	26	50	2.182	0.273	2.941	3.601	0.007	0.012	0.012	568.3	0.024
Generator Sets	2040	51	120	3.086	0.152	1.399	3.308	0.006	0.012	0.012	568.299	0.013
Generator Sets	2040	121	175	3.958	0.107	0.293	2.928	0.006	0.01	0.01	568.299	0.009
Generator Sets	2040	176	250	5.86	0.106	0.277	0.997	0.006	0.009	0.009	568.299	0.009
Generator Sets	2040	251	500	9.29	0.106	0.277	0.978	0.005	0.009	0.009	568.299	0.009
Generator Sets	2040	501	750	14.997	0.106	0.277	0.978	0.005	0.009	0.009	568.3	0.009
Generator Sets	2040	1001	9999	29.36	0.107	2.33	0.978	0.005	0.02	0.02	568.299	0.009
Graders	1990	26	50	10.997	4.776	7.935	9.678	0.871	1.265	1.265	568.3	0.431
Graders	1990	51	120	14.614	2.332	14.78	5.658	0.791	1.325	1.325	568.299	0.21
Graders	1990	121	175	17.684	1.707	13.838	5.007	0.758	0.946	0.946	568.299	0.154
Graders	1990	176	250	24.561	1.707	13.838	5.007	0.758	0.946	0.946	568.299	0.154
Graders	1990	251	500	29.01	1.512	13.128	10.95	0.662	0.811	0.811	568.299	0.136
Graders	1990	501	750	61.406	1.512	13.128	10.95	1.018	0.826	0.826	568.3	0.136
Graders	2000	26	50	10.331	4.487	7.082	9.239	0.066	0.935	0.935	568.299	0.404
Graders	2000	51	120	11.628	1.855	10.486	4.675	0.06	0.904	0.904	568.3	0.167
Graders	2000	121	175	13.017	1.256	9.601	3.786	0.057	0.531	0.531	568.299	0.113
Graders	2000	176	250	15.266	1.061	9.264	3.039	0.057	0.437	0.437	568.299	0.095
Graders	2000	251	500	18.455	0.961	8.805	4.848	0.05	0.384	0.384	568.3	0.086
Graders	2000	501	750	39.064	0.961	8.805	4.848	0.052	0.384	0.384	568.299	0.086
Graders	2005	26	50	9.193	3.993	6.612	8.559	0.066	0.868	0.868	568.299	0.36
Graders	2005	51	120	10.174	1.623	9.021	4.406	0.06	0.849	0.849	568.3	0.146
Graders	2005	121	175	11.01	1.062	8.238	3.522	0.057	0.469	0.469	568.299	0.095
Graders	2005	176	250	11.283	0.784	7.837	2.17	0.057	0.314	0.314	568.299	0.07
Graders	2005	251	500	13.286	0.692	7.117	2.913	0.05	0.279	0.279	568.299	0.062
Graders	2005	501	750	28.569	0.703	7.284	2.909	0.052	0.282	0.282	568.299	0.063
Graders	2010	26	50	3.618169	3.04	6.50487	8.828	0.005	0.852	0.783	547.2284	0.159
Graders	2010	51	120	1.572744	1.322	10.4805	4.95239	0.005	0.854	0.786	523.7684	0.152
Graders	2010	121	175	1.025452	0.862	8.98998	3.90428	0.005	0.496	0.456	536.7031	0.156
Graders	2010	176	250	0.425787	0.358	5.73143	1.43786	0.005	0.182	0.167	530.3343	0.154
Graders	2010	251	500	0.323814	0.272	3.80781	1.81115	0.005	0.142	0.13	525.6597	0.153
Graders	2010	501	750	21.764	0.535	5.386	1.861	0.005	0.202	0.202	568.299	0.048
Graders	2011	26	50	3.655035	3.071	6.52829	8.9223	0.005	0.86	0.791	545.8822	0.159
Graders	2011	51	120	1.554125	1.306	10.3495	4.9423	0.005	0.847	0.78	522.5082	0.152
Graders	2011	121	175	1.019798	0.857	8.91245	3.91881	0.005	0.494	0.455	535.2864	0.156
Graders	2011	176	250	0.436805	0.367	5.74733	1.44556	0.005	0.183	0.169	529.0473	0.154
Graders	2011	251	500	0.341103	0.287	3.81827	1.83104	0.005	0.144	0.132	524.3479	0.153
Graders	2011	501	750	20.697	0.509	4.992	1.744	0.005	0.184	0.184	568.299	0.045
Graders	2012	26	50	3.689945	3.101	6.55055	9.01183	0.005	0.867	0.798	544.5383	0.159
Graders	2012	51	120	1.550155	1.303	10.2881	4.94871	0.005	0.848	0.78	521.1967	0.152
Graders	2012	121	175	1.022941	0.86	8.89699	3.94251	0.005	0.496	0.456	533.878	0.156
Graders	2012	176	250	0.449323	0.378	5.777	1.45898	0.005	0.185	0.171	527.8224	0.154
Graders	2012	251	500	0.355329	0.299	3.8123	1.82432	0.005	0.145	0.133	522.8547	0.153
Graders	2012	501	750	19.697	0.485	4.624	1.642	0.005	0.168	0.168	568.299	0.043
Graders	2013	26	50	3.722893	3.128	6.57166	9.0966	0.005	0.874	0.804	541.8285	0.159
Graders	2013	51	120	1.548648	1.301	10.2424	4.95898	0.005	0.849	0.781	518.5552	0.152
Graders	2013	121	175	1.020021	0.857	8.8338	3.95423	0.005	0.495	0.455	530.9753	0.156
Graders	2013	176	250	0.455824	0.383	5.74577	1.45924	0.005	0.185	0.17	525.0407	0.154
Graders	2013	251	500	0.359627	0.302	3.71231	1.7965	0.005	0.141	0.13	520.0526	0.153
Graders	2013	501	750	18.765	0.462	4.281	1.556	0.005	0.152	0.152	568.299	0.041
Graders	2014	26	50	3.681797	3.094	6.54967	9.06534	0.005	0.867	0.798	539.1216	0.159
Graders	2014	51	120	1.510465	1.269	9.98567	4.91977	0.005	0.832	0.765	515.3819	0.152
Graders	2014	121	175	1.007876	0.847	8.70206	3.95083	0.005	0.488	0.449	527.8337	0.156
Graders	2014	176	250	0.463867	0.39	5.73998	1.46245	0.005	0.185	0.171	522.3298	0.154
Graders	2014	251	500	0.373775	0.314	3.71371	1.79096	0.005	0.143	0.131	517.3766	0.153
Graders	2014	501	750	17.784	0.437	3.876	1.483	0.005	0.138	0.138	568.299	0.039
Graders	2015	26	50	3.711306	3.119	6.56967	9.14399	0.005	0.874	0.804	533.6812	0.159
Graders	2015	51	120	1.474627	1.239	9.73775	4.88439	0.005	0.813	0.748	509.597	0.152
Graders	2015	121	175	1.004333	0.844	8.63742	3.95849	0.005	0.486	0.447	522.2182	0.156
Graders	2015	176	250	0.471304	0.396	5.72754	1.46577	0.005	0.186	0.171	517.1275	0.154
Graders	2015	251	500	0.388063	0.326	3.72122	1.79107	0.005	0.144	0.133	512.0975	0.153
Graders	2015	501	750	16.846	0.414	3.501	1.42	0.005	0.124	0.124	568.299	0.037
Graders	2016	26	50	3.670899	3.085	6.51973	9.10623	0.005	0.864	0.795	528.2444	0.159
Graders	2016	51	120	1.419659	1.193	9.41488	4.82948	0.005	0.78	0.718	503.1614	0.152
Graders	2016	121	175	0.963567	0.81	8.24966	3.91624	0.005	0.463	0.426	516.1305	0.156
Graders	2016	176	250	0.473996	0.398	5.6628	1.45911	0.005	0.184	0.169	511.6959	0.154
Graders	2016	251	500	0.397787	0.334	3.6858	1.77374	0.005	0.144	0.132	506.5064	0.153
Graders	2016	501	750	15.959	0.393	3.154	1.367	0.005	0.112	0.112	568.299	0.035
Graders	2017	26	50	3.5783	3.007	6.423	8.97826	0.005	0.843	0.776	520.0747	0.159
Graders	2017	51	120	1.385767	1.164	9.19125	4.81041	0.005	0.759	0.698	495.9186	0.152
Graders	2017	121	175	0.901	0.757	7.66265	3.84518	0.005	0.43	0.396	506.7478	0.155
Graders	2017	176	250	0.471391	0.396	5.52488	1.44905	0.005	0.18	0.166	503.8022	0.154
Graders	2017	251	500	0.397706	0.334	3.55709	1.70747	0.005	0.139	0.128	498.5996	0.153
Graders	2017	501	750	15.127	0.372	2.835	1.323	0.005	0.1	0.1	568.299	0.033
Graders	2018	26	50	3.342571	2.809	6.17962	8.62631	0.005	0.79	0.726	511.9098	0.159
Graders	2018	51	120	1.27956	1.075	8.51954	4.69711	0.005	0.697	0.641	487.6979	0.152
Graders	2018	121	175	0.78708	0.661	6.60465	3.70957	0.005	0.371	0.342	497.3767	0.155
Graders	2018	176	250	0.457376	0.384	5.27094	1.41595	0.005	0.171	0.158	495.431	0.154
Graders	2018	251	500	0.385909	0.324	3.44465	1.56446	0.005	0.129	0.119	490.5758	0.153
Graders	2018	501	750	14.353	0.353	2.543	1.286	0.005	0.09	0.09	568.299	0.031
Graders	2019	26	50	3.11378	2.616	5.94463	8.27912	0.005	0.737	0.678	503.7509	0.159
Graders	2019	51	120	1.228249	1.032	8.1592	4.6424	0.005	0.665	0.612	479.9011	0.152
Graders	2019	121	175	0.724541	0.609	6.01354	3.65586	0.005	0.337	0.31	489.0419	0.155
Graders	2019	176	250	0.428358	0.36	4.86575	1.35927	0.005	0.156	0.144	486.3288	0.154
Graders	2019	251	500	0.384059	0.323	3.21794	1.52849	0.005	0.124	0.114	482.5879	0.153
Graders	2019	501	750	13.635	0.335	2.276	1.255	0.005	0.08	0.08	568.299	0.03
Graders	2020	26	50	2.994737	2.516	5.82549	8.13394	0.005	0.709	0.652	492.8615	0.159
Graders	2020	51	120	1.161574	0.976	7.72513	4.56142	0.005	0.622	0.572	469.3371	0.152
Graders	2020	121	175	0.674427	0.567	5.53045	3.62102	0.005	0.309	0.284	478.0403	0.155
Graders	2020	176	250	0.41877	0.352	4.67787	1.34183	0.005	0.15	0.138	475.3037	0.154

Graders	2020	251	500	0.383198	0.322	3.10731	1.5256	0.005	0.121	0.111	471.9795	0.153
Graders	2020	501	750	12.961	0.319	2.031	1.229	0.005	0.072	0.072	568.299	0.028
Graders	2021	26	50	2.660206	2.235	5.48468	7.62621	0.005	0.631	0.581	492.9352	0.159
Graders	2021	51	120	1.072144	0.901	7.12535	4.45175	0.005	0.57	0.524	469.0701	0.152
Graders	2021	121	175	0.601372	0.505	4.83947	3.55896	0.005	0.27	0.248	478.5289	0.155
Graders	2021	176	250	0.398657	0.335	4.38134	1.30687	0.005	0.139	0.128	474.5386	0.153
Graders	2021	251	500	0.383194	0.322	3.01257	1.46044	0.005	0.117	0.108	471.8981	0.153
Graders	2021	501	750	12.333	0.303	1.808	1.207	0.005	0.064	0.064	568.299	0.027
Graders	2022	26	50	2.506375	2.106	5.33188	7.42848	0.005	0.595	0.547	493.0249	0.159
Graders	2022	51	120	0.947815	0.796	6.36004	4.32966	0.005	0.493	0.453	469.6301	0.152
Graders	2022	121	175	0.524016	0.44	4.12488	3.49283	0.005	0.229	0.211	478.5664	0.155
Graders	2022	176	250	0.365229	0.307	3.8881	1.27327	0.005	0.124	0.114	474.239	0.153
Graders	2022	251	500	0.370143	0.311	2.80191	1.38967	0.005	0.108	0.1	471.9278	0.153
Graders	2022	501	750	11.747	0.289	1.606	1.187	0.005	0.057	0.057	568.299	0.026
Graders	2023	26	50	2.316861	1.947	5.14799	7.19094	0.005	0.549	0.505	494.0202	0.16
Graders	2023	51	120	0.855685	0.719	5.74006	4.22811	0.005	0.436	0.401	469.2859	0.152
Graders	2023	121	175	0.463941	0.39	3.54785	3.45006	0.005	0.195	0.18	478.4629	0.155
Graders	2023	176	250	0.337478	0.284	3.44101	1.25173	0.005	0.111	0.103	473.9256	0.153
Graders	2023	251	500	0.367269	0.309	2.70451	1.38481	0.005	0.105	0.097	471.0306	0.152
Graders	2023	501	750	11.215	0.276	1.425	1.17	0.005	0.051	0.051	568.3	0.024
Graders	2024	26	50	2.201935	1.85	5.0278	7.05059	0.005	0.52	0.479	493.7913	0.16
Graders	2024	51	120	0.812369	0.683	5.43389	4.20033	0.005	0.408	0.375	469.8208	0.152
Graders	2024	121	175	0.433005	0.364	3.20219	3.43239	0.005	0.177	0.163	478.4966	0.155
Graders	2024	176	250	0.312074	0.262	3.07323	1.22497	0.005	0.1	0.092	473.6685	0.153
Graders	2024	251	500	0.348233	0.293	2.43171	1.35613	0.005	0.095	0.088	470.2664	0.152
Graders	2024	501	750	10.734	0.264	1.265	1.155	0.005	0.046	0.046	568.3	0.023
Graders	2025	26	50	2.21878	1.864	5.04301	7.12535	0.005	0.522	0.48	493.5322	0.16
Graders	2025	51	120	0.759044	0.638	5.07379	4.14911	0.005	0.371	0.342	468.3155	0.151
Graders	2025	121	175	0.391287	0.329	2.77396	3.41759	0.005	0.152	0.14	478.5084	0.155
Graders	2025	176	250	0.273788	0.23	2.55629	1.17888	0.005	0.082	0.076	473.4704	0.153
Graders	2025	251	500	0.332717	0.28	2.26485	1.31461	0.005	0.088	0.081	470.7533	0.152
Graders	2025	501	750	10.301	0.253	1.125	1.141	0.005	0.041	0.041	568.3	0.022
Graders	2030	26	50	1.493	0.648	3.53	5.239	0.007	0.065	0.065	568.299	0.058
Graders	2030	51	120	2.028	0.323	1.903	3.775	0.006	0.058	0.058	568.299	0.029
Graders	2030	121	175	2.458	0.237	0.815	3.326	0.006	0.038	0.038	568.3	0.021
Graders	2030	176	250	3.114	0.216	0.684	1.148	0.006	0.024	0.024	568.299	0.019
Graders	2030	251	500	4.115	0.214	0.647	1.097	0.005	0.023	0.023	568.299	0.019
Graders	2030	501	750	8.717	0.214	0.654	1.097	0.005	0.023	0.023	568.299	0.019
Graders	2035	26	50	1.367	0.593	3.356	5.189	0.007	0.037	0.037	568.299	0.053
Graders	2035	51	120	1.837	0.293	1.661	3.767	0.006	0.034	0.034	568.299	0.026
Graders	2035	121	175	2.136	0.206	0.506	3.326	0.006	0.022	0.022	568.3	0.018
Graders	2035	176	250	2.822	0.196	0.452	1.137	0.006	0.016	0.016	568.299	0.017
Graders	2035	251	500	3.746	0.195	0.434	1.083	0.005	0.016	0.016	568.299	0.017
Graders	2035	501	750	7.933	0.195	0.438	1.083	0.005	0.016	0.016	568.299	0.017
Graders	2040	26	50	1.297	0.563	3.298	5.161	0.007	0.026	0.026	568.3	0.05
Graders	2040	51	120	1.747	0.278	1.56	3.764	0.006	0.024	0.024	568.299	0.025
Graders	2040	121	175	2.002	0.193	0.38	3.326	0.006	0.017	0.017	568.299	0.017
Graders	2040	176	250	2.719	0.188	0.36	1.133	0.006	0.013	0.013	568.299	0.017
Graders	2040	251	500	3.619	0.188	0.351	1.079	0.005	0.013	0.013	568.299	0.017
Graders	2040	501	750	7.663	0.188	0.353	1.079	0.005	0.013	0.013	568.299	0.017
Off-Highway Tractors	1990	51	120	7.901	2.432	15.285	5.842	0.791	1.384	1.384	568.299	0.219
Off-Highway Tractors	1990	121	175	8.363	1.85	14.647	5.217	0.758	1.033	1.033	568.299	0.166
Off-Highway Tractors	1990	176	250	8.363	1.85	14.647	5.217	0.758	1.033	1.033	568.299	0.166
Off-Highway Tractors	1990	501	750	32.077	1.629	13.849	11.847	1.018	0.896	0.896	568.3	0.147
Off-Highway Tractors	1990	751	1000	45.779	1.622	13.849	11.847	1.018	0.888	0.888	568.3	0.146
Off-Highway Tractors	2000	51	120	6.648	2.047	11.606	5.046	0.06	0.972	0.972	568.299	0.184
Off-Highway Tractors	2000	121	175	6.386	1.413	10.675	4.213	0.057	0.602	0.602	568.299	0.127
Off-Highway Tractors	2000	176	250	5.736	1.269	10.426	3.665	0.057	0.532	0.532	568.299	0.114
Off-Highway Tractors	2000	501	750	22.339	1.134	9.864	6.836	0.052	0.461	0.461	568.299	0.102
Off-Highway Tractors	2000	751	1000	33.036	1.17	10.29	7.259	0.052	0.444	0.444	568.299	0.105
Off-Highway Tractors	2005	51	120	6.042	1.86	10.379	4.801	0.06	0.932	0.932	568.299	0.167
Off-Highway Tractors	2005	121	175	5.63	1.246	9.479	3.943	0.057	0.547	0.547	568.299	0.112
Off-Highway Tractors	2005	176	250	4.641	1.027	9.16	2.923	0.057	0.425	0.425	568.299	0.092
Off-Highway Tractors	2005	501	750	17.978	0.913	8.543	4.992	0.052	0.372	0.372	568.299	0.082
Off-Highway Tractors	2005	751	1000	27.525	0.975	9.293	5.369	0.052	0.359	0.359	568.299	0.088
Off-Highway Tractors	2010	51	120	1.004164	0.844	7.39576	4.06859	0.005	0.61	0.561	529.8898	0.154
Off-Highway Tractors	2010	121	175	0.623556	0.524	6.19445	3.25207	0.005	0.322	0.297	526.0485	0.153
Off-Highway Tractors	2010	176	250	0.540439	0.454	6.56823	1.80076	0.005	0.241	0.222	522.8212	0.152
Off-Highway Tractors	2010	501	750	0.353776	0.297	4.74911	1.65183	0.005	0.163	0.15	526.6401	0.153
Off-Highway Tractors	2010	751	1000	1.235451	1.038	12.2723	13.844	0.005	0.624	0.574	524.505	0.153
Off-Highway Tractors	2011	51	120	0.958318	0.805	7.12201	4.04749	0.005	0.588	0.541	528.6123	0.154
Off-Highway Tractors	2011	121	175	0.588696	0.495	5.88095	3.25718	0.005	0.307	0.282	524.5528	0.153
Off-Highway Tractors	2011	176	250	0.522937	0.439	6.3706	1.73271	0.005	0.23	0.212	521.5328	0.152
Off-Highway Tractors	2011	501	750	0.366196	0.308	4.77936	1.66137	0.005	0.166	0.153	525.3172	0.153
Off-Highway Tractors	2011	751	1000	1.235451	1.038	12.2723	13.844	0.005	0.624	0.574	523.1938	0.153
Off-Highway Tractors	2012	51	120	0.956826	0.804	7.07175	4.07302	0.005	0.588	0.541	527.1281	0.154
Off-Highway Tractors	2012	121	175	0.573556	0.482	5.70904	3.27598	0.005	0.299	0.276	523.1986	0.153
Off-Highway Tractors	2012	176	250	0.51645	0.434	6.26836	1.70131	0.005	0.225	0.207	520.2636	0.152
Off-Highway Tractors	2012	501	750	0.3785	0.318	4.80904	1.67078	0.005	0.169	0.155	523.9941	0.153
Off-Highway Tractors	2012	751	1000	1.235451	1.038	12.2723	13.844	0.005	0.624	0.574	521.8825	0.153
Off-Highway Tractors	2013	51	120	0.915141	0.769	6.79599	4.04714	0.005	0.564	0.519	524.1555	0.154
Off-Highway Tractors	2013	121	175	0.54434	0.457	5.42114	3.28016	0.005	0.281	0.258	520.6151	0.153
Off-Highway Tractors	2013	176	250	0.508791	0.428	6.11434	1.67153	0.005	0.219	0.201	517.5627	0.152
Off-Highway Tractors	2013	501	750	0.342496	0.288	4.32547	1.42496	0.005	0.149	0.137	519.6246	0.153
Off-Highway Tractors	2013	751	1000	1.235451	1.038	12.2723	13.844	0.005	0.624	0.574	519.26	0.153
Off-Highway Tractors	2014	51	120	0.830806	0.698	6.28073	3.97241	0.005	0.513	0.472	520.8244	0.154
Off-Highway Tractors	2014	121	175	0.504784	0.424	5.02525	3.26511	0.005	0.258	0.237	518.1639	0.153
Off-Highway Tractors	2014	176	250	0.481559	0.405	5.66092	1.62822	0.005	0.203	0.187	514.3699	0.152
Off-Highway Tractors	2014	501	750	0.317193	0.267	4.00651	1.33448	0.005	0.133	0.122	516.904	0.153

Off-Highway Tractors	2014	751	1000	0.100665	0.085	2.27938	0.94694	0.005	0.054	0.05	516.6375	0.153
Off-Highway Tractors	2015	51	120	0.802587	0.674	6.06726	3.96474	0.005	0.494	0.455	515.3203	0.154
Off-Highway Tractors	2015	121	175	0.478075	0.402	4.72365	3.26419	0.005	0.239	0.22	512.6079	0.153
Off-Highway Tractors	2015	176	250	0.476529	0.4	5.52773	1.60534	0.005	0.199	0.183	509.1896	0.152
Off-Highway Tractors	2015	501	750	0.312134	0.262	3.87437	1.17195	0.005	0.126	0.116	511.0814	0.153
Off-Highway Tractors	2015	751	1000	0.114305	0.096	2.29983	0.96003	0.005	0.056	0.051	511.3924	0.153
Off-Highway Tractors	2016	51	120	0.743357	0.625	5.6465	3.92464	0.005	0.454	0.418	509.4472	0.154
Off-Highway Tractors	2016	121	175	0.465284	0.391	4.51093	3.27806	0.005	0.229	0.211	507.6294	0.153
Off-Highway Tractors	2016	176	250	0.426838	0.359	4.92994	1.47177	0.005	0.171	0.157	504.1229	0.152
Off-Highway Tractors	2016	501	750	0.299821	0.252	3.57265	1.14348	0.005	0.117	0.108	505.762	0.153
Off-Highway Tractors	2016	751	1000	0.127675	0.107	2.31987	0.97285	0.005	0.057	0.053	506.1474	0.153
Off-Highway Tractors	2017	51	120	0.697857	0.586	5.31726	3.90108	0.005	0.423	0.389	501.2453	0.154
Off-Highway Tractors	2017	121	175	0.423504	0.356	4.02594	3.2589	0.005	0.205	0.189	499.2446	0.153
Off-Highway Tractors	2017	176	250	0.389773	0.328	4.38216	1.403	0.005	0.151	0.139	496.4983	0.152
Off-Highway Tractors	2017	501	750	0.294592	0.248	3.32351	1.14456	0.005	0.112	0.103	497.6181	0.152
Off-Highway Tractors	2017	751	1000	0.140776	0.118	2.33951	0.98542	0.005	0.059	0.054	498.2798	0.153
Off-Highway Tractors	2018	51	120	0.621057	0.522	4.78732	3.83227	0.005	0.373	0.343	492.8709	0.153
Off-Highway Tractors	2018	121	175	0.374746	0.315	3.49764	3.2191	0.005	0.176	0.162	491.3128	0.153
Off-Highway Tractors	2018	176	250	0.323278	0.272	3.45421	1.29494	0.005	0.119	0.109	488.6765	0.152
Off-Highway Tractors	2018	501	750	0.232675	0.196	2.1656	1.11871	0.005	0.081	0.074	490.1818	0.153
Off-Highway Tractors	2018	751	1000	0.153606	0.129	2.35874	0.99773	0.005	0.06	0.055	490.4122	0.153
Off-Highway Tractors	2019	51	120	0.562974	0.473	4.42145	3.79465	0.005	0.331	0.305	484.2693	0.153
Off-Highway Tractors	2019	121	175	0.350048	0.294	3.20755	3.21895	0.005	0.159	0.146	483.4306	0.153
Off-Highway Tractors	2019	176	250	0.283777	0.238	2.9142	1.21832	0.005	0.098	0.09	481.2751	0.152
Off-Highway Tractors	2019	501	750	0.244248	0.205	2.17682	1.12934	0.005	0.082	0.075	482.3091	0.153
Off-Highway Tractors	2019	751	1000	0.166166	0.14	2.37757	1.00978	0.005	0.062	0.057	482.5446	0.153
Off-Highway Tractors	2020	51	120	0.533073	0.448	4.18317	3.78798	0.005	0.307	0.282	474.1481	0.153
Off-Highway Tractors	2020	121	175	0.322507	0.271	2.89032	3.21511	0.005	0.14	0.129	472.9169	0.153
Off-Highway Tractors	2020	176	250	0.263453	0.221	2.57547	1.1813	0.005	0.086	0.079	470.943	0.152
Off-Highway Tractors	2020	501	750	0.239679	0.201	2.04663	1.13143	0.005	0.076	0.07	471.8151	0.153
Off-Highway Tractors	2020	751	1000	0.178457	0.15	2.39599	1.02156	0.005	0.063	0.058	472.0545	0.153
Off-Highway Tractors	2021	51	120	0.469894	0.395	3.77306	3.74258	0.005	0.261	0.24	474.5155	0.153
Off-Highway Tractors	2021	121	175	0.307902	0.259	2.65962	3.21953	0.005	0.129	0.118	472.9236	0.153
Off-Highway Tractors	2021	176	250	0.237665	0.2	2.11341	1.16179	0.005	0.072	0.067	471.0028	0.152
Off-Highway Tractors	2021	501	750	0.215694	0.181	1.71505	1.12237	0.005	0.063	0.058	471.8056	0.153
Off-Highway Tractors	2021	751	1000	0.190478	0.16	2.41401	1.0331	0.005	0.064	0.059	472.0545	0.153
Off-Highway Tractors	2022	51	120	0.414344	0.348	3.39986	3.70994	0.005	0.219	0.202	475.2338	0.154
Off-Highway Tractors	2022	121	175	0.275155	0.231	2.23877	3.18586	0.005	0.107	0.099	472.8111	0.153
Off-Highway Tractors	2022	176	250	0.213642	0.18	1.73242	1.14284	0.005	0.06	0.055	471.1313	0.152
Off-Highway Tractors	2022	501	750	0.20345	0.171	1.43309	1.12111	0.005	0.055	0.05	471.939	0.153
Off-Highway Tractors	2022	751	1000	0.202228	0.17	2.43162	1.04437	0.005	0.066	0.06	472.0545	0.153
Off-Highway Tractors	2023	51	120	0.37642	0.316	3.09527	3.68654	0.005	0.187	0.172	476.0871	0.154
Off-Highway Tractors	2023	121	175	0.239199	0.201	1.78476	3.14329	0.005	0.085	0.079	472.9962	0.153
Off-Highway Tractors	2023	176	250	0.20356	0.171	1.49148	1.13796	0.005	0.053	0.049	470.845	0.152
Off-Highway Tractors	2023	501	750	0.199838	0.168	1.28868	1.12418	0.005	0.051	0.047	471.9321	0.153
Off-Highway Tractors	2023	751	1000	0.213709	0.18	2.44883	1.05538	0.005	0.067	0.062	472.0545	0.153
Off-Highway Tractors	2024	51	120	0.359218	0.302	2.94932	3.69095	0.005	0.171	0.157	476.3711	0.154
Off-Highway Tractors	2024	121	175	0.21727	0.183	1.49579	3.1328	0.005	0.071	0.066	473.097	0.153
Off-Highway Tractors	2024	176	250	0.200963	0.169	1.37732	1.13461	0.005	0.049	0.045	470.6894	0.152
Off-Highway Tractors	2024	501	750	0.200706	0.169	1.23477	1.13006	0.005	0.048	0.044	471.9247	0.153
Off-Highway Tractors	2024	751	1000	0.22492	0.189	2.46563	1.06613	0.005	0.068	0.063	472.0545	0.153
Off-Highway Tractors	2025	51	120	0.32831	0.276	2.70745	3.66914	0.005	0.144	0.132	476.9211	0.154
Off-Highway Tractors	2025	121	175	0.208537	0.175	1.34858	3.14246	0.005	0.065	0.059	473.3021	0.153
Off-Highway Tractors	2025	176	250	0.183862	0.154	1.11624	1.13017	0.005	0.04	0.037	470.861	0.152
Off-Highway Tractors	2025	501	750	0.199094	0.167	1.11804	1.13452	0.005	0.045	0.041	471.9169	0.153
Off-Highway Tractors	2025	751	1000	0.235862	0.198	2.48203	1.07663	0.005	0.069	0.064	472.0545	0.153
Off-Highway Tractors	2030	51	120	1.683	0.518	2.959	3.944	0.006	0.175	0.175	568.299	0.046
Off-Highway Tractors	2030	121	175	1.689	0.373	1.916	3.435	0.006	0.104	0.104	568.299	0.033
Off-Highway Tractors	2030	176	250	1.423	0.315	1.715	1.286	0.006	0.064	0.064	568.299	0.028
Off-Highway Tractors	2030	501	750	5.992	0.304	1.59	1.351	0.005	0.06	0.06	568.299	0.027
Off-Highway Tractors	2030	751	1000	8.981	0.318	3.569	1.409	0.005	0.078	0.078	568.3	0.028
Off-Highway Tractors	2035	51	120	1.359	0.418	2.35	3.902	0.006	0.107	0.107	568.299	0.037
Off-Highway Tractors	2035	121	175	1.361	0.301	1.252	3.421	0.006	0.065	0.065	568.299	0.027
Off-Highway Tractors	2035	176	250	1.211	0.268	1.115	1.232	0.006	0.042	0.042	568.299	0.024
Off-Highway Tractors	2035	501	750	5.163	0.262	1.045	1.238	0.005	0.04	0.04	568.299	0.023
Off-Highway Tractors	2035	751	1000	7.617	0.269	3.116	1.268	0.005	0.056	0.056	568.299	0.024
Off-Highway Tractors	2040	51	120	1.176	0.362	1.976	3.878	0.006	0.067	0.067	568.299	0.032
Off-Highway Tractors	2040	121	175	1.162	0.257	0.836	3.412	0.006	0.041	0.041	568.299	0.023
Off-Highway Tractors	2040	176	250	1.073	0.237	0.747	1.198	0.006	0.028	0.028	568.299	0.021
Off-Highway Tractors	2040	501	750	4.612	0.234	0.71	1.164	0.005	0.027	0.027	568.299	0.021
Off-Highway Tractors	2040	751	1000	6.743	0.238	2.844	1.183	0.005	0.042	0.042	568.299	0.021
Off-Highway Trucks	1990	121	175	6.457	2.005	15.394	5.36	0.758	1.133	1.133	568.299	0.18
Off-Highway Trucks	1990	176	250	8.597	2.005	15.394	5.36	0.758	1.133	1.133	568.299	0.18
Off-Highway Trucks	1990	251	500	12.319	1.757	14.499	12.538	0.662	0.959	0.959	568.299	0.158
Off-Highway Trucks	1990	501	750	19.982	1.757	14.499	12.538	1.018	0.976	0.976	568.299	0.158
Off-Highway Trucks	1990	751	1000	28.084	1.746	14.499	12.538	1.018	0.963	0.963	568.3	0.157
Off-Highway Trucks	2000	121	175	4.115	1.278	9.57	3.772	0.057	0.548	0.548	568.299	0.115
Off-Highway Trucks	2000	176	250	4.454	1.039	9.178	2.896	0.057	0.425	0.425	568.299	0.093
Off-Highway Trucks	2000	251	500	6.594	0.94	8.675	4.214	0.05	0.376	0.376	568.299	0.084
Off-Highway Trucks	2000	501	750	10.696	0.94	8.675	4.214	0.052	0.376	0.376	568.299	0.084
Off-Highway Trucks	2000	751	1000	16.13	1.003	9.339	4.878	0.052	0.355	0.355	568.3	0.09
Off-Highway Trucks	2005	121	175	3.462	1.075	8.1	3.531	0.057	0.481	0.481	568.299	0.097
Off-Highway Trucks	2005	176	250	3.21	0.748	7.652	1.978	0.057	0.291	0.291	568.299	0.067
Off-Highway Trucks	2005	251	500	4.695	0.669	6.848	2.332	0.05	0.26	0.26	568.299	0.06
Off-Highway Trucks	2005	501	750	7.697	0.677	7.052	2.33	0.052	0.264	0.264	568.299	0.061
Off-Highway Trucks	2005	751	1000	12.436	0.773	8.177	2.812	0.052	0.266	0.266	568.299	0.069
Off-Highway Trucks	2010	121	175	0.758703	0.638	6.59182	3.51002	0.005	0.39	0.359	522.6455	0.152
Off-Highway Trucks	2010	176	250	0.657432	0.552	6.86617	2.13151	0.005	0.29	0.267	521.8781	0.152
Off-Highway Trucks	2010	251	500	0.5118	0.43	5.52051	2.32222	0.005	0.213	0.196	528.8078	0.154



Off-Highway Trucks	2010	501	750	0.633984	0.533	6.54487	3.68555	0.005	0.276	0.254	530.4366	0.154
Off-Highway Trucks	2010	751	1000	0.549873	0.462	7.15365	2.05613	0.005	0.211	0.194	526.5915	0.153
Off-Highway Trucks	2011	121	175	0.704506	0.592	6.13879	3.48667	0.005	0.357	0.328	521.3222	0.152
Off-Highway Trucks	2011	176	250	0.640546	0.538	6.53722	2.08881	0.005	0.278	0.256	520.1539	0.152
Off-Highway Trucks	2011	251	500	0.515485	0.433	5.39802	2.27798	0.005	0.21	0.193	527.2602	0.154
Off-Highway Trucks	2011	501	750	0.643792	0.541	6.51376	3.68121	0.005	0.276	0.254	529.0143	0.154
Off-Highway Trucks	2011	751	1000	0.55014	0.462	7.09609	2.03783	0.005	0.211	0.194	524.7459	0.153
Off-Highway Trucks	2012	121	175	0.704248	0.592	6.0668	3.51164	0.005	0.354	0.325	519.901	0.152
Off-Highway Trucks	2012	176	250	0.646155	0.543	6.43814	2.1013	0.005	0.277	0.255	518.7133	0.152
Off-Highway Trucks	2012	251	500	0.525914	0.442	5.37678	2.29017	0.005	0.21	0.193	525.9398	0.154
Off-Highway Trucks	2012	501	750	0.661317	0.556	6.55684	3.73128	0.005	0.28	0.258	527.6141	0.154
Off-Highway Trucks	2012	751	1000	0.55909	0.47	7.10377	2.05327	0.005	0.213	0.196	523.3305	0.153
Off-Highway Trucks	2013	121	175	0.671819	0.565	5.78297	3.51059	0.005	0.33	0.304	517.0124	0.152
Off-Highway Trucks	2013	176	250	0.623589	0.524	6.05816	2.04802	0.005	0.263	0.242	515.8273	0.152
Off-Highway Trucks	2013	251	500	0.502477	0.422	5.06239	2.17762	0.005	0.197	0.181	523.5459	0.154
Off-Highway Trucks	2013	501	750	0.645495	0.542	6.30864	3.55888	0.005	0.268	0.247	525.1075	0.154
Off-Highway Trucks	2013	751	1000	0.543085	0.456	6.89277	1.9094	0.005	0.205	0.189	520.5876	0.153
Off-Highway Trucks	2014	121	175	0.610195	0.513	5.21922	3.47308	0.005	0.292	0.269	514.0574	0.152
Off-Highway Trucks	2014	176	250	0.574728	0.483	5.4411	1.93163	0.005	0.235	0.217	512.8333	0.152
Off-Highway Trucks	2014	251	500	0.468214	0.393	4.68575	2.07518	0.005	0.18	0.165	521.0573	0.154
Off-Highway Trucks	2014	501	750	0.576983	0.485	5.57816	2.95299	0.005	0.231	0.212	521.2295	0.154
Off-Highway Trucks	2014	751	1000	0.493307	0.415	6.36534	1.77934	0.005	0.187	0.172	516.9385	0.153
Off-Highway Trucks	2015	121	175	0.604782	0.508	5.10449	3.48853	0.005	0.284	0.262	508.7011	0.152
Off-Highway Trucks	2015	176	250	0.563373	0.473	5.24228	1.89994	0.005	0.227	0.209	507.8087	0.152
Off-Highway Trucks	2015	251	500	0.457555	0.384	4.52794	2.0367	0.005	0.173	0.159	515.8419	0.154
Off-Highway Trucks	2015	501	750	0.537539	0.452	5.12427	2.61969	0.005	0.208	0.192	514.6436	0.154
Off-Highway Trucks	2015	751	1000	0.489174	0.411	6.28012	1.77206	0.005	0.185	0.17	511.1369	0.153
Off-Highway Trucks	2016	121	175	0.562854	0.473	4.64707	3.45883	0.005	0.258	0.237	503.5515	0.152
Off-Highway Trucks	2016	176	250	0.530487	0.446	4.82646	1.82377	0.005	0.208	0.191	502.4732	0.152
Off-Highway Trucks	2016	251	500	0.418147	0.351	4.04798	1.88523	0.005	0.153	0.141	509.8604	0.154
Off-Highway Trucks	2016	501	750	0.497396	0.418	4.64247	2.43646	0.005	0.187	0.172	508.3916	0.153
Off-Highway Trucks	2016	751	1000	0.467579	0.393	6.0352	1.70739	0.005	0.175	0.161	505.7218	0.153
Off-Highway Trucks	2017	121	175	0.525186	0.441	4.23649	3.43636	0.005	0.233	0.215	495.924	0.152
Off-Highway Trucks	2017	176	250	0.496493	0.417	4.36785	1.75281	0.005	0.189	0.174	494.7935	0.152
Off-Highway Trucks	2017	251	500	0.387096	0.325	3.66841	1.74773	0.005	0.136	0.125	501.4368	0.154
Off-Highway Trucks	2017	501	750	0.468516	0.394	4.25656	2.35644	0.005	0.17	0.157	500.1987	0.153
Off-Highway Trucks	2017	751	1000	0.430867	0.362	5.65254	1.54555	0.005	0.159	0.146	497.1154	0.152
Off-Highway Trucks	2018	121	175	0.456313	0.383	3.54273	3.38333	0.005	0.192	0.177	488.0439	0.152
Off-Highway Trucks	2018	176	250	0.405448	0.341	3.45071	1.54329	0.005	0.141	0.13	487.6353	0.152
Off-Highway Trucks	2018	251	500	0.341588	0.287	3.08995	1.5595	0.005	0.113	0.104	493.5059	0.154
Off-Highway Trucks	2018	501	750	0.413946	0.348	3.69054	2.17619	0.005	0.143	0.132	492.1136	0.153
Off-Highway Trucks	2018	751	1000	0.352998	0.297	4.85753	1.35734	0.005	0.126	0.116	487.7902	0.152
Off-Highway Trucks	2019	121	175	0.38382	0.323	2.82463	3.32598	0.005	0.149	0.137	480.3623	0.152
Off-Highway Trucks	2019	176	250	0.365362	0.307	2.98481	1.46079	0.005	0.119	0.109	480.1703	0.152
Off-Highway Trucks	2019	251	500	0.313575	0.263	2.66851	1.48346	0.005	0.097	0.089	485.3832	0.154
Off-Highway Trucks	2019	501	750	0.389037	0.327	3.32044	2.04129	0.005	0.129	0.118	483.2182	0.153
Off-Highway Trucks	2019	751	1000	0.351304	0.295	4.76495	1.3561	0.005	0.124	0.114	480.3479	0.152
Off-Highway Trucks	2020	121	175	0.36879	0.31	2.62769	3.3388	0.005	0.137	0.126	470.0967	0.152
Off-Highway Trucks	2020	176	250	0.327003	0.275	2.50726	1.39106	0.005	0.098	0.09	470.1675	0.152
Off-Highway Trucks	2020	251	500	0.292906	0.246	2.34677	1.41417	0.005	0.086	0.079	474.5787	0.153
Off-Highway Trucks	2020	501	750	0.371665	0.312	3.05816	2.02683	0.005	0.12	0.11	472.7499	0.153
Off-Highway Trucks	2020	751	1000	0.360605	0.303	4.79365	1.37163	0.005	0.125	0.115	469.8892	0.152
Off-Highway Trucks	2021	121	175	0.331341	0.278	2.24626	3.32405	0.005	0.113	0.104	470.2898	0.152
Off-Highway Trucks	2021	176	250	0.29675	0.249	2.10869	1.34839	0.005	0.082	0.076	470.1932	0.152
Off-Highway Trucks	2021	251	500	0.267636	0.225	1.95357	1.33781	0.005	0.072	0.066	474.542	0.153
Off-Highway Trucks	2021	501	750	0.348975	0.293	2.66798	1.93522	0.005	0.106	0.098	472.991	0.153
Off-Highway Trucks	2021	751	1000	0.304392	0.256	4.15817	1.25154	0.005	0.099	0.091	471.0552	0.152
Off-Highway Trucks	2022	121	175	0.286556	0.241	1.81091	3.28383	0.005	0.088	0.081	470.1813	0.152
Off-Highway Trucks	2022	176	250	0.255309	0.215	1.61794	1.27852	0.005	0.064	0.059	469.6151	0.152
Off-Highway Trucks	2022	251	500	0.233409	0.196	1.48975	1.24664	0.005	0.054	0.05	474.7136	0.154
Off-Highway Trucks	2022	501	750	0.313397	0.263	2.26799	1.74571	0.005	0.088	0.081	473.9773	0.153
Off-Highway Trucks	2022	751	1000	0.27833	0.234	3.84239	1.2141	0.005	0.086	0.079	472.3437	0.153
Off-Highway Trucks	2023	121	175	0.280582	0.236	1.68277	3.30432	0.005	0.081	0.074	470.2917	0.152
Off-Highway Trucks	2023	176	250	0.24623	0.207	1.45572	1.27325	0.005	0.059	0.054	469.4464	0.152
Off-Highway Trucks	2023	251	500	0.222566	0.187	1.32428	1.22057	0.005	0.048	0.044	475.0488	0.154
Off-Highway Trucks	2023	501	750	0.312722	0.263	2.18151	1.71923	0.005	0.084	0.078	473.7666	0.153
Off-Highway Trucks	2023	751	1000	0.254284	0.214	3.54374	1.19398	0.005	0.074	0.068	472.8574	0.153
Off-Highway Trucks	2024	121	175	0.266426	0.224	1.49436	3.3248	0.005	0.07	0.064	470.2638	0.152
Off-Highway Trucks	2024	176	250	0.240426	0.202	1.35543	1.25915	0.005	0.054	0.05	469.1126	0.152
Off-Highway Trucks	2024	251	500	0.219543	0.184	1.23518	1.20637	0.005	0.044	0.041	475.2203	0.154
Off-Highway Trucks	2024	501	750	0.308071	0.259	2.08486	1.64986	0.005	0.079	0.073	473.8394	0.153
Off-Highway Trucks	2024	751	1000	0.248432	0.209	3.43925	1.19994	0.005	0.069	0.064	473.0969	0.153
Off-Highway Trucks	2025	121	175	0.254265	0.214	1.3354	3.32765	0.005	0.065	0.06	470.0035	0.152
Off-Highway Trucks	2025	176	250	0.220008	0.185	1.12886	1.21268	0.005	0.043	0.04	469.1258	0.152
Off-Highway Trucks	2025	251	500	0.210955	0.177	1.06379	1.18233	0.005	0.038	0.035	474.9697	0.154
Off-Highway Trucks	2025	501	750	0.280009	0.235	1.75055	1.57807	0.005	0.066	0.061	476.314	0.154
Off-Highway Trucks	2025	751	1000	0.222695	0.187	3.13521	1.14565	0.005	0.057	0.052	473.3693	0.153
Off-Highway Trucks	2030	121	175	0.739	0.229	0.563	3.425	0.006	0.025	0.025	568.299	0.02
Off-Highway Trucks	2030	176	250	0.932	0.217	0.481	1.166	0.006	0.017	0.017	568.3	0.019
Off-Highway Trucks	2030	251	500	1.52	0.216	0.458	1.104	0.005	0.017	0.017	568.299	0.019
Off-Highway Trucks	2030	501	750	2.467	0.217	0.463	1.104	0.005	0.017	0.017	568.299	0.019
Off-Highway Trucks	2030	751	1000	3.55	0.22	2.651	1.107	0.005	0.033	0.033	568.3	0.019
Off-Highway Trucks	2035	121	175	0.68	0.211	0.38	3.425	0.006	0.016	0.016	568.299	0.019
Off-Highway Trucks	2035	176	250	0.894	0.208	0.353	1.167	0.006	0.013	0.013	568.299	0.018
Off-Highway Trucks	2035	251	500	1.461	0.208	0.348	1.105	0.005	0.013	0.013	568.299	0.018
Off-Highway Trucks	2035	501	750	2.371	0.208	0.348	1.105	0.005	0.013	0.013	568.299	0.018
Off-Highway Trucks	2035	751	1000	3.368	0.209	2.565	1.105	0.005	0.028	0.028	568.299	0.018
Off-Highway Trucks	2040	121	175	0.662	0.205	0.318	3.426	0.006	0.013	0.013	568.299	0.018
Off-Highway Trucks	2040	176	250	0.877	0.20							

Off-Highway Trucks	2040	251	500	1.434	0.204	0.305	1.105	0.005	0.012	0.012	568.299	0.018
Off-Highway Trucks	2040	501	750	2.327	0.204	0.305	1.105	0.005	0.012	0.012	568.299	0.018
Off-Highway Trucks	2040	751	1000	3.296	0.205	2.532	1.105	0.005	0.026	0.026	568.299	0.018
Other Construction Equipn	1990	6	15	5.348	1.804	9.999	4.999	1.049	0.975	0.975	568.3	0.162
Other Construction Equipn	1990	16	25	8.578	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Other Construction Equipn	1990	26	50	39.33	4.791	7.947	9.693	0.871	1.267	1.267	568.299	0.432
Other Construction Equipn	1990	51	120	56.637	2.388	15.176	5.782	0.791	1.343	1.343	568.299	0.215
Other Construction Equipn	1990	121	175	60.86	1.948	15.112	5.191	0.758	1.085	1.085	568.299	0.175
Other Construction Equipn	1990	251	500	128.26	1.72	14.332	11.412	0.662	0.927	0.927	568.299	0.155
Other Construction Equipn	2000	6	15	4.374	1.475	8.242	4.49	0.079	0.676	0.676	568.299	0.133
Other Construction Equipn	2000	16	25	7.591	1.958	6.358	4.53	0.065	0.563	0.563	568.3	0.176
Other Construction Equipn	2000	26	50	30.619	3.73	6.784	7.85	0.066	0.816	0.816	568.299	0.336
Other Construction Equipn	2000	51	120	38.817	1.636	9.507	4.283	0.06	0.786	0.786	568.3	0.147
Other Construction Equipn	2000	121	175	34.573	1.106	8.749	3.417	0.057	0.453	0.453	568.299	0.099
Other Construction Equipn	2000	251	500	61.92	0.83	8.069	3.67	0.05	0.321	0.321	568.299	0.074
Other Construction Equipn	2005	6	15	2.271	0.766	5.228	3.469	0.079	0.361	0.361	568.299	0.069
Other Construction Equipn	2005	16	25	3.564	0.919	5.412	2.642	0.065	0.347	0.347	568.3	0.082
Other Construction Equipn	2005	26	50	26.204	3.192	6.226	7.102	0.066	0.739	0.739	568.299	0.288
Other Construction Equipn	2005	51	120	33.145	1.397	8.067	4.043	0.06	0.725	0.725	568.299	0.126
Other Construction Equipn	2005	121	175	28.235	0.903	7.379	3.208	0.057	0.392	0.392	568.299	0.081
Other Construction Equipn	2005	251	500	41.035	0.55	6.334	2.051	0.05	0.22	0.22	568.299	0.049
Other Construction Equipn	2010	6	15	1.52864	1.284	5.55407	5.29076	0.005	0.497	0.457	587.5495	0.171
Other Construction Equipn	2010	16	25	1.52864	1.284	5.55407	5.29076	0.005	0.497	0.457	587.5495	0.171
Other Construction Equipn	2010	26	50	1.52864	1.284	5.55407	5.29076	0.005	0.497	0.457	587.5495	0.171
Other Construction Equipn	2010	51	120	0.92739	0.779	7.11752	3.89903	0.005	0.549	0.505	523.1661	0.152
Other Construction Equipn	2010	121	175	0.769602	0.647	7.30949	3.47406	0.005	0.38	0.349	522.1244	0.152
Other Construction Equipn	2010	251	500	0.480247	0.404	5.78616	3.20434	0.005	0.219	0.201	530.8514	0.155
Other Construction Equipn	2011	6	15	1.531741	1.287	5.5686	5.36962	0.005	0.499	0.459	586.0703	0.171
Other Construction Equipn	2011	16	25	1.531741	1.287	5.5686	5.36962	0.005	0.499	0.459	586.0703	0.171
Other Construction Equipn	2011	26	50	1.531741	1.287	5.5686	5.36962	0.005	0.499	0.459	586.0703	0.171
Other Construction Equipn	2011	51	120	0.909764	0.764	6.98332	3.89723	0.005	0.542	0.498	521.5282	0.152
Other Construction Equipn	2011	121	175	0.725704	0.61	6.92098	3.41832	0.005	0.361	0.332	520.664	0.152
Other Construction Equipn	2011	251	500	0.449646	0.378	5.42766	2.91483	0.005	0.204	0.188	529.9639	0.155
Other Construction Equipn	2012	6	15	1.548775	1.301	5.58169	5.47004	0.005	0.503	0.463	584.6639	0.171
Other Construction Equipn	2012	16	25	1.548775	1.301	5.58169	5.47004	0.005	0.503	0.463	584.6639	0.171
Other Construction Equipn	2012	26	50	1.548775	1.301	5.58169	5.47004	0.005	0.503	0.463	584.6639	0.171
Other Construction Equipn	2012	51	120	0.910724	0.765	6.95644	3.91674	0.005	0.543	0.5	519.9075	0.152
Other Construction Equipn	2012	121	175	0.730754	0.614	6.91612	3.4429	0.005	0.363	0.334	519.3479	0.152
Other Construction Equipn	2012	251	500	0.458869	0.386	5.42334	2.95715	0.005	0.206	0.189	528.6246	0.155
Other Construction Equipn	2013	6	15	1.571874	1.321	5.60361	5.57699	0.005	0.509	0.468	581.8471	0.171
Other Construction Equipn	2013	16	25	1.571874	1.321	5.60361	5.57699	0.005	0.509	0.468	581.8471	0.171
Other Construction Equipn	2013	26	50	1.571874	1.321	5.60361	5.57699	0.005	0.509	0.468	581.8471	0.171
Other Construction Equipn	2013	51	120	0.892781	0.75	6.82868	3.91866	0.005	0.532	0.489	517.5939	0.152
Other Construction Equipn	2013	121	175	0.708053	0.595	6.69102	3.41257	0.005	0.351	0.323	516.9857	0.152
Other Construction Equipn	2013	251	500	0.440093	0.37	5.14317	2.79519	0.005	0.194	0.179	525.1086	0.154
Other Construction Equipn	2014	6	15	1.547867	1.301	5.56546	5.60223	0.005	0.502	0.462	578.9591	0.171
Other Construction Equipn	2014	16	25	1.547867	1.301	5.56546	5.60223	0.005	0.502	0.462	578.9591	0.171
Other Construction Equipn	2014	26	50	1.547867	1.301	5.56546	5.60223	0.005	0.502	0.462	578.9591	0.171
Other Construction Equipn	2014	51	120	0.866935	0.728	6.63282	3.90558	0.005	0.518	0.476	515.2847	0.152
Other Construction Equipn	2014	121	175	0.674237	0.567	6.37185	3.38516	0.005	0.333	0.307	514.5518	0.152
Other Construction Equipn	2014	251	500	0.392211	0.33	4.5608	2.47571	0.005	0.168	0.155	520.9444	0.154
Other Construction Equipn	2015	6	15	1.557753	1.309	5.56397	5.68113	0.005	0.503	0.463	573.0198	0.171
Other Construction Equipn	2015	16	25	1.557753	1.309	5.56397	5.68113	0.005	0.503	0.463	573.0198	0.171
Other Construction Equipn	2015	26	50	1.557753	1.309	5.56397	5.68113	0.005	0.503	0.463	573.0198	0.171
Other Construction Equipn	2015	51	120	0.860334	0.723	6.53649	3.9159	0.005	0.512	0.471	510.1706	0.152
Other Construction Equipn	2015	121	175	0.66302	0.557	6.2305	3.38183	0.005	0.326	0.3	509.3069	0.152
Other Construction Equipn	2015	251	500	0.386006	0.324	4.41519	2.40724	0.005	0.163	0.15	515.1953	0.154
Other Construction Equipn	2016	6	15	1.524032	1.281	5.49921	5.67687	0.005	0.492	0.453	566.9782	0.171
Other Construction Equipn	2016	16	25	1.524032	1.281	5.49921	5.67687	0.005	0.492	0.453	566.9782	0.171
Other Construction Equipn	2016	26	50	1.524032	1.281	5.49921	5.67687	0.005	0.492	0.453	566.9782	0.171
Other Construction Equipn	2016	51	120	0.837049	0.703	6.32533	3.90894	0.005	0.496	0.456	505.349	0.152
Other Construction Equipn	2016	121	175	0.62413	0.524	5.81763	3.35672	0.005	0.306	0.281	503.9641	0.152
Other Construction Equipn	2016	251	500	0.366005	0.308	4.08972	2.28488	0.005	0.151	0.139	509.7062	0.154
Other Construction Equipn	2017	6	15	1.480652	1.244	5.42066	5.65509	0.005	0.477	0.439	558.0007	0.171
Other Construction Equipn	2017	16	25	1.480652	1.244	5.42066	5.65509	0.005	0.477	0.439	558.0007	0.171
Other Construction Equipn	2017	26	50	1.480652	1.244	5.42066	5.65509	0.005	0.477	0.439	558.0007	0.171
Other Construction Equipn	2017	51	120	0.804436	0.676	6.06955	3.88542	0.005	0.475	0.437	497.3832	0.152
Other Construction Equipn	2017	121	175	0.595557	0.5	5.49424	3.33767	0.005	0.29	0.267	495.9311	0.152
Other Construction Equipn	2017	251	500	0.3449	0.29	3.77706	2.12114	0.005	0.138	0.127	501.1295	0.154
Other Construction Equipn	2018	6	15	1.39068	1.169	5.27161	5.54108	0.005	0.449	0.413	548.9388	0.171
Other Construction Equipn	2018	16	25	1.39068	1.169	5.27161	5.54108	0.005	0.449	0.413	548.9388	0.171
Other Construction Equipn	2018	26	50	1.39068	1.169	5.27161	5.54108	0.005	0.449	0.413	548.9388	0.171
Other Construction Equipn	2018	51	120	0.711314	0.598	5.44123	3.79863	0.005	0.417	0.383	490.018	0.153
Other Construction Equipn	2018	121	175	0.519398	0.436	4.75499	3.26346	0.005	0.25	0.23	487.9859	0.152
Other Construction Equipn	2018	251	500	0.298599	0.251	3.16693	1.81261	0.005	0.115	0.105	493.36	0.154
Other Construction Equipn	2019	6	15	1.370834	1.152	5.20338	5.54123	0.005	0.437	0.402	539.7349	0.171
Other Construction Equipn	2019	16	25	1.370834	1.152	5.20338	5.54123	0.005	0.437	0.402	539.7349	0.171
Other Construction Equipn	2019	26	50	1.370834	1.152	5.20338	5.54123	0.005	0.437	0.402	539.7349	0.171
Other Construction Equipn	2019	51	120	0.655004	0.55	5.04831	3.7535	0.005	0.379	0.349	482.2177	0.153
Other Construction Equipn	2019	121	175	0.490382	0.412	4.4331	3.25619	0.005	0.233	0.215	480.4518	0.152
Other Construction Equipn	2019	251	500	0.277883	0.233	2.85547	1.66739	0.005	0.103	0.094	485.4127	0.154
Other Construction Equipn	2020	6	15	1.276029	1.072	5.03626	5.40446	0.005	0.405	0.373	527.9656	0.171
Other Construction Equipn	2020	16	25	1.276029	1.072	5.03626	5.40446	0.005	0.405	0.373	527.9656	0.171
Other Construction Equipn	2020	26	50	1.276029	1.072	5.03626	5.40446	0.005	0.405	0.373	527.9656	0.171
Other Construction Equipn	2020	51	120	0.617777	0.519	4.7712	3.73189	0.005	0.354	0.325	472.2162	0.153
Other Construction Equipn	2020	121	175	0.461441	0.388	4.11203	3.23528	0.005	0.217	0.2	469.9837	0.152
Other Construction Equipn	2020	251	500	0.266788	0.224	2.63672	1.6338	0.005	0.096	0.088	475.2326	0.154
Other Construction Equipn	2021	6	15	1.201423	1.01	4.90234	5.30749	0.005	0.382	0.351	527.7834	0.171
Other Construction Equipn	2021	16	25	1.201423	1.01	4.90234	5.30749	0.005	0.382	0.351	527.7834	0.171

Other Construction Equipn	2021	26	50	1.201423	1.01	4.90234	5.30749	0.005	0.382	0.351	527.7834	0.171
Other Construction Equipn	2021	51	120	0.573212	0.482	4.4558	3.70304	0.005	0.323	0.298	472.275	0.153
Other Construction Equipn	2021	121	175	0.392185	0.33	3.43847	3.18275	0.005	0.18	0.165	469.7642	0.152
Other Construction Equipn	2021	251	500	0.256006	0.215	2.42822	1.59874	0.005	0.09	0.082	475.2124	0.154
Other Construction Equipn	2022	6	15	1.094466	0.92	4.74117	5.16732	0.005	0.348	0.32	529.1825	0.171
Other Construction Equipn	2022	16	25	1.094466	0.92	4.74117	5.16732	0.005	0.348	0.32	529.1825	0.171
Other Construction Equipn	2022	26	50	1.094466	0.92	4.74117	5.16732	0.005	0.348	0.32	529.1825	0.171
Other Construction Equipn	2022	51	120	0.523663	0.44	4.09846	3.66623	0.005	0.288	0.265	472.3178	0.153
Other Construction Equipn	2022	121	175	0.351187	0.295	2.99437	3.15539	0.005	0.156	0.144	469.6126	0.152
Other Construction Equipn	2022	251	500	0.223796	0.188	1.97544	1.43828	0.005	0.074	0.068	475.9983	0.154
Other Construction Equipn	2023	6	15	1.030598	0.866	4.59446	5.07368	0.005	0.322	0.296	529.3389	0.171
Other Construction Equipn	2023	16	25	1.030598	0.866	4.59446	5.07368	0.005	0.322	0.296	529.3389	0.171
Other Construction Equipn	2023	26	50	1.030598	0.866	4.59446	5.07368	0.005	0.322	0.296	529.3389	0.171
Other Construction Equipn	2023	51	120	0.482844	0.406	3.79013	3.63188	0.005	0.259	0.238	471.9899	0.153
Other Construction Equipn	2023	121	175	0.325455	0.273	2.69821	3.14152	0.005	0.14	0.129	469.5579	0.152
Other Construction Equipn	2023	251	500	0.214667	0.18	1.81226	1.39596	0.005	0.069	0.063	476.1847	0.154
Other Construction Equipn	2024	6	15	0.984979	0.828	4.51017	5.03181	0.005	0.305	0.28	529.2094	0.171
Other Construction Equipn	2024	16	25	0.984979	0.828	4.51017	5.03181	0.005	0.305	0.28	529.2094	0.171
Other Construction Equipn	2024	26	50	0.984979	0.828	4.51017	5.03181	0.005	0.305	0.28	529.2094	0.171
Other Construction Equipn	2024	51	120	0.454266	0.382	3.58173	3.61958	0.005	0.237	0.218	472.1254	0.153
Other Construction Equipn	2024	121	175	0.310043	0.261	2.52019	3.14951	0.005	0.13	0.12	469.5445	0.152
Other Construction Equipn	2024	251	500	0.208244	0.175	1.67692	1.38248	0.005	0.064	0.059	476.4838	0.154
Other Construction Equipn	2025	6	15	0.901061	0.757	4.30575	4.87388	0.005	0.268	0.246	528.9535	0.171
Other Construction Equipn	2025	16	25	0.901061	0.757	4.30575	4.87388	0.005	0.268	0.246	528.9535	0.171
Other Construction Equipn	2025	26	50	0.901061	0.757	4.30575	4.87388	0.005	0.268	0.246	528.9535	0.171
Other Construction Equipn	2025	51	120	0.40612	0.341	3.25221	3.58397	0.005	0.203	0.187	472.7482	0.153
Other Construction Equipn	2025	121	175	0.279358	0.235	2.16742	3.13647	0.005	0.112	0.103	469.843	0.152
Other Construction Equipn	2025	251	500	0.200431	0.168	1.55241	1.3582	0.005	0.059	0.055	476.2959	0.154
Other Construction Equipn	2030	6	15	1.96	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Other Construction Equipn	2030	16	25	2.657	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Other Construction Equipn	2030	26	50	3.526	0.429	3.19	4.39	0.007	0.03	0.03	568.299	0.038
Other Construction Equipn	2030	51	120	5.348	0.225	1.576	3.538	0.006	0.027	0.027	568.3	0.02
Other Construction Equipn	2030	121	175	5.057	0.161	0.459	3.127	0.006	0.019	0.019	568.299	0.014
Other Construction Equipn	2030	251	500	11.523	0.154	0.391	1.028	0.005	0.014	0.014	568.3	0.013
Other Construction Equipn	2035	6	15	1.96	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Other Construction Equipn	2035	16	25	2.657	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Other Construction Equipn	2035	26	50	3.367	0.41	3.124	4.377	0.007	0.018	0.018	568.299	0.037
Other Construction Equipn	2035	51	120	5.057	0.213	1.474	3.536	0.006	0.017	0.017	568.299	0.019
Other Construction Equipn	2035	121	175	4.686	0.15	0.334	3.128	0.006	0.013	0.013	568.299	0.013
Other Construction Equipn	2035	251	500	11.034	0.147	0.311	1.029	0.005	0.011	0.011	568.299	0.013
Other Construction Equipn	2040	6	15	1.96	0.661	4.142	3.47	0.008	0.161	0.161	568.3	0.059
Other Construction Equipn	2040	16	25	2.657	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Other Construction Equipn	2040	26	50	3.359	0.409	3.096	4.377	0.007	0.015	0.015	568.3	0.036
Other Construction Equipn	2040	51	120	4.992	0.21	1.441	3.536	0.006	0.014	0.014	568.299	0.018
Other Construction Equipn	2040	121	175	4.556	0.145	0.29	3.128	0.006	0.011	0.011	568.299	0.013
Other Construction Equipn	2040	251	500	10.825	0.145	0.282	1.029	0.005	0.01	0.01	568.299	0.013
Other General Industrial Ec	1990	6	15	4.264	1.804	9.999	4.999	0.833	0.968	0.968	568.299	0.162
Other General Industrial Ec	1990	16	25	12.555	2.213	6.919	4.999	0.679	0.735	0.735	568.299	0.199
Other General Industrial Ec	1990	26	50	38.808	4.828	7.957	9.768	0.692	1.266	1.266	568.299	0.435
Other General Industrial Ec	1990	51	120	54.2	2.363	14.962	5.72	0.628	1.331	1.331	568.299	0.213
Other General Industrial Ec	1990	121	175	57.106	1.61	13.434	5.066	0.602	0.88	0.88	568.299	0.145
Other General Industrial Ec	1990	176	250	80.71	1.61	13.434	5.066	0.602	0.88	0.88	568.299	0.145
Other General Industrial Ec	1990	251	500	139.861	1.425	12.743	11.207	0.525	0.756	0.756	568.299	0.128
Other General Industrial Ec	1990	501	750	230.516	1.425	12.743	11.207	0.538	0.756	0.756	568.299	0.128
Other General Industrial Ec	1990	751	1000	293.256	1.417	12.743	11.207	0.538	0.746	0.746	568.299	0.127
Other General Industrial Ec	2000	6	15	2.475	1.047	7.362	4.258	0.079	0.428	0.428	568.299	0.094
Other General Industrial Ec	2000	16	25	5.83	1.027	6.284	4.322	0.064	0.431	0.431	568.299	0.092
Other General Industrial Ec	2000	26	50	36.086	4.49	7.09	9.236	0.065	0.935	0.935	568.299	0.405
Other General Industrial Ec	2000	51	120	43.196	1.883	10.664	4.733	0.059	0.91	0.91	568.299	0.169
Other General Industrial Ec	2000	121	175	44.74	1.261	9.686	3.852	0.057	0.536	0.536	568.299	0.113
Other General Industrial Ec	2000	176	250	53	1.057	9.325	3.072	0.057	0.438	0.438	568.299	0.095
Other General Industrial Ec	2000	251	500	93.834	0.956	8.862	5.179	0.049	0.385	0.385	568.299	0.086
Other General Industrial Ec	2000	501	750	154.656	0.956	8.862	5.179	0.051	0.385	0.385	568.3	0.086
Other General Industrial Ec	2000	751	1000	214.063	1.034	9.479	5.791	0.051	0.385	0.385	568.299	0.093
Other General Industrial Ec	2005	6	15	1.674	0.708	4.985	3.469	0.079	0.35	0.35	568.299	0.063
Other General Industrial Ec	2005	16	25	4.288	0.755	5.226	2.4	0.064	0.315	0.315	568.299	0.068
Other General Industrial Ec	2005	26	50	33.133	4.122	6.676	8.765	0.065	0.888	0.888	568.299	0.371
Other General Industrial Ec	2005	51	120	37.812	1.649	9.041	4.418	0.059	0.867	0.867	568.299	0.148
Other General Industrial Ec	2005	121	175	38.439	1.084	8.273	3.513	0.057	0.479	0.479	568.299	0.097
Other General Industrial Ec	2005	176	250	38.228	0.762	7.795	2.065	0.057	0.301	0.301	568.299	0.068
Other General Industrial Ec	2005	251	500	66.246	0.675	7.094	2.681	0.049	0.269	0.269	568.299	0.06
Other General Industrial Ec	2005	501	750	110.94	0.686	7.252	2.681	0.051	0.272	0.272	568.3	0.061
Other General Industrial Ec	2005	751	1000	166.893	0.806	8.322	3.276	0.051	0.28	0.28	568.299	0.072
Other General Industrial Ec	2010	6	15	1.873274	1.574	5.68505	6.00712	0.005	0.563	0.518	584.6401	0.17
Other General Industrial Ec	2010	16	25	1.873274	1.574	5.68505	6.00712	0.005	0.563	0.518	584.6401	0.17
Other General Industrial Ec	2010	26	50	1.873274	1.574	5.68505	6.00712	0.005	0.563	0.518	584.6401	0.17
Other General Industrial Ec	2010	51	120	1.01726	0.855	7.36447	4.0773	0.005	0.611	0.562	522.222	0.152
Other General Industrial Ec	2010	121	175	0.746027	0.627	7.0202	3.51505	0.005	0.379	0.349	524.278	0.153
Other General Industrial Ec	2010	176	250	0.769173	0.646	8.04899	2.61803	0.005	0.359	0.33	525.8035	0.153
Other General Industrial Ec	2010	251	500	0.489206	0.411	5.68219	2.96412	0.005	0.219	0.202	525.4767	0.153
Other General Industrial Ec	2010	501	750	0.368598	0.31	4.78207	1.62081	0.005	0.168	0.154	526.0709	0.153
Other General Industrial Ec	2010	751	1000	0.368913	0.31	6.10226	1.02418	0.005	0.148	0.136	524.505	0.153
Other General Industrial Ec	2011	6	15	1.86071	1.564	5.69446	6.08575	0.005	0.562	0.517</		

Other General Industrial Ec	2011	501	750	0.373245	0.314	4.72869	1.62791	0.005	0.163	0.15	524.7557	0.153
Other General Industrial Ec	2011	751	1000	0.37971	0.319	6.1714	1.03813	0.005	0.153	0.141	523.1938	0.153
Other General Industrial Ec	2012	6	15	1.895405	1.593	5.71254	6.24676	0.005	0.569	0.524	581.7169	0.17
Other General Industrial Ec	2012	16	25	1.895405	1.593	5.71254	6.24676	0.005	0.569	0.524	581.7169	0.17
Other General Industrial Ec	2012	26	50	1.895405	1.593	5.71254	6.24676	0.005	0.569	0.524	581.7169	0.17
Other General Industrial Ec	2012	51	120	1.008569	0.847	7.21493	4.12133	0.005	0.612	0.563	519.6109	0.152
Other General Industrial Ec	2012	121	175	0.685664	0.576	6.44491	3.49618	0.005	0.349	0.321	521.6566	0.153
Other General Industrial Ec	2012	176	250	0.675065	0.567	7.14362	2.33594	0.005	0.308	0.284	523.1745	0.153
Other General Industrial Ec	2012	251	500	0.47625	0.4	5.39821	2.75094	0.005	0.207	0.19	522.8493	0.153
Other General Industrial Ec	2012	501	750	0.379047	0.319	4.69855	1.63473	0.005	0.161	0.148	523.4405	0.153
Other General Industrial Ec	2012	751	1000	0.390508	0.328	6.24054	1.05208	0.005	0.158	0.145	521.8825	0.153
Other General Industrial Ec	2013	6	15	1.848739	1.553	5.64536	6.26146	0.005	0.556	0.511	578.7937	0.17
Other General Industrial Ec	2013	16	25	1.848739	1.553	5.64536	6.26146	0.005	0.556	0.511	578.7937	0.17
Other General Industrial Ec	2013	26	50	1.848739	1.553	5.64536	6.26146	0.005	0.556	0.511	578.7937	0.17
Other General Industrial Ec	2013	51	120	0.982208	0.825	7.03299	4.11871	0.005	0.597	0.549	516.9998	0.152
Other General Industrial Ec	2013	121	175	0.6403	0.538	6.02319	3.4592	0.005	0.324	0.298	519.0352	0.153
Other General Industrial Ec	2013	176	250	0.609561	0.512	6.51958	2.15134	0.005	0.273	0.251	520.5455	0.153
Other General Industrial Ec	2013	251	500	0.434695	0.365	4.82071	2.62159	0.005	0.183	0.168	520.2219	0.153
Other General Industrial Ec	2013	501	750	0.344704	0.29	4.12057	1.58393	0.005	0.139	0.128	520.8102	0.153
Other General Industrial Ec	2013	751	1000	0.401306	0.337	6.30968	1.06602	0.005	0.162	0.149	519.26	0.153
Other General Industrial Ec	2014	6	15	1.810128	1.521	5.58361	6.28785	0.005	0.544	0.5	575.8705	0.17
Other General Industrial Ec	2014	16	25	1.810128	1.521	5.58361	6.28785	0.005	0.544	0.5	575.8705	0.17
Other General Industrial Ec	2014	26	50	1.810128	1.521	5.58361	6.28785	0.005	0.544	0.5	575.8705	0.17
Other General Industrial Ec	2014	51	120	0.938561	0.789	6.72277	4.09005	0.005	0.574	0.528	514.3886	0.152
Other General Industrial Ec	2014	121	175	0.621882	0.523	5.79166	3.46929	0.005	0.312	0.287	516.4138	0.153
Other General Industrial Ec	2014	176	250	0.580321	0.488	6.15263	2.05376	0.005	0.255	0.234	517.9164	0.153
Other General Industrial Ec	2014	251	500	0.422239	0.355	4.56494	2.49943	0.005	0.172	0.159	517.5945	0.153
Other General Industrial Ec	2014	501	750	0.304364	0.256	3.62195	1.48882	0.005	0.115	0.106	518.1798	0.153
Other General Industrial Ec	2014	751	1000	0.412103	0.346	6.37883	1.07997	0.005	0.167	0.153	516.6375	0.153
Other General Industrial Ec	2015	6	15	1.779268	1.495	5.52435	6.32452	0.005	0.532	0.49	570.0241	0.17
Other General Industrial Ec	2015	16	25	1.779268	1.495	5.52435	6.32452	0.005	0.532	0.49	570.0241	0.17
Other General Industrial Ec	2015	26	50	1.779268	1.495	5.52435	6.32452	0.005	0.532	0.49	570.0241	0.17
Other General Industrial Ec	2015	51	120	0.905303	0.761	6.50163	4.0811	0.005	0.553	0.509	509.1664	0.152
Other General Industrial Ec	2015	121	175	0.589015	0.495	5.3974	3.45434	0.005	0.294	0.27	511.171	0.153
Other General Industrial Ec	2015	176	250	0.538134	0.452	5.64293	1.9257	0.005	0.23	0.211	512.6584	0.153
Other General Industrial Ec	2015	251	500	0.420225	0.353	4.42481	2.43603	0.005	0.167	0.154	512.3397	0.153
Other General Industrial Ec	2015	501	750	0.298831	0.251	3.36512	1.49062	0.005	0.109	0.1	512.9191	0.153
Other General Industrial Ec	2015	751	1000	0.422901	0.355	6.44797	1.09391	0.005	0.171	0.158	511.3924	0.153
Other General Industrial Ec	2016	6	15	1.690474	1.42	5.40705	6.25866	0.005	0.506	0.466	564.1777	0.17
Other General Industrial Ec	2016	16	25	1.690474	1.42	5.40705	6.25866	0.005	0.506	0.466	564.1777	0.17
Other General Industrial Ec	2016	26	50	1.690474	1.42	5.40705	6.25866	0.005	0.506	0.466	564.1777	0.17
Other General Industrial Ec	2016	51	120	0.851445	0.715	6.14411	4.04541	0.005	0.518	0.476	503.9442	0.152
Other General Industrial Ec	2016	121	175	0.559455	0.47	5.05466	3.43665	0.005	0.276	0.254	505.9282	0.153
Other General Industrial Ec	2016	176	250	0.519923	0.437	5.40733	1.8667	0.005	0.217	0.2	507.4004	0.153
Other General Industrial Ec	2016	251	500	0.407021	0.342	4.14966	2.36652	0.005	0.159	0.146	507.085	0.153
Other General Industrial Ec	2016	501	750	0.289084	0.243	3.10202	1.49061	0.005	0.1	0.092	507.6584	0.153
Other General Industrial Ec	2016	751	1000	0.288345	0.242	4.7462	1.04483	0.005	0.112	0.103	506.1474	0.153
Other General Industrial Ec	2017	6	15	1.605819	1.349	5.27694	6.17923	0.005	0.479	0.441	555.4081	0.17
Other General Industrial Ec	2017	16	25	1.605819	1.349	5.27694	6.17923	0.005	0.479	0.441	555.4081	0.17
Other General Industrial Ec	2017	26	50	1.605819	1.349	5.27694	6.17923	0.005	0.479	0.441	555.4081	0.17
Other General Industrial Ec	2017	51	120	0.785454	0.66	5.72138	3.99811	0.005	0.47	0.433	496.1109	0.152
Other General Industrial Ec	2017	121	175	0.520155	0.437	4.53359	3.39928	0.005	0.25	0.23	498.0641	0.153
Other General Industrial Ec	2017	176	250	0.489435	0.411	5.02246	1.78	0.005	0.199	0.183	499.5133	0.153
Other General Industrial Ec	2017	251	500	0.397215	0.334	3.9491	2.36453	0.005	0.152	0.14	499.2028	0.153
Other General Industrial Ec	2017	501	750	0.260833	0.219	2.59187	1.48016	0.005	0.086	0.079	499.7673	0.153
Other General Industrial Ec	2017	751	1000	0.29828	0.251	4.7865	1.05719	0.005	0.114	0.105	498.2798	0.153
Other General Industrial Ec	2018	6	15	1.373834	1.154	4.97857	5.82717	0.005	0.414	0.381	546.6385	0.17
Other General Industrial Ec	2018	16	25	1.373834	1.154	4.97857	5.82717	0.005	0.414	0.381	546.6385	0.17
Other General Industrial Ec	2018	26	50	1.373834	1.154	4.97857	5.82717	0.005	0.414	0.381	546.6385	0.17
Other General Industrial Ec	2018	51	120	0.663253	0.557	4.95455	3.87633	0.005	0.392	0.36	488.2775	0.152
Other General Industrial Ec	2018	121	175	0.377931	0.318	3.23673	3.23662	0.005	0.172	0.158	490.1999	0.153
Other General Industrial Ec	2018	176	250	0.360768	0.303	3.64819	1.45525	0.005	0.135	0.124	491.6263	0.153
Other General Industrial Ec	2018	251	500	0.301755	0.254	2.90735	1.58301	0.005	0.104	0.095	491.3207	0.153
Other General Industrial Ec	2018	501	750	0.257602	0.216	2.41933	1.48303	0.005	0.083	0.076	491.8763	0.153
Other General Industrial Ec	2018	751	1000	0.306245	0.257	4.81007	1.06646	0.005	0.116	0.107	490.4122	0.153
Other General Industrial Ec	2019	6	15	1.240314	1.042	4.80683	5.66186	0.005	0.374	0.344	537.8689	0.17
Other General Industrial Ec	2019	16	25	1.240314	1.042	4.80683	5.66186	0.005	0.374	0.344	537.8689	0.17
Other General Industrial Ec	2019	26	50	1.240314	1.042	4.80683	5.66186	0.005	0.374	0.344	537.8689	0.17
Other General Industrial Ec	2019	51	120	0.594634	0.5	4.49674	3.82128	0.005	0.343	0.315	480.4442	0.152
Other General Industrial Ec	2019	121	175	0.359068	0.302	2.99891	3.24129	0.005	0.156	0.144	482.3357	0.153
Other General Industrial Ec	2019	176	250	0.307665	0.259	3.01996	1.29893	0.005	0.106	0.097	483.7392	0.153
Other General Industrial Ec	2019	251	500	0.283854	0.239	2.57531	1.56115	0.005	0.092	0.085	483.4385	0.153
Other General Industrial Ec	2019	501	750	0.236758	0.199	2.11518	1.47441	0.005	0.076	0.07	483.9852	0.153
Other General Industrial Ec	2019	751	1000	0.31421	0.264	4.83364	1.07573	0.005	0.117	0.108	482.5446	0.153
Other General Industrial Ec	2020	6	15	1.125869	0.946	4.62219	5.50397	0.005	0.334	0.307	526.1761	0.17
Other General Industrial Ec	2020	16	25	1.125869	0.946	4.62219	5.50397	0.005	0.334	0.307	526.1761	0.17
Other General Industrial Ec	2020	26	50	1.125869	0.946	4.62219	5.50397	0.005	0.334	0.307	526.1761	0.17
Other General Industrial Ec	2020	51	120	0.53075	0.446	4.06079	3.77073	0.005	0.296	0.272	469.9998	0.152
Other General Industrial Ec	2020	121	175	0.319281	0.268	2.57503	3.22922	0.005	0.135	0.124	471.8502	0.153
Other General Industrial Ec	2020	176	250	0.281815	0.237	2.66782	1.23914	0.005	0.09	0.083	473.2231	0.153
Other General Industrial Ec	2020	251	500	0.247036	0.208	2.06187	1.34424	0.005	0.072	0.067	472.929	0.153
Other General Industrial Ec	2020	501	750	0.207847	0.175	1.67591	1.46184	0.005	0.062	0.057	473.4638	0.153
Other General Industrial Ec	2020	751	1000	0.322174	0.271	4.85721	1.085	0.005	0.119	0.109	472.0545	0.153
Other General Industrial Ec	2021	6	15	0.989462	0.831	4.42532	5.31354	0.005	0.289	0.266	526.1761	0.17
Other General Industrial Ec	2021	16	25	0.989462	0.831	4.42532	5.31354	0.005	0.289	0.266	526.1761	0.17
Other General Industrial Ec	2021	26	50	0.989462	0.831	4.42532	5.31354	0.005	0.289	0.266	526.1761	0.17
Other General Industrial Ec	2021	51	120	0.480398	0.404	3.7177	3.74029	0.005	0.256	0.235	469.9998	0.152
Other General Industrial Ec	2021	121	175	0.302394	0.254	2.34745	3.23421	0.005	0.121	0.111	471.8502	0.153
Other General Industrial Ec	2021	176	250	0.242448	0.204	2.0939	1.17138	0.005	0.07	0.064	473.2231	0.153

Other General Industrial Ec	2021	251	500	0.232592	0.195	1.79624	1.32956	0.005	0.064	0.059	472.929	0.153
Other General Industrial Ec	2021	501	750	0.197551	0.166	1.38672	1.46305	0.005	0.054	0.05	473.4638	0.153
Other General Industrial Ec	2021	751	1000	0.328625	0.276	4.87557	1.09291	0.005	0.12	0.11	472.0545	0.153
Other General Industrial Ec	2022	6	15	0.835231	0.702	4.19687	5.07591	0.005	0.238	0.219	526.1761	0.17
Other General Industrial Ec	2022	16	25	0.835231	0.702	4.19687	5.07591	0.005	0.238	0.219	526.1761	0.17
Other General Industrial Ec	2022	26	50	0.835231	0.702	4.19687	5.07591	0.005	0.238	0.219	526.1761	0.17
Other General Industrial Ec	2022	51	120	0.403101	0.339	3.19968	3.66821	0.005	0.199	0.183	469.9998	0.152
Other General Industrial Ec	2022	121	175	0.289798	0.244	2.14959	3.23346	0.005	0.111	0.102	471.8502	0.153
Other General Industrial Ec	2022	176	250	0.222216	0.187	1.75874	1.13752	0.005	0.057	0.052	473.2231	0.153
Other General Industrial Ec	2022	251	500	0.208015	0.175	1.43348	1.17139	0.005	0.05	0.046	472.929	0.153
Other General Industrial Ec	2022	501	750	0.177285	0.149	1.06247	1.45658	0.005	0.046	0.042	473.4638	0.153
Other General Industrial Ec	2022	751	1000	0.223076	0.187	3.942	1.03925	0.005	0.079	0.073	472.0545	0.153
Other General Industrial Ec	2023	6	15	0.717857	0.603	3.99304	4.88317	0.005	0.194	0.178	526.1761	0.17
Other General Industrial Ec	2023	16	25	0.717857	0.603	3.99304	4.88317	0.005	0.194	0.178	526.1761	0.17
Other General Industrial Ec	2023	26	50	0.717857	0.603	3.99304	4.88317	0.005	0.194	0.178	526.1761	0.17
Other General Industrial Ec	2023	51	120	0.366077	0.308	2.92394	3.64703	0.005	0.168	0.155	469.9998	0.152
Other General Industrial Ec	2023	121	175	0.238568	0.2	1.60937	3.17453	0.005	0.08	0.074	471.8502	0.153
Other General Industrial Ec	2023	176	250	0.214876	0.181	1.53043	1.14024	0.005	0.051	0.047	473.2231	0.153
Other General Industrial Ec	2023	251	500	0.195172	0.164	1.25618	1.12057	0.005	0.043	0.04	472.929	0.153
Other General Industrial Ec	2023	501	750	0.131565	0.111	0.62571	1.10458	0.005	0.023	0.021	473.4638	0.153
Other General Industrial Ec	2023	751	1000	0.229255	0.193	3.95649	1.04852	0.005	0.08	0.073	472.0545	0.153
Other General Industrial Ec	2024	6	15	0.649743	0.546	3.85892	4.78022	0.005	0.165	0.152	526.1761	0.17
Other General Industrial Ec	2024	16	25	0.649743	0.546	3.85892	4.78022	0.005	0.165	0.152	526.1761	0.17
Other General Industrial Ec	2024	26	50	0.649743	0.546	3.85892	4.78022	0.005	0.165	0.152	526.1761	0.17
Other General Industrial Ec	2024	51	120	0.341745	0.287	2.70778	3.63929	0.005	0.146	0.134	469.9998	0.152
Other General Industrial Ec	2024	121	175	0.226791	0.191	1.44774	3.18534	0.005	0.073	0.067	471.8502	0.153
Other General Industrial Ec	2024	176	250	0.205547	0.173	1.31888	1.14124	0.005	0.046	0.042	473.2231	0.153
Other General Industrial Ec	2024	251	500	0.187509	0.158	1.15288	1.1102	0.005	0.04	0.036	472.929	0.153
Other General Industrial Ec	2024	501	750	0.137014	0.115	0.62782	1.11228	0.005	0.023	0.021	473.4638	0.153
Other General Industrial Ec	2024	751	1000	0.235434	0.198	3.97098	1.05779	0.005	0.08	0.074	472.0545	0.153
Other General Industrial Ec	2025	6	15	0.585572	0.492	3.71721	4.67981	0.005	0.136	0.125	526.1761	0.17
Other General Industrial Ec	2025	16	25	0.585572	0.492	3.71721	4.67981	0.005	0.136	0.125	526.1761	0.17
Other General Industrial Ec	2025	26	50	0.585572	0.492	3.71721	4.67981	0.005	0.136	0.125	526.1761	0.17
Other General Industrial Ec	2025	51	120	0.306396	0.257	2.43889	3.61204	0.005	0.118	0.109	469.9998	0.152
Other General Industrial Ec	2025	121	175	0.224974	0.189	1.36379	3.20434	0.005	0.07	0.065	471.8502	0.153
Other General Industrial Ec	2025	176	250	0.184121	0.155	1.02801	1.13176	0.005	0.036	0.033	473.2231	0.153
Other General Industrial Ec	2025	251	500	0.180295	0.151	1.05334	1.10932	0.005	0.035	0.032	472.929	0.153
Other General Industrial Ec	2025	501	750	0.139282	0.117	0.629	1.1152	0.005	0.023	0.021	473.4638	0.153
Other General Industrial Ec	2025	751	1000	0.241613	0.203	3.98546	1.06706	0.005	0.081	0.074	472.0545	0.153
Other General Industrial Ec	2030	6	15	1.393	0.589	4.142	3.469	0.008	0.161	0.161	568.299	0.053
Other General Industrial Ec	2030	16	25	3.889	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Other General Industrial Ec	2030	26	50	4.896	0.609	3.46	5.299	0.007	0.048	0.048	568.299	0.054
Other General Industrial Ec	2030	51	120	7.091	0.309	1.766	3.802	0.006	0.043	0.043	568.299	0.027
Other General Industrial Ec	2030	121	175	7.93	0.223	0.641	3.357	0.006	0.028	0.028	568.299	0.02
Other General Industrial Ec	2030	176	250	10.485	0.209	0.536	1.143	0.006	0.018	0.018	568.299	0.018
Other General Industrial Ec	2030	251	500	20.447	0.208	0.506	1.087	0.005	0.018	0.018	568.299	0.018
Other General Industrial Ec	2030	501	750	33.725	0.208	0.512	1.087	0.005	0.018	0.018	568.299	0.018
Other General Industrial Ec	2030	751	1000	44.002	0.212	2.66	1.088	0.005	0.035	0.035	568.299	0.019
Other General Industrial Ec	2035	6	15	1.393	0.589	4.142	3.469	0.008	0.161	0.161	568.299	0.053
Other General Industrial Ec	2035	16	25	3.889	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Other General Industrial Ec	2035	26	50	4.535	0.564	3.334	5.255	0.007	0.025	0.025	568.299	0.05
Other General Industrial Ec	2035	51	120	6.486	0.282	1.567	3.794	0.006	0.022	0.022	568.3	0.025
Other General Industrial Ec	2035	121	175	7.079	0.199	0.399	3.355	0.006	0.016	0.016	568.3	0.018
Other General Industrial Ec	2035	176	250	9.803	0.195	0.355	1.143	0.006	0.013	0.013	568.299	0.017
Other General Industrial Ec	2035	251	500	19.187	0.195	0.351	1.087	0.005	0.013	0.013	568.299	0.017
Other General Industrial Ec	2035	501	750	31.624	0.195	0.351	1.087	0.005	0.013	0.013	568.299	0.017
Other General Industrial Ec	2035	751	1000	40.723	0.196	2.532	1.087	0.005	0.028	0.028	568.299	0.017
Other General Industrial Ec	2040	6	15	1.393	0.589	4.142	3.47	0.008	0.161	0.161	568.299	0.053
Other General Industrial Ec	2040	16	25	3.889	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Other General Industrial Ec	2040	26	50	4.521	0.562	3.283	5.257	0.007	0.019	0.019	568.299	0.05
Other General Industrial Ec	2040	51	120	6.373	0.277	1.506	3.794	0.006	0.017	0.017	568.299	0.025
Other General Industrial Ec	2040	121	175	6.806	0.191	0.315	3.356	0.006	0.012	0.012	568.299	0.017
Other General Industrial Ec	2040	176	250	9.551	0.19	0.299	1.143	0.006	0.011	0.011	568.299	0.017
Other General Industrial Ec	2040	251	500	18.696	0.19	0.299	1.087	0.005	0.011	0.011	568.299	0.017
Other General Industrial Ec	2040	501	750	30.815	0.19	0.299	1.087	0.005	0.011	0.011	568.299	0.017
Other General Industrial Ec	2040	751	1000	39.521	0.191	2.5	1.087	0.005	0.025	0.025	568.299	0.017
Other Material Handling Ec	1990	26	50	12.278	4.763	7.932	9.649	0.692	1.252	1.252	568.3	0.429
Other Material Handling Ec	1990	51	120	12.096	2.346	14.896	5.692	0.628	1.317	1.317	568.299	0.211
Other Material Handling Ec	1990	121	175	16.59	1.599	13.377	5.041	0.602	0.872	0.872	568.299	0.144
Other Material Handling Ec	1990	176	250	19.708	1.599	13.377	5.041	0.602	0.872	0.872	568.3	0.144
Other Material Handling Ec	1990	251	500	23.083	1.417	12.702	11.046	0.525	0.75	0.75	568.299	0.127
Other Material Handling Ec	1990	1001	9999	88.844	1.41	12.702	11.046	0.525	0.741	0.741	568.3	0.127
Other Material Handling Ec	2000	26	50	11.414	4.428	7.068	9.121	0.065	0.925	0.925	568.299	0.399
Other Material Handling Ec	2000	51	120	9.647	1.871	10.623	4.712	0.059	0.901	0.901	568.299	0.168
Other Material Handling Ec	2000	121	175	13	1.253	9.648	3.836	0.057	0.531	0.531	568.299	0.113
Other Material Handling Ec	2000	176	250	12.957	1.051	9.289	3.061	0.057	0.435	0.435	568.3	0.094
Other Material Handling Ec	2000	251	500	15.5	0.951	8.836	5.171	0.049	0.383	0.383	568.299	0.085
Other Material Handling Ec	2000	1001	9999	65.006	1.031	9.45	5.779	0.049	0.384	0.384	568.299	0.093
Other Material Handling Ec	2005	26	50	10.467	4.06	6.65	8.646	0.065	0.878	0.878	568.299	0.366
Other Material Handling Ec	2005	51	120	8.426	1.634	9.001	4.393	0.059	0.857	0.857	568.3	0.147
Other Material Handling Ec	2005	121	175	11.141	1.073	8.235	3.493	0.057	0.473	0.473	568.299	0.096
Other Material Handling Ec	2005	176	250	9.335	0.757	7.76	2.058	0.057	0.299	0.299	568.299	0.068
Other Material Handling Ec	2005	251	500	10.914	0.67	7.071	2.676	0.049	0.268	0.268	568.299	0.06
Other Material Handling Ec	2005	1001	9999	50.601	0.803	8.291	3.267	0.049	0.278	0.278	568.299	0.072
Other Material Handling Ec	2010	26	50	2.513226	2.112	6.11921	7.14242	0.005	0.673	0.619	581.8987	0.169
Other Material Handling Ec	2010	51	120	0.880333	0.74	6.86036	3.91836	0.005	0.55	0.506	526.2094	0.153
Other Material Handling Ec	2010	121	175	0.703937	0.592	6.62945	3.45939	0.005	0.364	0.335	524.6881	0.153
Other Material Handling Ec	2010	176	250	0.639111	0.537	7.05748	2.2178	0.005	0.292	0.269	523.8689	0.152
Other Material Handling Ec	2010	251	500	0.474577	0.399	5.53948	2.89546	0.005	0.225	0.207	522.5525	0.152

Other Material Handling Ec	2010	1001	9999	0.19342	0.163	4.31467	0.96514	0.005	0.1	0.092	524.505	0.153
Other Material Handling Ec	2011	26	50	2.357707	1.981	6.0264	6.95209	0.005	0.644	0.593	580.4439	0.169
Other Material Handling Ec	2011	51	120	0.835489	0.702	6.54765	3.89742	0.005	0.527	0.485	524.8938	0.153
Other Material Handling Ec	2011	121	175	0.695125	0.584	6.48588	3.45599	0.005	0.36	0.331	523.3764	0.153
Other Material Handling Ec	2011	176	250	0.63663	0.535	6.98965	2.18416	0.005	0.288	0.265	522.5592	0.152
Other Material Handling Ec	2011	251	500	0.474482	0.399	5.43165	2.78574	0.005	0.221	0.203	521.2461	0.152
Other Material Handling Ec	2011	1001	9999	0.210247	0.177	4.35542	0.97804	0.005	0.103	0.095	523.1938	0.153
Other Material Handling Ec	2012	26	50	2.238738	1.881	5.92499	6.81597	0.005	0.62	0.57	578.9892	0.169
Other Material Handling Ec	2012	51	120	0.817068	0.687	6.36758	3.90414	0.005	0.516	0.475	523.5783	0.153
Other Material Handling Ec	2012	121	175	0.692769	0.582	6.40913	3.47827	0.005	0.357	0.328	522.0647	0.153
Other Material Handling Ec	2012	176	250	0.646463	0.543	7.02565	2.19514	0.005	0.29	0.267	521.2496	0.152
Other Material Handling Ec	2012	251	500	0.470349	0.395	5.30246	2.61135	0.005	0.214	0.197	519.9397	0.152
Other Material Handling Ec	2012	1001	9999	0.227073	0.191	4.39617	0.99094	0.005	0.106	0.098	521.8825	0.153
Other Material Handling Ec	2013	26	50	2.105942	1.77	5.85572	6.66457	0.005	0.596	0.548	576.0797	0.169
Other Material Handling Ec	2013	51	120	0.724086	0.608	5.76277	3.82317	0.005	0.447	0.411	520.9473	0.153
Other Material Handling Ec	2013	121	175	0.665996	0.56	6.15356	3.43613	0.005	0.333	0.306	519.4412	0.153
Other Material Handling Ec	2013	176	250	0.634565	0.533	6.82184	2.16882	0.005	0.281	0.259	518.6302	0.152
Other Material Handling Ec	2013	251	500	0.438071	0.368	4.87099	2.33558	0.005	0.195	0.179	517.327	0.152
Other Material Handling Ec	2013	1001	9999	0.2439	0.205	4.43692	1.00384	0.005	0.11	0.101	519.26	0.153
Other Material Handling Ec	2014	26	50	2.017454	1.695	5.75119	6.58988	0.005	0.575	0.529	573.1702	0.169
Other Material Handling Ec	2014	51	120	0.66398	0.558	5.37202	3.77914	0.005	0.412	0.379	518.3162	0.153
Other Material Handling Ec	2014	121	175	0.628738	0.528	5.79759	3.43064	0.005	0.313	0.288	516.8178	0.153
Other Material Handling Ec	2014	176	250	0.565441	0.475	6.17254	1.93605	0.005	0.242	0.223	516.0109	0.152
Other Material Handling Ec	2014	251	500	0.394393	0.331	4.35658	1.92674	0.005	0.169	0.155	514.7142	0.152
Other Material Handling Ec	2014	1001	9999	0.168044	0.141	3.4363	0.97804	0.005	0.066	0.061	516.6375	0.153
Other Material Handling Ec	2015	26	50	2.062891	1.733	5.7994	6.75642	0.005	0.586	0.539	567.3512	0.169
Other Material Handling Ec	2015	51	120	0.628094	0.528	4.98312	3.75787	0.005	0.383	0.352	513.0541	0.153
Other Material Handling Ec	2015	121	175	0.624881	0.525	5.6445	3.43301	0.005	0.306	0.282	511.5709	0.153
Other Material Handling Ec	2015	176	250	0.503855	0.423	5.5323	1.74236	0.005	0.207	0.191	510.7722	0.152
Other Material Handling Ec	2015	251	500	0.396328	0.333	4.27243	1.91761	0.005	0.166	0.152	509.4887	0.152
Other Material Handling Ec	2015	1001	9999	0.1762	0.148	3.45753	0.98449	0.005	0.068	0.063	511.3924	0.153
Other Material Handling Ec	2016	26	50	2.100647	1.765	5.80157	6.89161	0.005	0.593	0.546	561.5322	0.169
Other Material Handling Ec	2016	51	120	0.611519	0.514	4.79843	3.76606	0.005	0.367	0.338	507.792	0.153
Other Material Handling Ec	2016	121	175	0.581687	0.489	5.21152	3.41823	0.005	0.279	0.257	506.324	0.153
Other Material Handling Ec	2016	176	250	0.474176	0.398	5.19629	1.64277	0.005	0.189	0.174	505.5335	0.152
Other Material Handling Ec	2016	251	500	0.384009	0.323	4.05322	1.87077	0.005	0.156	0.143	504.2631	0.152
Other Material Handling Ec	2016	1001	9999	0.188654	0.159	3.48884	0.99739	0.005	0.07	0.065	506.1474	0.153
Other Material Handling Ec	2017	26	50	1.922269	1.615	5.57447	6.63527	0.005	0.546	0.502	552.8037	0.169
Other Material Handling Ec	2017	51	120	0.580499	0.488	4.56113	3.75788	0.005	0.341	0.314	499.8989	0.153
Other Material Handling Ec	2017	121	175	0.508007	0.427	4.48809	3.35117	0.005	0.238	0.219	498.4537	0.153
Other Material Handling Ec	2017	176	250	0.42771	0.359	4.70454	1.51249	0.005	0.163	0.15	497.6755	0.152
Other Material Handling Ec	2017	251	500	0.386945	0.325	3.9709	1.86256	0.005	0.154	0.141	496.4249	0.152
Other Material Handling Ec	2017	1001	9999	0.201109	0.169	3.52015	1.01029	0.005	0.072	0.066	498.2798	0.153
Other Material Handling Ec	2018	26	50	1.534491	1.289	5.18225	6.06083	0.005	0.457	0.42	544.0753	0.169
Other Material Handling Ec	2018	51	120	0.484553	0.407	3.9436	3.67482	0.005	0.271	0.249	492.0058	0.153
Other Material Handling Ec	2018	121	175	0.38852	0.326	3.33231	3.21803	0.005	0.173	0.159	490.5834	0.153
Other Material Handling Ec	2018	176	250	0.376195	0.316	4.09187	1.3884	0.005	0.135	0.124	489.8174	0.152
Other Material Handling Ec	2018	251	500	0.352182	0.296	3.52439	1.63271	0.005	0.133	0.123	488.5866	0.152
Other Material Handling Ec	2018	1001	9999	0.213564	0.179	3.55146	1.02319	0.005	0.074	0.068	490.4122	0.153
Other Material Handling Ec	2019	26	50	1.5177	1.275	5.17904	6.13945	0.005	0.452	0.416	535.3468	0.169
Other Material Handling Ec	2019	51	120	0.428699	0.36	3.56573	3.63634	0.005	0.231	0.212	484.1126	0.153
Other Material Handling Ec	2019	121	175	0.332757	0.28	2.77369	3.1852	0.005	0.139	0.128	482.7131	0.153
Other Material Handling Ec	2019	176	250	0.357063	0.3	3.81716	1.34052	0.005	0.123	0.113	481.9594	0.152
Other Material Handling Ec	2019	251	500	0.346245	0.291	3.37078	1.61951	0.005	0.128	0.118	480.7483	0.152
Other Material Handling Ec	2019	1001	9999	0.226018	0.19	3.58277	1.03609	0.005	0.076	0.07	482.5446	0.153
Other Material Handling Ec	2020	26	50	1.481858	1.245	5.13925	6.1671	0.005	0.439	0.404	523.7088	0.169
Other Material Handling Ec	2020	51	120	0.36479	0.307	3.10396	3.58938	0.005	0.182	0.168	473.5884	0.153
Other Material Handling Ec	2020	121	175	0.299922	0.252	2.36653	3.17089	0.005	0.118	0.109	472.2193	0.153
Other Material Handling Ec	2020	176	250	0.346024	0.291	3.59889	1.31882	0.005	0.115	0.106	471.482	0.152
Other Material Handling Ec	2020	251	500	0.336187	0.282	3.20974	1.52346	0.005	0.12	0.11	470.2972	0.152
Other Material Handling Ec	2020	1001	9999	0.238473	0.2	3.61407	1.04898	0.005	0.078	0.072	472.0545	0.153
Other Material Handling Ec	2021	26	50	1.318509	1.108	4.96638	5.95956	0.005	0.396	0.364	523.7088	0.169
Other Material Handling Ec	2021	51	120	0.349969	0.294	2.95622	3.60203	0.005	0.166	0.152	473.5884	0.153
Other Material Handling Ec	2021	121	175	0.296084	0.249	2.24633	3.19638	0.005	0.114	0.105	472.2193	0.153
Other Material Handling Ec	2021	176	250	0.32063	0.269	3.08193	1.30911	0.005	0.102	0.094	471.482	0.152
Other Material Handling Ec	2021	251	500	0.302407	0.254	2.60166	1.44188	0.005	0.101	0.093	470.2972	0.152
Other Material Handling Ec	2021	1001	9999	0.086228	0.072	2.3179	0.97159	0.005	0.019	0.018	472.0545	0.153
Other Material Handling Ec	2022	26	50	1.313129	1.103	4.92048	5.98386	0.005	0.385	0.354	523.7088	0.169
Other Material Handling Ec	2022	51	120	0.294157	0.247	2.56673	3.55673	0.005	0.121	0.111	473.5884	0.153
Other Material Handling Ec	2022	121	175	0.268495	0.226	1.89383	3.17607	0.005	0.103	0.095	472.2193	0.153
Other Material Handling Ec	2022	176	250	0.272302	0.229	2.42542	1.23917	0.005	0.083	0.076	471.482	0.152
Other Material Handling Ec	2022	251	500	0.269417	0.226	2.06254	1.34592	0.005	0.083	0.077	470.2972	0.152
Other Material Handling Ec	2022	1001	9999	0.090526	0.076	2.32798	0.97804	0.005	0.02	0.018	472.0545	0.153
Other Material Handling Ec	2023	26	50	1.203044	1.011	4.68435	5.75727	0.005	0.34	0.313	523.7088	0.169
Other Material Handling Ec	2023	51	120	0.267491	0.225	2.29768	3.51535	0.005	0.104	0.095	473.5884	0.153
Other Material Handling Ec	2023	121	175	0.25813	0.217	1.76898	3.17066	0.005	0.096	0.088	472.2193	0.153
Other Material Handling Ec	2023	176	250	0.246291	0.207	2.00366	1.20917	0.005	0.069	0.064	471.482	0.152
Other Material Handling Ec	2023	251	500	0.258837	0.217	1.87023	1.34382	0.005	0.078	0.072	470.2972	0.152
Other Material Handling Ec	2023	1001	9999	0.064735	0.054	2.26751	0.93935	0.005	0.018	0.017	472.0545	0.153
Other Material Handling Ec	2024	26	50	1.121754	0.943	4.5789	5.6693	0.005	0.314	0.289	523.7088	0.169
Other Material Handling Ec	2024	51	120	0.262084	0.22	2.22162	3.51036	0.005	0.096	0.089	473.5884	0.153
Other Material Handling Ec	2024	121	175	0.247908	0.208	1.63864	3.18111	0.005	0.088	0.081	472.2193	0.153
Other Material Handling Ec	2024	176	250	0.250036	0.21	1.98559	1.21822	0.005	0.068	0.063	471.482	0.152
Other Material Handling Ec	2024	251	500	0.252116	0.212	1.75588	1.26223	0.005	0.072	0.066	470.2972	0.152
Other Material Handling Ec	2024	1001	9999	0.069034	0.058	2.27759	0.9458	0.005	0.018	0.017	472.0545	0.153
Other Material Handling Ec	2025	26	50	0.88573	0.744	4.23278	5.24797	0.005	0.239	0.219	523.7088	0.169
Other Material Handling Ec	2025	51	120	0.241784	0.203	2.05524	3.49652	0.005	0.081	0.074	473.5884	0.153
Other Material Handling Ec	2025	121	175	0.225132	0.189	1.39583	3.1679	0.005	0.072	0.067	472.2193	0.153
Other Material Handling Ec	2025	176	250	0.237677	0.2	1.77352	1.19728	0.005	0.06</			

Other Material Handling Ec	2025	251	500	0.242568	0.204	1.60116	1.25988	0.005	0.067	0.061	470.2972	0.152
Other Material Handling Ec	2025	1001	9999	0.077631	0.065	2.29775	0.9587	0.005	0.019	0.017	472.0545	0.153
Other Material Handling Ec	2030	26	50	1.542	0.598	3.447	5.237	0.007	0.048	0.048	568.299	0.053
Other Material Handling Ec	2030	51	120	1.57	0.304	1.762	3.784	0.006	0.043	0.043	568.299	0.027
Other Material Handling Ec	2030	121	175	2.287	0.22	0.64	3.341	0.006	0.028	0.028	568.299	0.019
Other Material Handling Ec	2030	176	250	2.539	0.206	0.535	1.138	0.006	0.018	0.018	568.299	0.018
Other Material Handling Ec	2030	251	500	3.342	0.205	0.505	1.083	0.005	0.018	0.018	568.299	0.018
Other Material Handling Ec	2030	1001	9999	13.763	0.218	2.653	1.084	0.005	0.035	0.035	568.299	0.019
Other Material Handling Ec	2035	26	50	1.425	0.552	3.321	5.189	0.007	0.025	0.025	568.299	0.049
Other Material Handling Ec	2035	51	120	1.432	0.277	1.563	3.774	0.006	0.022	0.022	568.299	0.025
Other Material Handling Ec	2035	121	175	2.036	0.196	0.398	3.338	0.006	0.016	0.016	568.299	0.017
Other Material Handling Ec	2035	176	250	2.369	0.192	0.354	1.137	0.006	0.013	0.013	568.299	0.017
Other Material Handling Ec	2035	251	500	3.13	0.192	0.35	1.082	0.005	0.013	0.013	568.299	0.017
Other Material Handling Ec	2035	1001	9999	12.454	0.197	2.525	1.082	0.005	0.027	0.027	568.299	0.017
Other Material Handling Ec	2040	26	50	1.42	0.551	3.269	5.191	0.007	0.018	0.018	568.299	0.049
Other Material Handling Ec	2040	51	120	1.407	0.272	1.502	3.775	0.006	0.017	0.017	568.3	0.024
Other Material Handling Ec	2040	121	175	1.956	0.188	0.314	3.339	0.006	0.012	0.012	568.299	0.017
Other Material Handling Ec	2040	176	250	2.307	0.187	0.298	1.137	0.006	0.011	0.011	568.299	0.016
Other Material Handling Ec	2040	251	500	3.048	0.187	0.298	1.082	0.005	0.011	0.011	568.299	0.016
Other Material Handling Ec	2040	1001	9999	11.917	0.189	2.493	1.082	0.005	0.025	0.025	568.3	0.017
Pavers	1990	16	25	5.971	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Pavers	1990	26	50	19.405	4.794	7.946	9.701	0.871	1.268	1.268	568.299	0.432
Pavers	1990	51	120	23.749	2.373	15.062	5.748	0.791	1.339	1.339	568.299	0.214
Pavers	1990	121	175	33.808	1.822	14.503	5.135	0.758	1.01	1.01	568.3	0.164
Pavers	1990	176	250	51.225	1.822	14.503	5.135	0.758	1.01	1.01	568.299	0.164
Pavers	1990	251	500	54.32	1.61	13.755	11.305	0.662	0.864	0.864	568.3	0.145
Pavers	2000	16	25	5.517	2.044	6.391	4.689	0.065	0.569	0.569	568.299	0.184
Pavers	2000	26	50	18.072	4.464	7.116	9.175	0.066	0.93	0.93	568.299	0.402
Pavers	2000	51	120	19.415	1.94	11.121	4.853	0.06	0.916	0.916	568.299	0.175
Pavers	2000	121	175	24.566	1.324	10.172	4.022	0.057	0.558	0.558	568.299	0.119
Pavers	2000	176	250	33.03	1.175	9.909	3.443	0.057	0.488	0.488	568.299	0.106
Pavers	2000	251	500	35.713	1.058	9.422	6.242	0.05	0.426	0.426	568.299	0.095
Pavers	2005	16	25	3.746	1.388	5.819	3.497	0.065	0.444	0.444	568.299	0.125
Pavers	2005	26	50	16.699	4.125	6.746	8.722	0.066	0.883	0.883	568.299	0.372
Pavers	2005	51	120	17.345	1.733	9.797	4.584	0.06	0.869	0.869	568.299	0.156
Pavers	2005	121	175	21.287	1.147	8.921	3.731	0.057	0.5	0.5	568.299	0.103
Pavers	2005	176	250	26.087	0.928	8.591	2.661	0.057	0.382	0.382	568.299	0.083
Pavers	2005	251	500	27.622	0.818	7.91	4.283	0.05	0.335	0.335	568.299	0.073
Pavers	2010	16	25	2.244446	1.886	5.97127	6.22261	0.005	0.619	0.569	585.4019	0.17
Pavers	2010	26	50	2.244446	1.886	5.97127	6.22261	0.005	0.619	0.569	585.4019	0.17
Pavers	2010	51	120	0.922393	0.775	7.01944	3.82417	0.005	0.54	0.497	521.2606	0.152
Pavers	2010	121	175	0.693583	0.583	6.66867	3.10662	0.005	0.337	0.31	525.3233	0.153
Pavers	2010	176	250	0.236627	0.199	4.38018	1.01703	0.005	0.111	0.102	526.8527	0.153
Pavers	2010	251	500	0.240458	0.202	3.56944	1.1256	0.005	0.123	0.113	517.8758	0.151
Pavers	2011	16	25	2.255759	1.895	5.97418	6.28822	0.005	0.621	0.571	583.8947	0.17
Pavers	2011	26	50	2.255759	1.895	5.97418	6.28822	0.005	0.621	0.571	583.8947	0.17
Pavers	2011	51	120	0.882284	0.741	6.70468	3.7912	0.005	0.521	0.479	519.7431	0.152
Pavers	2011	121	175	0.67473	0.567	6.45159	3.11177	0.005	0.327	0.301	524.0864	0.153
Pavers	2011	176	250	0.244703	0.206	4.38871	1.02596	0.005	0.112	0.103	525.5251	0.153
Pavers	2011	251	500	0.249329	0.21	3.58498	1.13249	0.005	0.125	0.115	516.5811	0.151
Pavers	2012	16	25	2.286702	1.921	5.86068	6.36408	0.005	0.609	0.56	582.5825	0.17
Pavers	2012	26	50	2.286702	1.921	5.86068	6.36408	0.005	0.609	0.56	582.5825	0.17
Pavers	2012	51	120	0.886577	0.745	6.67323	3.81157	0.005	0.523	0.481	518.3581	0.152
Pavers	2012	121	175	0.677654	0.569	6.44162	3.13178	0.005	0.329	0.303	522.8325	0.153
Pavers	2012	176	250	0.2532	0.213	4.41317	1.035	0.005	0.114	0.105	524.2222	0.153
Pavers	2012	251	500	0.257974	0.217	3.59993	1.13914	0.005	0.127	0.117	515.2863	0.151
Pavers	2013	16	25	2.27571	1.912	5.84153	6.39148	0.005	0.605	0.557	580.2093	0.171
Pavers	2013	26	50	2.27571	1.912	5.84153	6.39148	0.005	0.605	0.557	580.2093	0.171
Pavers	2013	51	120	0.845721	0.711	6.43604	3.79289	0.005	0.501	0.461	516.6013	0.152
Pavers	2013	121	175	0.630117	0.529	6.05919	3.11657	0.005	0.304	0.28	519.6823	0.153
Pavers	2013	176	250	0.245733	0.206	4.23038	1.01743	0.005	0.106	0.098	521.5314	0.153
Pavers	2013	251	500	0.242925	0.204	3.39449	1.08604	0.005	0.118	0.108	514.2313	0.151
Pavers	2014	16	25	2.258865	1.898	5.71682	6.3806	0.005	0.595	0.547	577.016	0.171
Pavers	2014	26	50	2.258865	1.898	5.71682	6.3806	0.005	0.595	0.547	577.016	0.171
Pavers	2014	51	120	0.81298	0.683	6.19872	3.77256	0.005	0.483	0.444	514.3769	0.152
Pavers	2014	121	175	0.597911	0.502	5.73631	3.1146	0.005	0.287	0.264	516.745	0.153
Pavers	2014	176	250	0.247393	0.208	4.14032	1.02279	0.005	0.105	0.097	518.7225	0.153
Pavers	2014	251	500	0.214341	0.18	3.04734	1.00469	0.005	0.101	0.093	512.1908	0.151
Pavers	2015	16	25	2.205076	1.853	5.63731	6.34019	0.005	0.579	0.533	571.0859	0.17
Pavers	2015	26	50	2.205076	1.853	5.63731	6.34019	0.005	0.579	0.533	571.0859	0.17
Pavers	2015	51	120	0.809163	0.68	6.14096	3.78832	0.005	0.479	0.441	509.3767	0.152
Pavers	2015	121	175	0.582419	0.489	5.53669	3.11546	0.005	0.277	0.255	511.6457	0.153
Pavers	2015	176	250	0.254974	0.214	4.16051	1.03121	0.005	0.107	0.098	513.4682	0.153
Pavers	2015	251	500	0.209561	0.176	2.91741	0.97787	0.005	0.097	0.089	506.0973	0.151
Pavers	2016	16	25	2.174792	1.827	5.57882	6.33993	0.005	0.569	0.523	565.2336	0.17
Pavers	2016	26	50	2.174792	1.827	5.57882	6.33993	0.005	0.569	0.523	565.2336	0.17
Pavers	2016	51	120	0.773362	0.65	5.88646	3.76854	0.005	0.457	0.42	503.7795	0.152
Pavers	2016	121	175	0.515586	0.433	4.87397	3.08023	0.005	0.242	0.223	506.5401	0.153
Pavers	2016	176	250	0.254126	0.214	4.02384	1.03591	0.005	0.104	0.096	508.0698	0.153
Pavers	2016	251	500	0.214564	0.18	2.88492	0.9829	0.005	0.096	0.089	500.9364	0.151
Pavers	2017	16	25	2.059621	1.731	5.43675	6.19932	0.005	0.54	0.496	556.4528	0.17
Pavers	2017	26	50	2.059621	1.731	5.43675	6.19932	0.005	0.54	0.496	556.4528	0.17
Pavers	2017	51	120	0.744072	0.625	5.69243	3.75882	0.005	0.437	0.402	495.9253	0.152
Pavers	2017	121	175	0.462819	0.389	4.35312	3.06282	0.005	0.214	0.197	498.967	0.153
Pavers	2017	176	250	0.247933	0.208	3.80866	1.03652	0.005	0.1	0.092	499.5617	0.153
Pavers	2017	251	500	0.199578	0.168	2.48674	0.97942	0.005	0.087	0.08	491.7843	0.151
Pavers	2018	16	25	1.831035	1.539	5.12103	5.8493	0.005	0.478	0.44	547.0785	0.17
Pavers	2018	26	50	1.831035	1.539	5.12103	5.8493	0.005	0.478	0.44	547.0785	0.17
Pavers	2018	51	120	0.637446	0.536	5.01936	3.66032	0.005	0.375	0.345	488.1812	0.152

Pavers	2018	121	175	0.403099	0.339	3.7472	3.03913	0.005	0.183	0.168	491.322	0.153
Pavers	2018	176	250	0.235833	0.198	3.47438	1.03446	0.005	0.092	0.085	491.543	0.153
Pavers	2018	251	500	0.195547	0.164	2.32002	0.98125	0.005	0.083	0.076	484.2774	0.151
Pavers	2019	16	25	1.687019	1.418	4.91634	5.65687	0.005	0.436	0.401	538.3246	0.17
Pavers	2019	26	50	1.687019	1.418	4.91634	5.65687	0.005	0.436	0.401	538.3246	0.17
Pavers	2019	51	120	0.589904	0.496	4.67048	3.62215	0.005	0.345	0.318	480.2509	0.152
Pavers	2019	121	175	0.355588	0.299	3.24473	3.01323	0.005	0.159	0.146	483.3938	0.153
Pavers	2019	176	250	0.222293	0.187	3.11084	1.03181	0.005	0.084	0.077	483.5743	0.153
Pavers	2019	251	500	0.198123	0.166	2.26992	0.98586	0.005	0.081	0.075	476.9707	0.151
Pavers	2020	16	25	1.568718	1.318	4.76401	5.52345	0.005	0.402	0.37	526.2098	0.17
Pavers	2020	26	50	1.568718	1.318	4.76401	5.52345	0.005	0.402	0.37	526.2098	0.17
Pavers	2020	51	120	0.558949	0.47	4.42718	3.60405	0.005	0.325	0.299	469.8815	0.152
Pavers	2020	121	175	0.324615	0.273	2.91833	3.0097	0.005	0.142	0.131	472.7746	0.153
Pavers	2020	176	250	0.209036	0.176	2.77699	1.02834	0.005	0.076	0.07	472.8337	0.153
Pavers	2020	251	500	0.195949	0.165	2.13394	0.98677	0.005	0.077	0.071	466.2059	0.151
Pavers	2021	16	25	1.43708	1.208	4.60183	5.30162	0.005	0.37	0.34	526.5153	0.17
Pavers	2021	26	50	1.43708	1.208	4.60183	5.30162	0.005	0.37	0.34	526.5153	0.17
Pavers	2021	51	120	0.499355	0.42	4.02622	3.56251	0.005	0.285	0.262	469.7736	0.152
Pavers	2021	121	175	0.304315	0.256	2.6948	3.01647	0.005	0.13	0.12	472.5552	0.153
Pavers	2021	176	250	0.196899	0.165	2.4844	1.02422	0.005	0.07	0.064	472.4765	0.153
Pavers	2021	251	500	0.195105	0.164	2.05298	0.9877	0.005	0.074	0.068	465.5908	0.151
Pavers	2022	16	25	1.299052	1.092	4.42092	5.11433	0.005	0.33	0.303	526.8963	0.17
Pavers	2022	26	50	1.299052	1.092	4.42092	5.11433	0.005	0.33	0.303	526.8963	0.17
Pavers	2022	51	120	0.443951	0.373	3.65932	3.52511	0.005	0.248	0.228	470.1854	0.152
Pavers	2022	121	175	0.255688	0.215	2.17958	2.99478	0.005	0.104	0.095	472.7599	0.153
Pavers	2022	176	250	0.167123	0.14	1.89985	1.01231	0.005	0.055	0.05	472.3718	0.153
Pavers	2022	251	500	0.178545	0.15	1.81028	0.98238	0.005	0.063	0.058	466.0042	0.151
Pavers	2023	16	25	1.198318	1.007	4.28484	5.00667	0.005	0.299	0.275	526.8595	0.17
Pavers	2023	26	50	1.198318	1.007	4.28484	5.00667	0.005	0.299	0.275	526.8595	0.17
Pavers	2023	51	120	0.415607	0.349	3.42661	3.50733	0.005	0.226	0.208	470.0839	0.152
Pavers	2023	121	175	0.237199	0.199	1.95517	2.99398	0.005	0.092	0.085	472.7178	0.153
Pavers	2023	176	250	0.154288	0.13	1.6106	1.01018	0.005	0.047	0.043	472.6051	0.153
Pavers	2023	251	500	0.18061	0.152	1.77101	0.98653	0.005	0.062	0.057	466.0038	0.151
Pavers	2024	16	25	1.130978	0.95	4.20308	4.95625	0.005	0.279	0.257	526.8565	0.17
Pavers	2024	26	50	1.130978	0.95	4.20308	4.95625	0.005	0.279	0.257	526.8565	0.17
Pavers	2024	51	120	0.40131	0.337	3.2771	3.50784	0.005	0.213	0.196	470.2262	0.152
Pavers	2024	121	175	0.226916	0.191	1.80882	3.0042	0.005	0.084	0.078	472.6605	0.153
Pavers	2024	176	250	0.141914	0.119	1.34323	1.00872	0.005	0.041	0.038	473.2362	0.153
Pavers	2024	251	500	0.169789	0.143	1.54798	0.98624	0.005	0.054	0.049	467.1711	0.151
Pavers	2025	16	25	1.092933	0.918	4.13112	4.94451	0.005	0.265	0.243	526.8533	0.17
Pavers	2025	26	50	1.092933	0.918	4.13112	4.94451	0.005	0.265	0.243	526.8533	0.17
Pavers	2025	51	120	0.373474	0.314	3.06788	3.49286	0.005	0.19	0.175	469.8988	0.152
Pavers	2025	121	175	0.214799	0.18	1.64396	3.0071	0.005	0.077	0.071	472.485	0.153
Pavers	2025	176	250	0.127304	0.107	1.03493	1.00414	0.005	0.034	0.031	473.4832	0.153
Pavers	2025	251	500	0.136633	0.115	1.13351	0.96892	0.005	0.039	0.036	465.8824	0.151
Pavers	2030	16	25	1.849	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Pavers	2030	26	50	3.42	0.845	3.841	5.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	51	120	4.084	0.408	2.468	3.8	0.006	0.121	0.121	568.3	0.036
Pavers	2030	121	175	5.577	0.3	1.425	3.326	0.006	0.074	0.074	568.299	0.027
Pavers	2030	176	250	7.306	0.259	1.246	1.192	0.006	0.045	0.045	568.299	0.023
Pavers	2030	251	500	8.558	0.253	1.141	1.181	0.005	0.043	0.043	568.299	0.022
Pavers	2035	16	25	1.849	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Pavers	2035	26	50	2.812	0.694	3.555	5.26	0.007	0.076	0.076	568.299	0.062
Pavers	2035	51	120	3.386	0.338	1.986	3.774	0.006	0.069	0.069	568.299	0.03
Pavers	2035	121	175	4.543	0.244	0.889	3.319	0.006	0.043	0.043	568.299	0.022
Pavers	2035	176	250	6.219	0.221	0.772	1.157	0.006	0.027	0.027	568.3	0.019
Pavers	2035	251	500	7.364	0.218	0.722	1.111	0.005	0.026	0.026	568.299	0.019
Pavers	2040	16	25	1.849	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Pavers	2040	26	50	2.504	0.618	3.393	5.189	0.007	0.047	0.047	568.299	0.055
Pavers	2040	51	120	3.03	0.302	1.731	3.763	0.006	0.043	0.043	568.299	0.027
Pavers	2040	121	175	3.958	0.213	0.583	3.319	0.006	0.027	0.027	568.299	0.019
Pavers	2040	176	250	5.625	0.2	0.525	1.138	0.006	0.018	0.018	568.299	0.018
Pavers	2040	251	500	6.703	0.198	0.498	1.085	0.005	0.018	0.018	568.299	0.017
Paving Equipment	1990	16	25	5.257	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Paving Equipment	1990	26	50	21.788	4.84	7.965	9.783	0.871	1.277	1.277	568.299	0.436
Paving Equipment	1990	51	120	24.593	2.398	15.202	5.796	0.791	1.352	1.352	568.299	0.216
Paving Equipment	1990	121	175	35.738	1.88	14.821	5.196	0.758	1.044	1.044	568.3	0.169
Paving Equipment	1990	176	250	43.262	1.88	14.821	5.196	0.758	1.044	1.044	568.299	0.169
Paving Equipment	2000	16	25	4.652	1.958	6.358	4.53	0.065	0.563	0.563	568.299	0.176
Paving Equipment	2000	26	50	19.86	4.412	7.101	9.076	0.066	0.921	0.921	568.299	0.398
Paving Equipment	2000	51	120	19.826	1.933	11.122	4.844	0.06	0.909	0.909	568.299	0.174
Paving Equipment	2000	121	175	25.015	1.316	10.15	4.018	0.057	0.553	0.553	568.299	0.118
Paving Equipment	2000	176	250	26.974	1.172	9.895	3.458	0.057	0.486	0.486	568.299	0.105
Paving Equipment	2005	16	25	2.184	0.919	5.412	2.642	0.065	0.347	0.347	568.299	0.082
Paving Equipment	2005	26	50	18.352	4.077	6.73	8.626	0.066	0.875	0.875	568.299	0.367
Paving Equipment	2005	51	120	17.633	1.719	9.754	4.557	0.06	0.86	0.86	568.299	0.155
Paving Equipment	2005	121	175	21.589	1.135	8.873	3.705	0.057	0.494	0.494	568.299	0.102
Paving Equipment	2005	176	250	21.201	0.921	8.548	2.655	0.057	0.38	0.38	568.299	0.083
Paving Equipment	2010	16	25	1.378997	1.159	5.35696	4.92203	0.005	0.47	0.433	578.6236	0.168
Paving Equipment	2010	26	50	1.378997	1.159	5.35696	4.92203	0.005	0.47	0.433	578.6236	0.168
Paving Equipment	2010	51	120	0.934999	0.786	7.23593	3.90118	0.005	0.553	0.508	526.5834	0.153
Paving Equipment	2010	121	175	0.573407	0.482	6.09511	3.13688	0.005	0.295	0.271	523.4127	0.152
Paving Equipment	2010	176	250	0.486641	0.409	6.03614	1.69744	0.005	0.224	0.206	524.3728	0.153
Paving Equipment	2011	16	25	1.380687	1.16	5.36974	4.99687	0.005	0.472	0.434	577.1303	0.168
Paving Equipment	2011	26	50	1.380687	1.16	5.36974	4.99687	0.005	0.472	0.434	577.1303	0.168
Paving Equipment	2011	51	120	0.895349	0.752	6.99544	3.87125	0.005	0.536	0.493	524.9269	0.153
Paving Equipment	2011	121	175	0.56507	0.475	5.97526	3.14337	0.005	0.29	0.267	522.1549	0.152
Paving Equipment	2011	176	250	0.466258	0.392	5.77978	1.64572	0.005	0.213	0.196	523.0323	0.153
Paving Equipment	2012	16	25	1.384947	1.164	5.34363	5.06516	0.005	0.47	0.432	575.687	0.168



Paving Equipment	2012	26	50	1.384947	1.164	5.34363	5.06516	0.005	0.47	0.432	575.687	0.168
Paving Equipment	2012	51	120	0.910401	0.765	7.04165	3.90635	0.005	0.546	0.503	523.5886	0.153
Paving Equipment	2012	121	175	0.56544	0.475	5.9326	3.15801	0.005	0.29	0.267	520.7286	0.152
Paving Equipment	2012	176	250	0.474854	0.399	5.81292	1.657	0.005	0.215	0.198	521.7154	0.153
Paving Equipment	2013	16	25	1.327494	1.115	5.2986	5.02677	0.005	0.459	0.422	572.4644	0.168
Paving Equipment	2013	26	50	1.327494	1.115	5.2986	5.02677	0.005	0.459	0.422	572.4644	0.168
Paving Equipment	2013	51	120	0.845445	0.71	6.6576	3.86369	0.005	0.507	0.467	520.6724	0.153
Paving Equipment	2013	121	175	0.532035	0.447	5.60344	3.1205	0.005	0.271	0.249	517.6606	0.152
Paving Equipment	2013	176	250	0.40741	0.342	5.25206	1.48037	0.005	0.18	0.166	519.5215	0.153
Paving Equipment	2014	16	25	1.253528	1.053	5.18385	4.95215	0.005	0.437	0.402	569.4822	0.168
Paving Equipment	2014	26	50	1.253528	1.053	5.18385	4.95215	0.005	0.437	0.402	569.4822	0.168
Paving Equipment	2014	51	120	0.805438	0.677	6.36952	3.83664	0.005	0.486	0.447	518.0756	0.153
Paving Equipment	2014	121	175	0.494038	0.415	5.21567	3.09686	0.005	0.249	0.229	515.0343	0.152
Paving Equipment	2014	176	250	0.369032	0.31	4.78232	1.37011	0.005	0.158	0.146	516.8998	0.153
Paving Equipment	2015	16	25	1.166929	0.981	5.02757	4.86895	0.005	0.407	0.374	563.5534	0.168
Paving Equipment	2015	26	50	1.166929	0.981	5.02757	4.86895	0.005	0.407	0.374	563.5534	0.168
Paving Equipment	2015	51	120	0.786628	0.661	6.14454	3.83329	0.005	0.471	0.433	513.1672	0.153
Paving Equipment	2015	121	175	0.48887	0.411	4.96561	3.10403	0.005	0.242	0.223	509.8942	0.152
Paving Equipment	2015	176	250	0.374849	0.315	4.77176	1.37947	0.005	0.159	0.146	511.6544	0.153
Paving Equipment	2016	16	25	1.178909	0.991	4.98487	4.93662	0.005	0.403	0.371	557.7058	0.168
Paving Equipment	2016	26	50	1.178909	0.991	4.98487	4.93662	0.005	0.403	0.371	557.7058	0.168
Paving Equipment	2016	51	120	0.741701	0.623	5.7333	3.79639	0.005	0.438	0.403	507.9102	0.153
Paving Equipment	2016	121	175	0.442497	0.372	4.3217	3.08114	0.005	0.214	0.197	504.8201	0.152
Paving Equipment	2016	176	250	0.353542	0.297	4.42821	1.33145	0.005	0.148	0.136	506.1965	0.153
Paving Equipment	2017	16	25	1.102141	0.926	4.72756	4.80403	0.005	0.359	0.33	548.6481	0.168
Paving Equipment	2017	26	50	1.102141	0.926	4.72756	4.80403	0.005	0.359	0.33	548.6481	0.168
Paving Equipment	2017	51	120	0.670017	0.563	5.20745	3.74146	0.005	0.391	0.359	500.1649	0.153
Paving Equipment	2017	121	175	0.407568	0.342	3.89633	3.07321	0.005	0.195	0.179	497.148	0.152
Paving Equipment	2017	176	250	0.342633	0.288	4.12109	1.333	0.005	0.141	0.13	498.7323	0.153
Paving Equipment	2018	16	25	0.877571	0.737	4.31244	4.41578	0.005	0.286	0.263	540.6115	0.168
Paving Equipment	2018	26	50	0.877571	0.737	4.31244	4.41578	0.005	0.286	0.263	540.6115	0.168
Paving Equipment	2018	51	120	0.534861	0.449	4.27034	3.60743	0.005	0.302	0.278	492.1184	0.153
Paving Equipment	2018	121	175	0.337615	0.284	3.17208	3.02602	0.005	0.155	0.143	489.2024	0.152
Paving Equipment	2018	176	250	0.307374	0.258	3.58656	1.28117	0.005	0.123	0.113	490.6833	0.153
Paving Equipment	2019	16	25	0.838543	0.705	4.23779	4.40798	0.005	0.27	0.248	531.8612	0.168
Paving Equipment	2019	26	50	0.838543	0.705	4.23779	4.40798	0.005	0.27	0.248	531.8612	0.168
Paving Equipment	2019	51	120	0.50594	0.425	4.04152	3.59849	0.005	0.281	0.258	484.387	0.153
Paving Equipment	2019	121	175	0.302373	0.254	2.6924	3.0109	0.005	0.134	0.123	481.2251	0.152
Paving Equipment	2019	176	250	0.286526	0.241	3.25106	1.24449	0.005	0.112	0.103	482.6441	0.153
Paving Equipment	2020	16	25	0.73951	0.621	3.9519	4.22322	0.005	0.217	0.2	520.1235	0.168
Paving Equipment	2020	26	50	0.73951	0.621	3.9519	4.22322	0.005	0.217	0.2	520.1235	0.168
Paving Equipment	2020	51	120	0.472907	0.397	3.78064	3.58172	0.005	0.256	0.235	473.3249	0.153
Paving Equipment	2020	121	175	0.294586	0.248	2.55498	3.02393	0.005	0.128	0.118	470.7359	0.152
Paving Equipment	2020	176	250	0.289784	0.243	3.2202	1.25215	0.005	0.111	0.102	472.1514	0.153
Paving Equipment	2021	16	25	0.698022	0.587	3.88226	4.21072	0.005	0.2	0.184	520.3965	0.168
Paving Equipment	2021	26	50	0.698022	0.587	3.88226	4.21072	0.005	0.2	0.184	520.3965	0.168
Paving Equipment	2021	51	120	0.422572	0.355	3.45065	3.5537	0.005	0.219	0.201	473.2205	0.153
Paving Equipment	2021	121	175	0.272687	0.229	2.31505	3.03229	0.005	0.114	0.105	470.6495	0.152
Paving Equipment	2021	176	250	0.250607	0.211	2.58202	1.20904	0.005	0.092	0.085	472.151	0.153
Paving Equipment	2022	16	25	0.68013	0.571	3.83611	4.24448	0.005	0.188	0.173	520.6594	0.168
Paving Equipment	2022	26	50	0.68013	0.571	3.83611	4.24448	0.005	0.188	0.173	520.6594	0.168
Paving Equipment	2022	51	120	0.351718	0.296	2.99968	3.50075	0.005	0.171	0.157	473.4475	0.153
Paving Equipment	2022	121	175	0.253077	0.213	2.07331	3.03777	0.005	0.101	0.093	470.6646	0.152
Paving Equipment	2022	176	250	0.232653	0.195	2.22813	1.20363	0.005	0.083	0.076	472.169	0.153
Paving Equipment	2023	16	25	0.644074	0.541	3.77446	4.24108	0.005	0.173	0.159	521.1138	0.169
Paving Equipment	2023	26	50	0.644074	0.541	3.77446	4.24108	0.005	0.173	0.159	521.1138	0.169
Paving Equipment	2023	51	120	0.331302	0.278	2.83717	3.50331	0.005	0.152	0.14	473.427	0.153
Paving Equipment	2023	121	175	0.242414	0.204	1.91255	3.05059	0.005	0.093	0.086	470.663	0.152
Paving Equipment	2023	176	250	0.208228	0.175	1.88495	1.16523	0.005	0.07	0.065	472.169	0.153
Paving Equipment	2024	16	25	0.622364	0.523	3.74329	4.27468	0.005	0.164	0.151	521.0575	0.169
Paving Equipment	2024	26	50	0.622364	0.523	3.74329	4.27468	0.005	0.164	0.151	521.0575	0.169
Paving Equipment	2024	51	120	0.311995	0.262	2.67309	3.50288	0.005	0.135	0.125	473.1748	0.153
Paving Equipment	2024	121	175	0.233948	0.197	1.78512	3.06623	0.005	0.086	0.079	470.6614	0.152
Paving Equipment	2024	176	250	0.164733	0.138	1.29567	1.11417	0.005	0.048	0.044	472.2124	0.153
Paving Equipment	2025	16	25	0.566694	0.476	3.62672	4.20347	0.005	0.141	0.13	520.9975	0.169
Paving Equipment	2025	26	50	0.566694	0.476	3.62672	4.20347	0.005	0.141	0.13	520.9975	0.169
Paving Equipment	2025	51	120	0.287394	0.241	2.49628	3.48256	0.005	0.118	0.108	473.4239	0.153
Paving Equipment	2025	121	175	0.208465	0.175	1.509	3.03837	0.005	0.075	0.069	470.4844	0.152
Paving Equipment	2025	176	250	0.158556	0.133	1.10952	1.11653	0.005	0.043	0.04	472.2341	0.153
Paving Equipment	2030	16	25	1.628	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Paving Equipment	2030	26	50	3.613	0.802	3.809	5.309	0.007	0.126	0.126	568.299	0.072
Paving Equipment	2030	51	120	4.007	0.39	2.393	3.774	0.006	0.114	0.114	568.3	0.035
Paving Equipment	2030	121	175	5.525	0.29	1.363	3.306	0.006	0.07	0.07	568.299	0.026
Paving Equipment	2030	176	250	5.771	0.25	1.176	1.171	0.006	0.042	0.042	568.299	0.022
Paving Equipment	2035	16	25	1.628	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Paving Equipment	2035	26	50	2.991	0.664	3.511	5.181	0.007	0.07	0.07	568.3	0.059
Paving Equipment	2035	51	120	3.343	0.326	1.928	3.753	0.006	0.064	0.064	568.299	0.029
Paving Equipment	2035	121	175	4.485	0.235	0.832	3.303	0.006	0.04	0.04	568.299	0.021
Paving Equipment	2035	176	250	4.886	0.212	0.714	1.14	0.006	0.024	0.024	568.299	0.019
Paving Equipment	2040	16	25	1.628	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Paving Equipment	2040	26	50	2.651	0.589	3.361	5.111	0.007	0.042	0.042	568.3	0.053
Paving Equipment	2040	51	120	2.989	0.291	1.687	3.744	0.006	0.039	0.039	568.299	0.026
Paving Equipment	2040	121	175	3.901	0.205	0.536	3.304	0.006	0.025	0.025	568.299	0.018
Paving Equipment	2040	176	250	4.452	0.193	0.485	1.127	0.006	0.017	0.017	568.299	0.017
Plate Compactors	1990	6	15	2.156	1.804	9.999	4.999	1.049	0.975	0.975	568.299	0.162
Plate Compactors	2000	6	15	1.852	1.55	8.519	4.606	0.079	0.708	0.708	568.299	0.139
Plate Compactors	2005	6	15	0.955	0.799	5.435	3.503	0.079	0.377	0.377	568.299	0.072
Plate Compactors	2010	6	15	0.794	0.664	4.178	3.469	0.008	0.198	0.198	568.299	0.059
Plate Compactors	2011	6	15	0.791	0.662	4.15	3.469	0.008	0.172	0.172	568.299	0.059

Plate Compactors	2012	6	15	0.79	0.661	4.142	3.469	0.008	0.165	0.165	568.3	0.059
Plate Compactors	2013	6	15	0.79	0.661	4.142	3.469	0.008	0.162	0.162	568.3	0.059
Plate Compactors	2014	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2015	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2016	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2017	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2018	6	15	0.79	0.661	4.142	3.47	0.008	0.161	0.161	568.3	0.059
Plate Compactors	2019	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2020	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2021	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2022	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2023	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2024	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2025	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2030	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2035	6	15	0.79	0.661	4.142	3.47	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2040	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Pressure Washers	1990	6	15	4.972	1.804	9.999	4.999	1.018	0.974	0.974	568.299	0.162
Pressure Washers	1990	16	25	8.915	2.213	6.92	5	0.83	0.74	0.74	568.3	0.199
Pressure Washers	1990	26	50	20.959	2.601	7.129	5.721	0.846	0.821	0.821	568.299	0.234
Pressure Washers	1990	51	120	23.659	1.743	12.634	4.735	0.768	0.874	0.874	568.299	0.157
Pressure Washers	1990	121	175	82.001	1.272	11.763	4.353	1.123	0.649	0.649	568.299	0.114
Pressure Washers	1990	176	250	77.237	0.953	9.035	3.084	1.077	0.476	0.476	568.299	0.086
Pressure Washers	2000	6	15	4.186	1.518	8.846	4.875	0.079	0.613	0.613	568.299	0.137
Pressure Washers	2000	16	25	6.717	1.667	6.405	4.783	0.065	0.51	0.51	568.299	0.15
Pressure Washers	2000	26	50	19.934	2.474	6.381	5.524	0.066	0.615	0.615	568.3	0.223
Pressure Washers	2000	51	120	19.23	1.417	9.062	3.967	0.06	0.613	0.613	568.3	0.127
Pressure Washers	2000	121	175	66.055	1.024	8.685	3.38	0.059	0.399	0.399	568.299	0.092
Pressure Washers	2000	176	250	35.508	0.438	6.315	1.005	0.058	0.143	0.143	568.299	0.039
Pressure Washers	2005	6	15	3.341	1.212	7.615	4.38	0.079	0.505	0.505	568.3	0.109
Pressure Washers	2005	16	25	5.048	1.253	6.014	3.922	0.065	0.432	0.432	568.299	0.113
Pressure Washers	2005	26	50	17.362	2.154	5.932	5.075	0.066	0.566	0.566	568.299	0.194
Pressure Washers	2005	51	120	16.424	1.21	7.651	3.682	0.06	0.566	0.566	568.299	0.109
Pressure Washers	2005	121	175	55.65	0.863	7.441	3.072	0.059	0.349	0.349	568.299	0.077
Pressure Washers	2005	176	250	21.871	0.27	4.822	0.986	0.058	0.111	0.111	568.299	0.024
Pressure Washers	2010	6	15	2.628	0.953	6.387	4.027	0.008	0.38	0.38	568.299	0.086
Pressure Washers	2010	16	25	3.872	0.961	5.477	3.309	0.007	0.342	0.342	568.299	0.086
Pressure Washers	2010	26	50	13.073	1.622	5.501	4.517	0.007	0.453	0.453	568.299	0.146
Pressure Washers	2010	51	120	12.296	0.906	6.273	3.503	0.006	0.451	0.451	568.299	0.081
Pressure Washers	2010	121	175	41.062	0.637	5.773	2.967	0.006	0.275	0.275	568.299	0.057
Pressure Washers	2010	176	250	16.502	0.203	2.5	0.986	0.006	0.1	0.1	568.299	0.018
Pressure Washers	2011	6	15	2.504	0.908	6.134	3.952	0.008	0.358	0.358	568.299	0.081
Pressure Washers	2011	16	25	3.706	0.92	5.36	3.179	0.007	0.325	0.325	568.299	0.083
Pressure Washers	2011	26	50	12.056	1.496	5.405	4.382	0.007	0.428	0.428	568.299	0.135
Pressure Washers	2011	51	120	11.392	0.839	5.939	3.468	0.006	0.43	0.43	568.299	0.075
Pressure Washers	2011	121	175	38.303	0.594	5.441	2.953	0.006	0.263	0.263	568.299	0.053
Pressure Washers	2011	176	250	15.247	0.188	2.086	0.986	0.006	0.072	0.072	568.299	0.016
Pressure Washers	2012	6	15	2.385	0.865	5.874	3.874	0.008	0.338	0.338	568.299	0.078
Pressure Washers	2012	16	25	3.564	0.884	5.239	3.043	0.007	0.307	0.307	568.299	0.079
Pressure Washers	2012	26	50	10.983	1.363	5.306	4.238	0.007	0.402	0.402	568.299	0.123
Pressure Washers	2012	51	120	10.457	0.77	5.578	3.433	0.006	0.4	0.4	568.299	0.069
Pressure Washers	2012	121	175	35.56	0.551	5.109	2.941	0.006	0.244	0.244	568.299	0.049
Pressure Washers	2012	176	250	13.887	0.171	1.749	0.986	0.006	0.046	0.046	568.299	0.015
Pressure Washers	2013	6	15	2.27	0.823	5.616	3.796	0.008	0.318	0.318	568.299	0.074
Pressure Washers	2013	16	25	3.431	0.851	5.117	2.907	0.007	0.289	0.289	568.299	0.076
Pressure Washers	2013	26	50	9.897	1.228	5.086	4.092	0.007	0.367	0.367	568.299	0.11
Pressure Washers	2013	51	120	9.523	0.701	5.226	3.399	0.006	0.366	0.366	568.299	0.063
Pressure Washers	2013	121	175	32.885	0.51	4.803	2.931	0.006	0.225	0.225	568.299	0.046
Pressure Washers	2013	176	250	12.508	0.154	1.468	0.986	0.006	0.021	0.021	568.299	0.013
Pressure Washers	2014	6	15	2.16	0.783	5.369	3.723	0.008	0.298	0.298	568.299	0.07
Pressure Washers	2014	16	25	3.308	0.821	5	2.78	0.007	0.272	0.272	568.299	0.074
Pressure Washers	2014	26	50	8.833	1.096	4.873	3.951	0.007	0.332	0.332	568.299	0.098
Pressure Washers	2014	51	120	8.608	0.634	4.912	3.367	0.006	0.332	0.332	568.299	0.057
Pressure Washers	2014	121	175	30.292	0.469	4.513	2.923	0.006	0.206	0.206	568.299	0.042
Pressure Washers	2014	176	250	11.167	0.137	1.047	0.986	0.006	0.014	0.014	568.299	0.012
Pressure Washers	2015	6	15	2.059	0.747	5.141	3.657	0.008	0.28	0.28	568.299	0.067
Pressure Washers	2015	16	25	3.196	0.793	4.89	2.666	0.007	0.256	0.256	568.299	0.071
Pressure Washers	2015	26	50	7.868	0.976	4.685	3.833	0.007	0.3	0.3	568.299	0.088
Pressure Washers	2015	51	120	7.703	0.567	4.551	3.336	0.006	0.297	0.297	568.299	0.051
Pressure Washers	2015	121	175	27.567	0.427	4.115	2.917	0.006	0.187	0.187	568.299	0.038
Pressure Washers	2015	176	250	9.864	0.121	0.69	0.986	0.006	0.01	0.01	568.299	0.01
Pressure Washers	2016	6	15	1.986	0.72	4.978	3.622	0.008	0.264	0.264	568.299	0.065
Pressure Washers	2016	16	25	3.116	0.773	4.803	2.604	0.007	0.244	0.244	568.299	0.069
Pressure Washers	2016	26	50	6.97	0.865	4.515	3.729	0.007	0.269	0.269	568.299	0.078
Pressure Washers	2016	51	120	6.839	0.504	4.209	3.308	0.006	0.264	0.264	568.299	0.045
Pressure Washers	2016	121	175	24.906	0.386	3.726	2.913	0.006	0.168	0.168	568.299	0.034
Pressure Washers	2016	176	250	8.667	0.107	0.399	0.986	0.006	0.009	0.009	568.299	0.009
Pressure Washers	2017	6	15	1.927	0.699	4.847	3.599	0.008	0.25	0.25	568.299	0.063
Pressure Washers	2017	16	25	3.053	0.757	4.729	2.564	0.007	0.233	0.233	568.299	0.068
Pressure Washers	2017	26	50	6.126	0.76	4.355	3.632	0.007	0.24	0.24	568.299	0.068
Pressure Washers	2017	51	120	6.031	0.444	3.888	3.283	0.006	0.233	0.233	568.3	0.04
Pressure Washers	2017	121	175	22.349	0.346	3.349	2.91	0.006	0.149	0.149	568.299	0.031
Pressure Washers	2017	176	250	8.288	0.102	0.317	0.986	0.006	0.009	0.009	568.299	0.009
Pressure Washers	2018	6	15	1.874	0.679	4.728	3.58	0.008	0.237	0.237	568.299	0.061
Pressure Washers	2018	16	25	2.997	0.744	4.661	2.531	0.007	0.224	0.224	568.299	0.067
Pressure Washers	2018	26	50	5.332	0.661	4.202	3.542	0.007	0.212	0.212	568.299	0.059
Pressure Washers	2018	51	120	5.276	0.388	3.584	3.26	0.006	0.203	0.203	568.299	0.035
Pressure Washers	2018	121	175	19.96	0.309	2.989	2.908	0.006	0.132	0.132	568.299	0.027
Pressure Washers	2018	176	250	8.072	0.099	0.277	0.986	0.006	0.009	0.009	568.299	0.008

Pressure Washers	2019	6	15	1.824	0.662	4.617	3.562	0.008	0.224	0.224	568.299	0.059
Pressure Washers	2019	16	25	2.947	0.731	4.596	2.501	0.007	0.214	0.214	568.299	0.066
Pressure Washers	2019	26	50	4.585	0.569	4.053	3.457	0.007	0.184	0.184	568.299	0.051
Pressure Washers	2019	51	120	4.575	0.337	3.295	3.24	0.006	0.174	0.174	568.299	0.03
Pressure Washers	2019	121	175	18.102	0.28	2.67	2.907	0.006	0.117	0.117	568.299	0.025
Pressure Washers	2019	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2020	6	15	1.78	0.646	4.516	3.546	0.008	0.212	0.212	568.299	0.058
Pressure Washers	2020	16	25	2.904	0.721	4.538	2.473	0.007	0.205	0.205	568.299	0.065
Pressure Washers	2020	26	50	4.025	0.499	3.917	3.393	0.007	0.161	0.161	568.299	0.045
Pressure Washers	2020	51	120	4.048	0.298	3.036	3.225	0.006	0.151	0.151	568.299	0.026
Pressure Washers	2020	121	175	16.638	0.258	2.383	2.907	0.006	0.104	0.104	568.299	0.023
Pressure Washers	2020	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2021	6	15	1.747	0.634	4.441	3.531	0.008	0.201	0.201	568.299	0.057
Pressure Washers	2021	16	25	2.87	0.712	4.497	2.446	0.007	0.196	0.196	568.299	0.064
Pressure Washers	2021	26	50	3.542	0.439	3.765	3.329	0.007	0.136	0.136	568.299	0.039
Pressure Washers	2021	51	120	3.592	0.264	2.766	3.21	0.006	0.129	0.129	568.299	0.023
Pressure Washers	2021	121	175	15.389	0.238	2.118	2.907	0.006	0.093	0.093	568.299	0.021
Pressure Washers	2021	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2022	6	15	1.725	0.626	4.39	3.519	0.008	0.193	0.193	568.299	0.056
Pressure Washers	2022	16	25	2.847	0.706	4.47	2.426	0.007	0.188	0.188	568.299	0.063
Pressure Washers	2022	26	50	3.213	0.398	3.649	3.291	0.007	0.117	0.117	568.3	0.035
Pressure Washers	2022	51	120	3.281	0.241	2.56	3.202	0.006	0.112	0.112	568.299	0.021
Pressure Washers	2022	121	175	14.252	0.221	1.871	2.907	0.006	0.082	0.082	568.299	0.019
Pressure Washers	2022	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2023	6	15	1.706	0.618	4.345	3.508	0.008	0.186	0.186	568.299	0.055
Pressure Washers	2023	16	25	2.827	0.701	4.447	2.407	0.007	0.182	0.182	568.299	0.063
Pressure Washers	2023	26	50	2.928	0.363	3.541	3.26	0.007	0.101	0.101	568.299	0.032
Pressure Washers	2023	51	120	3.012	0.222	2.377	3.196	0.006	0.097	0.097	568.299	0.02
Pressure Washers	2023	121	175	13.244	0.205	1.665	2.907	0.006	0.072	0.072	568.299	0.018
Pressure Washers	2023	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2024	6	15	1.689	0.612	4.305	3.499	0.008	0.181	0.181	568.299	0.055
Pressure Washers	2024	16	25	2.811	0.697	4.426	2.39	0.007	0.178	0.178	568.299	0.062
Pressure Washers	2024	26	50	2.685	0.333	3.441	3.233	0.007	0.087	0.087	568.299	0.03
Pressure Washers	2024	51	120	2.78	0.204	2.229	3.191	0.006	0.084	0.084	568.299	0.018
Pressure Washers	2024	121	175	12.332	0.191	1.482	2.907	0.006	0.062	0.062	568.299	0.017
Pressure Washers	2024	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2025	6	15	1.674	0.607	4.269	3.491	0.008	0.178	0.178	568.299	0.054
Pressure Washers	2025	16	25	2.797	0.694	4.407	2.376	0.007	0.175	0.175	568.299	0.062
Pressure Washers	2025	26	50	2.472	0.306	3.344	3.21	0.007	0.075	0.075	568.299	0.027
Pressure Washers	2025	51	120	2.575	0.189	2.1	3.186	0.006	0.072	0.072	568.299	0.017
Pressure Washers	2025	121	175	11.476	0.178	1.31	2.907	0.006	0.053	0.053	568.299	0.016
Pressure Washers	2025	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2030	6	15	1.632	0.592	4.164	3.47	0.008	0.166	0.166	568.3	0.053
Pressure Washers	2030	16	25	2.766	0.686	4.347	2.34	0.007	0.165	0.165	568.299	0.061
Pressure Washers	2030	26	50	1.735	0.215	2.989	3.124	0.007	0.03	0.03	568.299	0.019
Pressure Washers	2030	51	120	1.821	0.134	1.594	3.167	0.006	0.028	0.028	568.3	0.012
Pressure Washers	2030	121	175	8.178	0.126	0.619	2.907	0.006	0.024	0.024	568.299	0.011
Pressure Washers	2030	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2035	6	15	1.624	0.589	4.143	3.47	0.008	0.162	0.162	568.3	0.053
Pressure Washers	2035	16	25	2.761	0.685	4.332	2.34	0.007	0.162	0.162	568.299	0.061
Pressure Washers	2035	26	50	1.515	0.188	2.882	3.101	0.007	0.015	0.015	568.299	0.016
Pressure Washers	2035	51	120	1.58	0.116	1.421	3.161	0.006	0.014	0.014	568.299	0.01
Pressure Washers	2035	121	175	7.052	0.109	0.382	2.907	0.006	0.013	0.013	568.299	0.009
Pressure Washers	2035	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2040	6	15	1.624	0.589	4.142	3.469	0.008	0.161	0.161	568.299	0.053
Pressure Washers	2040	16	25	2.761	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Pressure Washers	2040	26	50	1.5	0.186	2.836	3.098	0.007	0.01	0.01	568.299	0.016
Pressure Washers	2040	51	120	1.54	0.113	1.365	3.16	0.006	0.01	0.01	568.299	0.01
Pressure Washers	2040	121	175	6.649	0.103	0.293	2.907	0.006	0.01	0.01	568.299	0.009
Pressure Washers	2040	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pumps	1990	6	15	3.929	1.804	10	4.999	1.018	0.974	0.974	568.299	0.162
Pumps	1990	16	25	12.652	2.213	6.92	4.999	0.83	0.74	0.74	568.299	0.199
Pumps	1990	26	50	33.318	3.307	7.391	7.004	0.846	0.964	0.964	568.299	0.298
Pumps	1990	51	120	44.398	1.941	13.378	5.049	0.768	1.022	1.022	568.299	0.175
Pumps	1990	121	175	54.599	1.328	12.036	4.466	0.736	0.678	0.678	568.299	0.119
Pumps	1990	176	250	78.462	1.328	12.036	4.466	0.736	0.678	0.678	568.299	0.119
Pumps	1990	251	500	123.784	1.222	11.736	7.034	0.642	0.614	0.614	568.3	0.11
Pumps	1990	501	750	204.643	1.222	11.736	7.034	0.658	0.614	0.614	568.299	0.11
Pumps	1990	1001	9999	484.933	1.22	11.736	7.034	0.658	0.612	0.612	568.299	0.11
Pumps	2000	6	15	3.754	1.723	9.08	4.875	0.079	0.747	0.747	568.299	0.155
Pumps	2000	16	25	11.979	2.095	6.405	4.783	0.065	0.569	0.569	568.299	0.189
Pumps	2000	26	50	31.461	3.123	6.608	6.715	0.066	0.718	0.718	568.299	0.281
Pumps	2000	51	120	36.02	1.575	9.604	4.223	0.06	0.711	0.711	568.3	0.142
Pumps	2000	121	175	43.406	1.055	8.734	3.435	0.057	0.419	0.419	568.299	0.095
Pumps	2000	176	250	51.67	0.874	8.397	2.707	0.057	0.339	0.339	568.299	0.078
Pumps	2000	251	500	83.09	0.82	8.188	3.956	0.05	0.311	0.311	568.299	0.074
Pumps	2000	501	750	137.368	0.82	8.188	3.956	0.051	0.311	0.311	568.299	0.074
Pumps	2000	1001	9999	372.377	0.936	8.775	4.533	0.051	0.351	0.351	568.299	0.084
Pumps	2005	6	15	3.036	1.394	7.817	4.38	0.079	0.621	0.621	568.299	0.125
Pumps	2005	16	25	9.278	1.622	6.014	3.922	0.065	0.483	0.483	568.299	0.146
Pumps	2005	26	50	27.809	2.76	6.155	6.203	0.066	0.664	0.664	568.299	0.249
Pumps	2005	51	120	30.825	1.348	8.1	3.91	0.06	0.657	0.657	568.3	0.121
Pumps	2005	121	175	36.106	0.878	7.408	3.114	0.057	0.363	0.363	568.299	0.079
Pumps	2005	176	250	36.853	0.623	6.99	1.836	0.057	0.239	0.239	568.299	0.056
Pumps	2005	251	500	56.766	0.56	6.535	2.32	0.05	0.219	0.219	568.299	0.05
Pumps	2005	501	750	96.43	0.575	6.679	2.32	0.051	0.221	0.221	568.299	0.051
Pumps	2005	1001	9999	289.357	0.728	7.658	2.838	0.051	0.258	0.258	568.299	0.065
Pumps	2010	6	15	2.449	1.124	6.554	4.027	0.008	0.473	0.473	568.299	0.101
Pumps	2010	16	25	7.245	1.267	5.477	3.309	0.007	0.384	0.384	568.299	0.114

Pumps	2010	26	50	22.041	2.188	5.74	5.634	0.007	0.545	0.545	568.3	0.197
Pumps	2010	51	120	23.77	1.039	6.675	3.735	0.006	0.538	0.538	568.299	0.093
Pumps	2010	121	175	28.171	0.685	5.961	3.033	0.006	0.298	0.298	568.299	0.061
Pumps	2010	176	250	26.273	0.444	5.586	1.359	0.006	0.17	0.17	568.299	0.04
Pumps	2010	251	500	40.384	0.398	5.074	1.536	0.005	0.158	0.158	568.299	0.035
Pumps	2010	501	750	68.724	0.41	5.207	1.536	0.005	0.161	0.161	568.299	0.037
Pumps	2010	1001	9999	218.911	0.55	6.617	1.991	0.005	0.196	0.196	568.299	0.049
Pumps	2011	6	15	2.324	1.067	6.283	3.952	0.008	0.441	0.441	568.299	0.096
Pumps	2011	16	25	6.815	1.192	5.36	3.179	0.007	0.361	0.361	568.299	0.107
Pumps	2011	26	50	20.53	2.038	5.645	5.474	0.007	0.518	0.518	568.299	0.183
Pumps	2011	51	120	22.177	0.969	6.322	3.698	0.006	0.514	0.514	568.299	0.087
Pumps	2011	121	175	26.426	0.642	5.63	3.02	0.006	0.286	0.286	568.299	0.058
Pumps	2011	176	250	24.051	0.407	5.206	1.272	0.006	0.153	0.153	568.299	0.036
Pumps	2011	251	500	36.969	0.365	4.71	1.405	0.005	0.143	0.143	568.299	0.032
Pumps	2011	501	750	62.964	0.376	4.841	1.405	0.005	0.145	0.145	568.299	0.033
Pumps	2011	1001	9999	203.755	0.512	6.273	1.835	0.005	0.183	0.183	568.299	0.046
Pumps	2012	6	15	2.194	1.007	5.999	3.874	0.008	0.407	0.407	568.299	0.09
Pumps	2012	16	25	6.363	1.113	5.239	3.043	0.007	0.337	0.337	568.299	0.1
Pumps	2012	26	50	18.887	1.875	5.545	5.296	0.007	0.488	0.488	568.299	0.169
Pumps	2012	51	120	20.51	0.896	5.939	3.66	0.006	0.481	0.481	568.299	0.08
Pumps	2012	121	175	24.576	0.597	5.28	3.009	0.006	0.265	0.265	568.299	0.053
Pumps	2012	176	250	22.301	0.377	4.846	1.218	0.006	0.139	0.139	568.299	0.034
Pumps	2012	251	500	34.322	0.338	4.367	1.311	0.005	0.13	0.13	568.299	0.03
Pumps	2012	501	750	58.469	0.349	4.495	1.311	0.005	0.132	0.132	568.299	0.031
Pumps	2012	1001	9999	188.287	0.473	5.916	1.682	0.005	0.168	0.168	568.299	0.042
Pumps	2013	6	15	2.065	0.948	5.716	3.796	0.008	0.373	0.373	568.299	0.085
Pumps	2013	16	25	5.914	1.034	5.117	2.907	0.007	0.314	0.314	568.3	0.093
Pumps	2013	26	50	17.185	1.706	5.323	5.11	0.007	0.448	0.448	568.299	0.153
Pumps	2013	51	120	18.831	0.823	5.563	3.623	0.006	0.443	0.443	568.299	0.074
Pumps	2013	121	175	22.712	0.552	4.949	2.998	0.006	0.244	0.244	568.299	0.049
Pumps	2013	176	250	20.801	0.352	4.498	1.181	0.006	0.127	0.127	568.3	0.031
Pumps	2013	251	500	32.081	0.316	4.037	1.241	0.005	0.119	0.119	568.299	0.028
Pumps	2013	501	750	54.658	0.326	4.163	1.241	0.005	0.121	0.121	568.299	0.029
Pumps	2013	1001	9999	173.151	0.435	5.558	1.538	0.005	0.154	0.154	568.299	0.039
Pumps	2014	6	15	1.942	0.891	5.445	3.723	0.008	0.341	0.341	568.299	0.08
Pumps	2014	16	25	5.492	0.96	5	2.78	0.007	0.291	0.291	568.299	0.086
Pumps	2014	26	50	15.493	1.538	5.107	4.929	0.007	0.409	0.409	568.299	0.138
Pumps	2014	51	120	17.179	0.751	5.226	3.587	0.006	0.403	0.403	568.299	0.067
Pumps	2014	121	175	20.895	0.508	4.635	2.989	0.006	0.222	0.222	568.299	0.045
Pumps	2014	176	250	19.3	0.326	4.09	1.149	0.006	0.115	0.115	568.299	0.029
Pumps	2014	251	500	29.829	0.294	3.648	1.181	0.005	0.108	0.108	568.299	0.026
Pumps	2014	501	750	50.824	0.303	3.77	1.181	0.005	0.11	0.11	568.299	0.027
Pumps	2014	1001	9999	158.959	0.399	5.21	1.406	0.005	0.141	0.141	568.299	0.036
Pumps	2015	6	15	1.831	0.84	5.196	3.658	0.008	0.311	0.311	568.299	0.075
Pumps	2015	16	25	5.112	0.894	4.89	2.666	0.007	0.27	0.27	568.299	0.08
Pumps	2015	26	50	13.946	1.384	4.916	4.775	0.007	0.371	0.371	568.3	0.124
Pumps	2015	51	120	15.537	0.679	4.842	3.554	0.006	0.364	0.364	568.3	0.061
Pumps	2015	121	175	18.983	0.461	4.202	2.983	0.006	0.2	0.2	568.299	0.041
Pumps	2015	176	250	17.881	0.302	3.693	1.122	0.006	0.104	0.104	568.299	0.027
Pumps	2015	251	500	27.722	0.273	3.272	1.134	0.005	0.097	0.097	568.299	0.024
Pumps	2015	501	750	47.213	0.281	3.389	1.134	0.005	0.099	0.099	568.299	0.025
Pumps	2015	1001	9999	144.304	0.363	4.878	1.293	0.005	0.127	0.127	568.299	0.032
Pumps	2016	6	15	1.762	0.809	5.023	3.622	0.008	0.289	0.289	568.299	0.073
Pumps	2016	16	25	4.893	0.855	4.803	2.604	0.007	0.255	0.255	568.299	0.077
Pumps	2016	26	50	12.497	1.24	4.742	4.64	0.007	0.335	0.335	568.299	0.111
Pumps	2016	51	120	13.964	0.61	4.478	3.523	0.006	0.325	0.325	568.299	0.055
Pumps	2016	121	175	17.155	0.417	3.789	2.978	0.006	0.179	0.179	568.299	0.037
Pumps	2016	176	250	16.558	0.28	3.313	1.099	0.006	0.094	0.094	568.299	0.025
Pumps	2016	251	500	25.804	0.254	2.919	1.093	0.005	0.088	0.088	568.299	0.022
Pumps	2016	501	750	43.884	0.262	3.028	1.093	0.005	0.089	0.089	568.299	0.023
Pumps	2016	1001	9999	133.448	0.335	4.596	1.223	0.005	0.116	0.116	568.3	0.03
Pumps	2017	6	15	1.713	0.786	4.887	3.599	0.008	0.272	0.272	568.299	0.07
Pumps	2017	16	25	4.745	0.83	4.729	2.564	0.007	0.243	0.243	568.299	0.074
Pumps	2017	26	50	11.12	1.104	4.578	4.514	0.007	0.301	0.301	568.299	0.099
Pumps	2017	51	120	12.49	0.546	4.134	3.495	0.006	0.287	0.287	568.299	0.049
Pumps	2017	121	175	15.466	0.376	3.4	2.975	0.006	0.159	0.159	568.299	0.033
Pumps	2017	176	250	15.375	0.26	2.958	1.08	0.006	0.084	0.084	568.299	0.023
Pumps	2017	251	500	24.243	0.239	2.613	1.062	0.005	0.079	0.079	568.299	0.021
Pumps	2017	501	750	40.958	0.244	2.695	1.062	0.005	0.08	0.08	568.299	0.022
Pumps	2017	1001	9999	124.604	0.313	4.343	1.177	0.005	0.106	0.106	568.299	0.028
Pumps	2018	6	15	1.669	0.766	4.762	3.58	0.008	0.256	0.256	568.299	0.069
Pumps	2018	16	25	4.618	0.807	4.661	2.531	0.007	0.232	0.232	568.299	0.072
Pumps	2018	26	50	9.809	0.973	4.422	4.397	0.007	0.267	0.267	568.299	0.087
Pumps	2018	51	120	11.107	0.485	3.808	3.471	0.006	0.252	0.252	568.299	0.043
Pumps	2018	121	175	13.918	0.338	3.035	2.974	0.006	0.14	0.14	568.299	0.03
Pumps	2018	176	250	14.304	0.242	2.624	1.065	0.006	0.075	0.075	568.299	0.021
Pumps	2018	251	500	22.927	0.226	2.34	1.041	0.005	0.071	0.071	568.299	0.02
Pumps	2018	501	750	38.511	0.23	2.401	1.041	0.005	0.072	0.072	568.299	0.02
Pumps	2018	1001	9999	116.529	0.293	4.105	1.144	0.005	0.098	0.098	568.299	0.026
Pumps	2019	6	15	1.63	0.748	4.647	3.562	0.008	0.241	0.241	568.3	0.067
Pumps	2019	16	25	4.503	0.787	4.596	2.501	0.007	0.222	0.222	568.3	0.071
Pumps	2019	26	50	8.56	0.849	4.269	4.284	0.007	0.235	0.235	568.299	0.076
Pumps	2019	51	120	9.812	0.429	3.497	3.449	0.006	0.217	0.217	568.299	0.038
Pumps	2019	121	175	12.706	0.309	2.711	2.974	0.006	0.124	0.124	568.299	0.027
Pumps	2019	176	250	13.378	0.226	2.323	1.052	0.006	0.067	0.067	568.299	0.02
Pumps	2019	251	500	21.711	0.214	2.084	1.027	0.005	0.064	0.064	568.3	0.019
Pumps	2019	501	750	36.35	0.217	2.133	1.027	0.005	0.065	0.065	568.299	0.019
Pumps	2019	1001	9999	108.825	0.273	3.873	1.118	0.005	0.089	0.089	568.299	0.024
Pumps	2020	6	15	1.593	0.731	4.542	3.546	0.008	0.227	0.227	568.299	0.066

Pumps	2020	16	25	4.396	0.769	4.538	2.473	0.007	0.212	0.212	568.299	0.069
Pumps	2020	26	50	7.613	0.755	4.128	4.197	0.007	0.206	0.206	568.299	0.068
Pumps	2020	51	120	8.832	0.386	3.219	3.432	0.006	0.189	0.189	568.299	0.034
Pumps	2020	121	175	11.744	0.285	2.418	2.974	0.006	0.111	0.111	568.299	0.025
Pumps	2020	176	250	12.575	0.212	2.05	1.042	0.006	0.06	0.06	568.299	0.019
Pumps	2020	251	500	20.565	0.203	1.841	1.017	0.005	0.057	0.057	568.3	0.018
Pumps	2020	501	750	34.373	0.205	1.884	1.017	0.005	0.058	0.058	568.299	0.018
Pumps	2020	1001	9999	101.462	0.255	3.649	1.096	0.005	0.081	0.081	568.3	0.023
Pumps	2021	6	15	1.563	0.717	4.462	3.531	0.008	0.214	0.214	568.299	0.064
Pumps	2021	16	25	4.302	0.752	4.497	2.446	0.007	0.201	0.201	568.299	0.067
Pumps	2021	26	50	6.761	0.671	3.966	4.099	0.007	0.175	0.175	568.299	0.06
Pumps	2021	51	120	7.94	0.347	2.928	3.412	0.006	0.162	0.162	568.3	0.031
Pumps	2021	121	175	10.713	0.26	2.101	2.968	0.006	0.096	0.096	568.299	0.023
Pumps	2021	176	250	11.658	0.197	1.759	1.031	0.006	0.052	0.052	568.299	0.017
Pumps	2021	251	500	19.186	0.189	1.584	1.007	0.005	0.05	0.05	568.299	0.017
Pumps	2021	501	750	32.005	0.191	1.618	1.007	0.005	0.05	0.05	568.299	0.017
Pumps	2021	1001	9999	92.954	0.233	3.409	1.074	0.005	0.072	0.072	568.3	0.021
Pumps	2022	6	15	1.54	0.707	4.408	3.519	0.008	0.203	0.203	568.299	0.063
Pumps	2022	16	25	4.229	0.739	4.47	2.426	0.007	0.193	0.193	568.299	0.066
Pumps	2022	26	50	6.194	0.614	3.846	4.048	0.007	0.152	0.152	568.299	0.055
Pumps	2022	51	120	7.351	0.321	2.708	3.404	0.006	0.142	0.142	568.299	0.029
Pumps	2022	121	175	9.985	0.242	1.86	2.969	0.006	0.085	0.085	568.299	0.021
Pumps	2022	176	250	11.025	0.186	1.534	1.025	0.006	0.045	0.045	568.299	0.016
Pumps	2022	251	500	18.249	0.18	1.404	1.001	0.005	0.044	0.044	568.3	0.016
Pumps	2022	501	750	30.396	0.181	1.432	1.001	0.005	0.044	0.044	568.3	0.016
Pumps	2022	1001	9999	87.313	0.219	3.236	1.058	0.005	0.065	0.065	568.299	0.019
Pumps	2023	6	15	1.521	0.698	4.359	3.508	0.008	0.194	0.194	568.299	0.063
Pumps	2023	16	25	4.165	0.728	4.447	2.407	0.007	0.186	0.186	568.299	0.065
Pumps	2023	26	50	5.699	0.565	3.734	4.007	0.007	0.131	0.131	568.299	0.051
Pumps	2023	51	120	6.838	0.299	2.511	3.398	0.006	0.123	0.123	568.299	0.026
Pumps	2023	121	175	9.349	0.227	1.662	2.971	0.006	0.075	0.075	568.299	0.02
Pumps	2023	176	250	10.47	0.177	1.351	1.021	0.006	0.04	0.04	568.299	0.015
Pumps	2023	251	500	17.411	0.171	1.246	0.998	0.005	0.038	0.038	568.3	0.015
Pumps	2023	501	750	28.971	0.173	1.271	0.998	0.005	0.039	0.039	568.299	0.015
Pumps	2023	1001	9999	82.523	0.207	3.09	1.043	0.005	0.059	0.059	568.299	0.018
Pumps	2024	6	15	1.503	0.69	4.316	3.499	0.008	0.188	0.188	568.299	0.062
Pumps	2024	16	25	4.107	0.718	4.426	2.39	0.007	0.181	0.181	568.299	0.064
Pumps	2024	26	50	5.272	0.523	3.63	3.974	0.007	0.114	0.114	568.299	0.047
Pumps	2024	51	120	6.391	0.279	2.352	3.393	0.006	0.107	0.107	568.299	0.025
Pumps	2024	121	175	8.769	0.213	1.486	2.973	0.006	0.065	0.065	568.299	0.019
Pumps	2024	176	250	9.948	0.168	1.189	1.018	0.006	0.034	0.034	568.3	0.015
Pumps	2024	251	500	16.61	0.164	1.098	0.994	0.005	0.033	0.033	568.299	0.014
Pumps	2024	501	750	27.614	0.164	1.12	0.994	0.005	0.034	0.034	568.299	0.014
Pumps	2024	1001	9999	78.184	0.196	2.96	1.031	0.005	0.054	0.054	568.299	0.017
Pumps	2025	6	15	1.488	0.683	4.278	3.491	0.008	0.183	0.183	568.299	0.061
Pumps	2025	16	25	4.058	0.709	4.407	2.376	0.007	0.177	0.177	568.299	0.064
Pumps	2025	26	50	4.891	0.485	3.528	3.943	0.007	0.099	0.099	568.299	0.043
Pumps	2025	51	120	5.988	0.261	2.213	3.389	0.006	0.092	0.092	568.299	0.023
Pumps	2025	121	175	8.209	0.199	1.318	2.974	0.006	0.056	0.056	568.3	0.018
Pumps	2025	176	250	9.449	0.159	1.038	1.016	0.006	0.029	0.029	568.299	0.014
Pumps	2025	251	500	15.837	0.156	0.958	0.992	0.005	0.028	0.028	568.3	0.014
Pumps	2025	501	750	26.308	0.157	0.977	0.992	0.005	0.029	0.029	568.3	0.014
Pumps	2025	1001	9999	74.054	0.186	2.84	1.02	0.005	0.049	0.049	568.299	0.016
Pumps	2030	6	15	1.445	0.663	4.164	3.47	0.008	0.166	0.166	568.299	0.059
Pumps	2030	16	25	3.928	0.687	4.347	2.34	0.007	0.165	0.165	568.3	0.061
Pumps	2030	26	50	3.513	0.348	3.146	3.814	0.007	0.04	0.04	568.299	0.031
Pumps	2030	51	120	4.416	0.193	1.662	3.367	0.006	0.036	0.036	568.299	0.017
Pumps	2030	121	175	5.842	0.142	0.61	2.973	0.006	0.024	0.024	568.299	0.012
Pumps	2030	176	250	7.699	0.13	0.511	1.013	0.006	0.016	0.016	568.299	0.011
Pumps	2030	251	500	13.115	0.129	0.482	0.989	0.005	0.016	0.016	568.299	0.011
Pumps	2030	501	750	21.709	0.129	0.488	0.989	0.005	0.016	0.016	568.299	0.011
Pumps	2030	1001	9999	55.475	0.139	2.504	0.99	0.005	0.03	0.03	568.299	0.012
Pumps	2035	6	15	1.44	0.661	4.143	3.469	0.008	0.162	0.162	568.299	0.059
Pumps	2035	16	25	3.919	0.685	4.332	2.34	0.007	0.162	0.162	568.299	0.061
Pumps	2035	26	50	3.089	0.306	3.028	3.778	0.007	0.019	0.019	568.299	0.027
Pumps	2035	51	120	3.891	0.17	1.47	3.36	0.006	0.017	0.017	568.299	0.015
Pumps	2035	121	175	5.059	0.123	0.377	2.973	0.006	0.014	0.014	568.299	0.011
Pumps	2035	176	250	7.07	0.119	0.335	1.012	0.006	0.011	0.011	568.299	0.01
Pumps	2035	251	500	12.118	0.119	0.331	0.989	0.005	0.011	0.011	568.299	0.01
Pumps	2035	501	750	20.034	0.119	0.331	0.989	0.005	0.011	0.011	568.299	0.01
Pumps	2035	1001	9999	49.373	0.124	2.38	0.989	0.005	0.023	0.023	568.299	0.011
Pumps	2040	6	15	1.44	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Pumps	2040	16	25	3.919	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Pumps	2040	26	50	3.056	0.303	2.976	3.77	0.007	0.013	0.013	568.299	0.027
Pumps	2040	51	120	3.777	0.165	1.41	3.358	0.006	0.012	0.012	568.299	0.014
Pumps	2040	121	175	4.771	0.116	0.295	2.971	0.006	0.01	0.01	568.299	0.01
Pumps	2040	176	250	6.779	0.114	0.279	1.012	0.006	0.009	0.009	568.299	0.01
Pumps	2040	251	500	11.622	0.114	0.279	0.989	0.005	0.009	0.009	568.299	0.01
Pumps	2040	501	750	19.214	0.114	0.279	0.989	0.005	0.009	0.009	568.299	0.01
Pumps	2040	1001	9999	46.343	0.116	2.347	0.989	0.005	0.02	0.02	568.299	0.01
Rollers	1990	6	15	4.21	1.804	9.999	4.999	1.049	0.975	0.975	568.299	0.162
Rollers	1990	16	25	10.903	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Rollers	1990	26	50	45.466	4.738	7.927	9.598	0.871	1.256	1.256	568.299	0.427
Rollers	1990	51	120	51.677	2.372	15.111	5.756	0.791	1.332	1.332	568.3	0.214
Rollers	1990	121	175	75.451	1.889	14.858	5.165	0.758	1.046	1.046	568.299	0.17
Rollers	1990	176	250	106.808	1.889	14.858	5.165	0.758	1.046	1.046	568.299	0.17
Rollers	1990	251	500	135.093	1.669	14.103	11.266	0.662	0.896	0.896	568.299	0.15
Rollers	2000	6	15	3.444	1.475	8.242	4.49	0.079	0.676	0.676	568.3	0.133
Rollers	2000	16	25	9.648	1.958	6.358	4.53	0.065	0.563	0.563	568.299	0.176

Rollers	2000	26	50	38.643	4.027	6.941	8.379	0.066	0.861	0.861	568.299	0.363
Rollers	2000	51	120	39.062	1.793	10.425	4.585	0.06	0.844	0.844	568.299	0.161
Rollers	2000	121	175	48.357	1.21	9.501	3.749	0.057	0.503	0.503	568.299	0.109
Rollers	2000	176	250	59.24	1.047	9.211	3.108	0.057	0.427	0.427	568.299	0.094
Rollers	2000	251	500	77.413	0.956	8.821	5.254	0.05	0.379	0.379	568.299	0.086
Rollers	2005	6	15	1.788	0.766	5.228	3.469	0.079	0.361	0.361	568.299	0.069
Rollers	2005	16	25	4.53	0.919	5.412	2.642	0.065	0.347	0.347	568.299	0.082
Rollers	2005	26	50	34.997	3.647	6.51	7.864	0.066	0.808	0.808	568.299	0.329
Rollers	2005	51	120	34.046	1.563	8.963	4.289	0.06	0.79	0.79	568.299	0.141
Rollers	2005	121	175	40.854	1.023	8.18	3.44	0.057	0.441	0.441	568.299	0.092
Rollers	2005	176	250	44.594	0.788	7.822	2.262	0.057	0.319	0.319	568.299	0.071
Rollers	2005	251	500	56.466	0.697	7.196	3.183	0.05	0.282	0.282	568.299	0.062
Rollers	2010	6	15	1.637529	1.376	5.58863	5.19619	0.005	0.516	0.475	584.6125	0.17
Rollers	2010	16	25	1.637529	1.376	5.58863	5.19619	0.005	0.516	0.475	584.6125	0.17
Rollers	2010	26	50	1.637529	1.376	5.58863	5.19619	0.005	0.516	0.475	584.6125	0.17
Rollers	2010	51	120	0.983879	0.827	7.50147	3.91429	0.005	0.56	0.516	527.6279	0.154
Rollers	2010	121	175	0.511697	0.43	5.60543	3.00505	0.005	0.264	0.243	524.1952	0.153
Rollers	2010	176	250	0.616159	0.518	7.34127	2.19572	0.005	0.268	0.247	526.2539	0.153
Rollers	2010	251	500	0.682816	0.574	7.52047	4.92169	0.005	0.313	0.288	533.878	0.155
Rollers	2011	6	15	1.599963	1.344	5.5647	5.18315	0.005	0.508	0.467	583.1085	0.17
Rollers	2011	16	25	1.599963	1.344	5.5647	5.18315	0.005	0.508	0.467	583.1085	0.17
Rollers	2011	26	50	1.599963	1.344	5.5647	5.18315	0.005	0.508	0.467	583.1085	0.17
Rollers	2011	51	120	0.924436	0.777	7.13388	3.86451	0.005	0.533	0.491	525.9391	0.153
Rollers	2011	121	175	0.498798	0.419	5.44712	3.00845	0.005	0.257	0.237	522.9396	0.153
Rollers	2011	176	250	0.556319	0.467	6.69107	2.03431	0.005	0.242	0.222	524.8924	0.153
Rollers	2011	251	500	0.597293	0.502	6.64358	4.46947	0.005	0.275	0.253	529.5965	0.155
Rollers	2012	6	15	1.624226	1.365	5.568	5.26844	0.005	0.511	0.471	581.6678	0.17
Rollers	2012	16	25	1.624226	1.365	5.568	5.26844	0.005	0.511	0.471	581.6678	0.17
Rollers	2012	26	50	1.624226	1.365	5.568	5.26844	0.005	0.511	0.471	581.6678	0.17
Rollers	2012	51	120	0.924087	0.776	7.08604	3.87893	0.005	0.534	0.491	524.5269	0.153
Rollers	2012	121	175	0.497788	0.418	5.38313	3.02294	0.005	0.255	0.235	521.5511	0.153
Rollers	2012	176	250	0.555818	0.467	6.64215	2.02691	0.005	0.241	0.222	523.5608	0.153
Rollers	2012	251	500	0.604557	0.508	6.66671	4.53336	0.005	0.278	0.256	528.1357	0.155
Rollers	2013	6	15	1.5981	1.343	5.50162	5.27142	0.005	0.5	0.46	578.8662	0.17
Rollers	2013	16	25	1.5981	1.343	5.50162	5.27142	0.005	0.5	0.46	578.8662	0.17
Rollers	2013	26	50	1.5981	1.343	5.50162	5.27142	0.005	0.5	0.46	578.8662	0.17
Rollers	2013	51	120	0.873627	0.734	6.74964	3.84356	0.005	0.504	0.464	521.8163	0.153
Rollers	2013	121	175	0.468308	0.394	5.11335	3.00794	0.005	0.238	0.219	519.0689	0.153
Rollers	2013	176	250	0.495332	0.416	5.94235	1.86858	0.005	0.213	0.196	520.4083	0.153
Rollers	2013	251	500	0.470274	0.395	5.43748	3.53436	0.005	0.213	0.196	524.7654	0.154
Rollers	2014	6	15	1.556684	1.308	5.39309	5.24275	0.005	0.484	0.445	575.7953	0.17
Rollers	2014	16	25	1.556684	1.308	5.39309	5.24275	0.005	0.484	0.445	575.7953	0.17
Rollers	2014	26	50	1.556684	1.308	5.39309	5.24275	0.005	0.484	0.445	575.7953	0.17
Rollers	2014	51	120	0.827072	0.695	6.39036	3.80915	0.005	0.476	0.438	518.7866	0.153
Rollers	2014	121	175	0.43778	0.368	4.72375	2.99804	0.005	0.219	0.202	516.591	0.153
Rollers	2014	176	250	0.453642	0.381	5.40344	1.75988	0.005	0.191	0.176	517.8111	0.153
Rollers	2014	251	500	0.449616	0.378	5.18322	3.3182	0.005	0.202	0.185	522.0518	0.154
Rollers	2015	6	15	1.559602	1.31	5.36547	5.29043	0.005	0.481	0.443	569.9207	0.17
Rollers	2015	16	25	1.559602	1.31	5.36547	5.29043	0.005	0.481	0.443	569.9207	0.17
Rollers	2015	26	50	1.559602	1.31	5.36547	5.29043	0.005	0.481	0.443	569.9207	0.17
Rollers	2015	51	120	0.813228	0.683	6.27158	3.80891	0.005	0.467	0.43	513.5052	0.153
Rollers	2015	121	175	0.433087	0.364	4.63035	3.00605	0.005	0.215	0.198	511.3935	0.153
Rollers	2015	176	250	0.41293	0.347	4.93191	1.65049	0.005	0.171	0.157	512.8234	0.153
Rollers	2015	251	500	0.441373	0.371	5.03147	3.24549	0.005	0.195	0.179	517.2848	0.154
Rollers	2016	6	15	1.498736	1.259	5.2356	5.23066	0.005	0.459	0.423	563.9722	0.17
Rollers	2016	16	25	1.498736	1.259	5.2356	5.23066	0.005	0.459	0.423	563.9722	0.17
Rollers	2016	26	50	1.498736	1.259	5.2356	5.23066	0.005	0.459	0.423	563.9722	0.17
Rollers	2016	51	120	0.747631	0.628	5.80563	3.75537	0.005	0.428	0.393	508.1987	0.153
Rollers	2016	121	175	0.402004	0.338	4.23872	2.99334	0.005	0.197	0.181	505.9041	0.153
Rollers	2016	176	250	0.366563	0.308	4.39492	1.50673	0.005	0.15	0.138	507.6939	0.153
Rollers	2016	251	500	0.397483	0.334	4.45617	2.95647	0.005	0.173	0.159	513.4154	0.155
Rollers	2017	6	15	1.425352	1.198	5.09771	5.14727	0.005	0.436	0.401	555.0199	0.17
Rollers	2017	16	25	1.425352	1.198	5.09771	5.14727	0.005	0.436	0.401	555.0199	0.17
Rollers	2017	26	50	1.425352	1.198	5.09771	5.14727	0.005	0.436	0.401	555.0199	0.17
Rollers	2017	51	120	0.690109	0.58	5.4114	3.71315	0.005	0.392	0.361	500.1525	0.153
Rollers	2017	121	175	0.373471	0.314	3.87384	2.98069	0.005	0.18	0.166	497.9088	0.153
Rollers	2017	176	250	0.326364	0.274	3.92097	1.40849	0.005	0.129	0.119	499.7021	0.153
Rollers	2017	251	500	0.353236	0.297	3.84047	2.68487	0.005	0.15	0.138	505.8318	0.155
Rollers	2018	6	15	1.26668	1.064	4.8416	4.92335	0.005	0.387	0.356	546.2905	0.17
Rollers	2018	16	25	1.26668	1.064	4.8416	4.92335	0.005	0.387	0.356	546.2905	0.17
Rollers	2018	26	50	1.26668	1.064	4.8416	4.92335	0.005	0.387	0.356	546.2905	0.17
Rollers	2018	51	120	0.572467	0.481	4.65049	3.60981	0.005	0.32	0.294	492.2118	0.153
Rollers	2018	121	175	0.315632	0.265	3.18126	2.94895	0.005	0.147	0.135	490.1805	0.153
Rollers	2018	176	250	0.251419	0.211	2.99492	1.24341	0.005	0.094	0.086	491.6643	0.153
Rollers	2018	251	500	0.291314	0.245	3.09814	2.23145	0.005	0.119	0.11	497.9962	0.155
Rollers	2019	6	15	1.156606	0.972	4.64491	4.77841	0.005	0.349	0.321	537.546	0.17
Rollers	2019	16	25	1.156606	0.972	4.64491	4.77841	0.005	0.349	0.321	537.546	0.17
Rollers	2019	26	50	1.156606	0.972	4.64491	4.77841	0.005	0.349	0.321	537.546	0.17
Rollers	2019	51	120	0.502836	0.423	4.17949	3.55726	0.005	0.275	0.253	484.3362	0.153
Rollers	2019	121	175	0.27475	0.231	2.69941	2.93251	0.005	0.124	0.114	482.4531	0.153
Rollers	2019	176	250	0.250477	0.21	2.88327	1.24854	0.005	0.092	0.084	483.7769	0.153
Rollers	2019	251	500	0.278634	0.234	2.90839	2.10142	0.005	0.111	0.102	489.9774	0.155
Rollers	2020	6	15	1.102095	0.926	4.53426	4.72504	0.005	0.329	0.303	525.8798	0.17
Rollers	2020	16	25	1.102095	0.926	4.53426	4.72504	0.005	0.329	0.303	525.8798	0.17
Rollers	2020	26	50	1.102095	0.926	4.53426	4.72504	0.005	0.329	0.303	525.8798	0.17
Rollers	2020	51	120	0.462004	0.388	3.88153	3.53135	0.005	0.247	0.228	473.8594	0.153
Rollers	2020	121	175	0.256128	0.215	2.45176	2.93333	0.005	0.113	0.104	471.9177	0.153
Rollers	2020	176	250	0.248138	0.209	2.75095	1.25343	0.005	0.089	0.082	473.3669	0.153
Rollers	2020	251	500	0.279691	0.235	2.82823	2.11346	0.005	0.109	0.101	479.3254	0.155

Rollers	2021	6	15	1.008559	0.847	4.35097	4.59681	0.005	0.294	0.27	525.7908	0.17
Rollers	2021	16	25	1.008559	0.847	4.35097	4.59681	0.005	0.294	0.27	525.7908	0.17
Rollers	2021	26	50	1.008559	0.847	4.35097	4.59681	0.005	0.294	0.27	525.7908	0.17
Rollers	2021	51	120	0.42061	0.353	3.5889	3.50719	0.005	0.219	0.202	473.9012	0.153
Rollers	2021	121	175	0.229571	0.193	2.11691	2.9256	0.005	0.097	0.09	471.9799	0.153
Rollers	2021	176	250	0.23384	0.196	2.49332	1.22849	0.005	0.081	0.075	473.4704	0.153
Rollers	2021	251	500	0.26246	0.221	2.58936	1.94995	0.005	0.1	0.092	479.3294	0.155
Rollers	2022	6	15	0.878567	0.738	4.12773	4.40241	0.005	0.25	0.23	525.691	0.17
Rollers	2022	16	25	0.878567	0.738	4.12773	4.40241	0.005	0.25	0.23	525.691	0.17
Rollers	2022	26	50	0.878567	0.738	4.12773	4.40241	0.005	0.25	0.23	525.691	0.17
Rollers	2022	51	120	0.369089	0.31	3.21896	3.46973	0.005	0.186	0.171	473.9291	0.153
Rollers	2022	121	175	0.195547	0.164	1.71408	2.91331	0.005	0.079	0.072	471.9475	0.153
Rollers	2022	176	250	0.221959	0.187	2.2116	1.22821	0.005	0.077	0.071	473.5135	0.153
Rollers	2022	251	500	0.259221	0.218	2.46341	1.95495	0.005	0.097	0.089	478.9817	0.155
Rollers	2023	6	15	0.786211	0.661	3.9211	4.25236	0.005	0.212	0.195	525.8616	0.17
Rollers	2023	16	25	0.786211	0.661	3.9211	4.25236	0.005	0.212	0.195	525.8616	0.17
Rollers	2023	26	50	0.786211	0.661	3.9211	4.25236	0.005	0.212	0.195	525.8616	0.17
Rollers	2023	51	120	0.341189	0.287	3.00302	3.45461	0.005	0.165	0.152	473.9363	0.153
Rollers	2023	121	175	0.1784	0.15	1.4833	2.90949	0.005	0.068	0.062	471.9351	0.153
Rollers	2023	176	250	0.223864	0.188	2.17272	1.23448	0.005	0.076	0.07	473.5164	0.153
Rollers	2023	251	500	0.25159	0.211	2.29003	1.95626	0.005	0.093	0.085	478.3028	0.155
Rollers	2024	6	15	0.738433	0.62	3.82449	4.20667	0.005	0.192	0.177	525.9565	0.17
Rollers	2024	16	25	0.738433	0.62	3.82449	4.20667	0.005	0.192	0.177	525.9565	0.17
Rollers	2024	26	50	0.738433	0.62	3.82449	4.20667	0.005	0.192	0.177	525.9565	0.17
Rollers	2024	51	120	0.323417	0.272	2.843	3.45055	0.005	0.15	0.138	474.0072	0.153
Rollers	2024	121	175	0.168235	0.141	1.32428	2.91426	0.005	0.061	0.056	472.012	0.153
Rollers	2024	176	250	0.213553	0.179	1.97675	1.21417	0.005	0.07	0.064	473.512	0.153
Rollers	2024	251	500	0.24978	0.21	2.21612	1.96121	0.005	0.09	0.083	477.9001	0.155
Rollers	2025	6	15	0.677074	0.569	3.68893	4.12543	0.005	0.167	0.154	526.1406	0.17
Rollers	2025	16	25	0.677074	0.569	3.68893	4.12543	0.005	0.167	0.154	526.1406	0.17
Rollers	2025	26	50	0.677074	0.569	3.68893	4.12543	0.005	0.167	0.154	526.1406	0.17
Rollers	2025	51	120	0.303987	0.255	2.69137	3.44432	0.005	0.135	0.125	473.851	0.153
Rollers	2025	121	175	0.150791	0.127	1.10088	2.90859	0.005	0.049	0.045	471.9696	0.153
Rollers	2025	176	250	0.205768	0.173	1.78252	1.21477	0.005	0.066	0.06	473.6813	0.153
Rollers	2025	251	500	0.251787	0.212	2.19998	1.96754	0.005	0.09	0.083	477.5732	0.154
Rollers	2030	6	15	1.543	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Rollers	2030	16	25	3.377	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Rollers	2030	26	50	5.638	0.587	3.48	4.784	0.007	0.073	0.073	568.299	0.053
Rollers	2030	51	120	6.528	0.299	1.95	3.639	0.006	0.066	0.066	568.299	0.027
Rollers	2030	121	175	8.923	0.223	0.907	3.203	0.006	0.042	0.042	568.299	0.02
Rollers	2030	176	250	11.047	0.195	0.745	1.099	0.006	0.024	0.024	568.299	0.017
Rollers	2030	251	500	15.637	0.193	0.697	1.056	0.005	0.023	0.023	568.299	0.017
Rollers	2035	6	15	1.543	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Rollers	2035	16	25	3.377	0.685	4.332	2.34	0.007	0.161	0.161	568.3	0.061
Rollers	2035	26	50	4.867	0.507	3.28	4.711	0.007	0.038	0.038	568.299	0.045
Rollers	2035	51	120	5.632	0.258	1.65	3.629	0.006	0.035	0.035	568.299	0.023
Rollers	2035	121	175	7.351	0.184	0.523	3.204	0.006	0.023	0.023	568.299	0.016
Rollers	2035	176	250	9.79	0.173	0.465	1.091	0.006	0.016	0.016	568.299	0.015
Rollers	2035	251	500	13.949	0.172	0.442	1.048	0.005	0.016	0.016	568.3	0.015
Rollers	2040	6	15	1.543	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Rollers	2040	16	25	3.377	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Rollers	2040	26	50	4.508	0.469	3.207	4.682	0.007	0.024	0.024	568.299	0.042
Rollers	2040	51	120	5.228	0.24	1.525	3.625	0.006	0.021	0.021	568.299	0.021
Rollers	2040	121	175	6.731	0.168	0.373	3.205	0.006	0.015	0.015	568.299	0.015
Rollers	2040	176	250	9.355	0.165	0.348	1.092	0.006	0.012	0.012	568.299	0.014
Rollers	2040	251	500	13.378	0.165	0.341	1.048	0.005	0.012	0.012	568.299	0.014
Rough Terrain Forklifts	1990	26	50	13.299	5.191	8.098	10.416	0.871	1.348	1.348	568.299	0.468
Rough Terrain Forklifts	1990	51	120	11.91	2.52	15.753	6.008	0.791	1.432	1.432	568.299	0.227
Rough Terrain Forklifts	1990	121	175	19.775	2.092	15.888	5.422	0.758	1.178	1.178	568.299	0.188
Rough Terrain Forklifts	1990	176	250	27.042	2.092	15.888	5.422	0.758	1.178	1.178	568.299	0.188
Rough Terrain Forklifts	1990	251	500	35.607	1.834	14.986	12.637	0.662	0.998	0.998	568.299	0.165
Rough Terrain Forklifts	2000	26	50	11.216	4.378	7.041	9.045	0.066	0.919	0.919	568.3	0.395
Rough Terrain Forklifts	2000	51	120	8.517	1.802	10.225	4.574	0.06	0.881	0.881	568.299	0.162
Rough Terrain Forklifts	2000	121	175	11.484	1.215	9.36	3.676	0.057	0.511	0.511	568.3	0.109
Rough Terrain Forklifts	2000	176	250	13.186	1.02	9.021	2.927	0.057	0.418	0.418	568.299	0.092
Rough Terrain Forklifts	2000	251	500	18.049	0.929	8.59	4.415	0.05	0.37	0.37	568.299	0.083
Rough Terrain Forklifts	2005	26	50	9.835	3.839	6.528	8.285	0.066	0.844	0.844	568.299	0.346
Rough Terrain Forklifts	2005	51	120	7.351	1.555	8.677	4.289	0.06	0.82	0.82	568.299	0.14
Rough Terrain Forklifts	2005	121	175	9.61	1.016	7.941	3.403	0.057	0.447	0.447	568.3	0.091
Rough Terrain Forklifts	2005	176	250	9.418	0.728	7.52	1.995	0.057	0.289	0.289	568.299	0.065
Rough Terrain Forklifts	2005	251	500	12.496	0.643	6.82	2.406	0.05	0.258	0.258	568.299	0.058
Rough Terrain Forklifts	2010	26	50	1.514602	1.273	5.57504	4.9076	0.005	0.495	0.455	583.8316	0.17
Rough Terrain Forklifts	2010	51	120	0.607871	0.511	5.81073	3.47103	0.005	0.386	0.355	525.5318	0.153
Rough Terrain Forklifts	2010	121	175	0.37661	0.316	4.78775	2.9137	0.005	0.212	0.195	524.1127	0.153
Rough Terrain Forklifts	2010	176	250	0.759196	0.638	7.87723	2.86785	0.005	0.351	0.323	527.6921	0.154
Rough Terrain Forklifts	2010	251	500	0.386691	0.325	5.79984	1.82955	0.005	0.168	0.155	518.8116	0.151
Rough Terrain Forklifts	2011	26	50	1.444446	1.214	5.52279	4.83823	0.005	0.48	0.442	582.3751	0.17
Rough Terrain Forklifts	2011	51	120	0.549079	0.461	5.4371	3.4365	0.005	0.352	0.324	524.0504	0.153
Rough Terrain Forklifts	2011	121	175	0.339518	0.285	4.45534	2.87624	0.005	0.193	0.177	522.735	0.153
Rough Terrain Forklifts	2011	176	250	0.686556	0.577	7.1588	2.63351	0.005	0.317	0.292	525.8441	0.153
Rough Terrain Forklifts	2011	251	500	0.390538	0.328	5.81691	1.84589	0.005	0.17	0.156	517.5182	0.151
Rough Terrain Forklifts	2012	26	50	1.441034	1.211	5.49331	4.88018	0.005	0.476	0.438	580.9231	0.17
Rough Terrain Forklifts	2012	51	120	0.530399	0.446	5.29115	3.43501	0.005	0.34	0.312	522.6299	0.153
Rough Terrain Forklifts	2012	121	175	0.336361	0.283	4.38447	2.88643	0.005	0.189	0.174	521.4414	0.153
Rough Terrain Forklifts	2012	176	250	0.693119	0.582	7.11155	2.65596	0.005	0.319	0.293	524.4406	0.153
Rough Terrain Forklifts	2012	251	500	0.394706	0.332	5.83389	1.86253	0.005	0.171	0.157	516.2249	0.151
Rough Terrain Forklifts	2013	26	50	1.427232	1.199	5.34043	4.88715	0.005	0.454	0.417	578.2559	0.17
Rough Terrain Forklifts	2013	51	120	0.469882	0.395	4.92337	3.39906	0.005	0.299	0.275	519.906	0.153
Rough Terrain Forklifts	2013	121	175	0.283862	0.239	3.90677	2.86094	0.005	0.153	0.141	518.7027	0.153

Rough Terrain Forklifts	2013	176	250	0.418518	0.352	4.79966	1.88921	0.005	0.184	0.169	521.6392	0.153
Rough Terrain Forklifts	2013	251	500	0.334838	0.281	4.62017	1.86541	0.005	0.141	0.129	514.2815	0.151
Rough Terrain Forklifts	2014	26	50	1.40671	1.182	5.22634	4.88713	0.005	0.436	0.401	575.3526	0.17
Rough Terrain Forklifts	2014	51	120	0.417386	0.351	4.46728	3.36705	0.005	0.261	0.24	517.2602	0.153
Rough Terrain Forklifts	2014	121	175	0.263476	0.221	3.59442	2.85182	0.005	0.139	0.128	516.0907	0.153
Rough Terrain Forklifts	2014	176	250	0.221616	0.186	2.98369	1.21218	0.005	0.087	0.08	517.7663	0.153
Rough Terrain Forklifts	2014	251	500	0.202465	0.17	3.49973	0.95399	0.005	0.076	0.07	511.6567	0.151
Rough Terrain Forklifts	2015	26	50	1.414803	1.189	5.18984	4.93325	0.005	0.431	0.397	569.4875	0.17
Rough Terrain Forklifts	2015	51	120	0.401892	0.338	4.28003	3.36619	0.005	0.247	0.228	512.0859	0.153
Rough Terrain Forklifts	2015	121	175	0.25808	0.217	3.42042	2.85917	0.005	0.133	0.122	510.8541	0.153
Rough Terrain Forklifts	2015	176	250	0.166466	0.14	2.4626	1.01164	0.005	0.058	0.054	512.1638	0.153
Rough Terrain Forklifts	2015	251	500	0.207111	0.174	3.52067	0.95822	0.005	0.077	0.071	506.4349	0.151
Rough Terrain Forklifts	2016	26	50	1.378654	1.158	5.09924	4.91773	0.005	0.415	0.382	563.3598	0.17
Rough Terrain Forklifts	2016	51	120	0.358928	0.302	3.84005	3.34169	0.005	0.213	0.196	507.0659	0.153
Rough Terrain Forklifts	2016	121	175	0.248476	0.209	3.2087	2.865	0.005	0.124	0.114	505.596	0.153
Rough Terrain Forklifts	2016	176	250	0.171278	0.144	2.46843	1.0177	0.005	0.059	0.054	506.8956	0.153
Rough Terrain Forklifts	2016	251	500	0.211667	0.178	3.54169	0.96236	0.005	0.078	0.072	501.2134	0.151
Rough Terrain Forklifts	2017	26	50	1.318488	1.108	4.90253	4.83344	0.005	0.382	0.352	554.6234	0.17
Rough Terrain Forklifts	2017	51	120	0.322506	0.271	3.41759	3.31778	0.005	0.182	0.167	499.1682	0.153
Rough Terrain Forklifts	2017	121	175	0.231401	0.194	2.90167	2.86636	0.005	0.112	0.103	497.7766	0.153
Rough Terrain Forklifts	2017	176	250	0.175965	0.148	2.47389	1.02362	0.005	0.059	0.054	499.0007	0.153
Rough Terrain Forklifts	2017	251	500	0.216551	0.182	3.56771	0.96636	0.005	0.079	0.073	493.3362	0.151
Rough Terrain Forklifts	2018	26	50	1.273116	1.07	4.73469	4.76839	0.005	0.359	0.33	545.8693	0.17
Rough Terrain Forklifts	2018	51	120	0.264415	0.222	2.84496	3.26976	0.005	0.136	0.125	491.2107	0.153
Rough Terrain Forklifts	2018	121	175	0.194786	0.164	2.34168	2.84245	0.005	0.088	0.081	489.9869	0.153
Rough Terrain Forklifts	2018	176	250	0.181003	0.152	2.48748	1.02948	0.005	0.06	0.055	491.0997	0.153
Rough Terrain Forklifts	2018	251	500	0.172771	0.145	2.70063	0.95802	0.005	0.06	0.055	485.9543	0.151
Rough Terrain Forklifts	2019	26	50	1.200779	1.009	4.55745	4.67405	0.005	0.328	0.301	537.3287	0.17
Rough Terrain Forklifts	2019	51	120	0.240277	0.202	2.6222	3.25848	0.005	0.117	0.107	483.3105	0.153
Rough Terrain Forklifts	2019	121	175	0.177689	0.149	2.05752	2.84092	0.005	0.075	0.069	482.1188	0.153
Rough Terrain Forklifts	2019	176	250	0.130153	0.109	1.63905	0.97423	0.005	0.036	0.033	483.0882	0.153
Rough Terrain Forklifts	2019	251	500	0.138302	0.116	1.96109	0.95034	0.005	0.043	0.039	477.2539	0.151
Rough Terrain Forklifts	2020	26	50	1.188595	0.999	4.4946	4.68594	0.005	0.316	0.291	525.6222	0.17
Rough Terrain Forklifts	2020	51	120	0.225188	0.189	2.45218	3.25575	0.005	0.103	0.094	472.9842	0.153
Rough Terrain Forklifts	2020	121	175	0.170092	0.143	1.86888	2.84466	0.005	0.068	0.063	471.7152	0.153
Rough Terrain Forklifts	2020	176	250	0.132727	0.112	1.60906	0.97848	0.005	0.037	0.034	472.5671	0.153
Rough Terrain Forklifts	2020	251	500	0.105484	0.089	1.30199	0.94184	0.005	0.028	0.026	465.7709	0.151
Rough Terrain Forklifts	2021	26	50	1.152538	0.968	4.41145	4.65658	0.005	0.304	0.279	525.3844	0.17
Rough Terrain Forklifts	2021	51	120	0.207836	0.175	2.28534	3.25191	0.005	0.089	0.081	473.11	0.153
Rough Terrain Forklifts	2021	121	175	0.154972	0.13	1.61661	2.8447	0.005	0.06	0.055	471.7575	0.153
Rough Terrain Forklifts	2021	176	250	0.136824	0.115	1.61186	0.98379	0.005	0.037	0.034	472.5469	0.153
Rough Terrain Forklifts	2021	251	500	0.109168	0.092	1.30199	0.94604	0.005	0.028	0.026	465.7442	0.151
Rough Terrain Forklifts	2022	26	50	0.93878	0.789	4.04131	4.3038	0.005	0.238	0.219	525.0151	0.17
Rough Terrain Forklifts	2022	51	120	0.18871	0.159	2.0983	3.24374	0.005	0.073	0.067	473.089	0.153
Rough Terrain Forklifts	2022	121	175	0.142314	0.12	1.40475	2.84439	0.005	0.051	0.047	471.6773	0.153
Rough Terrain Forklifts	2022	176	250	0.140994	0.118	1.61688	0.98924	0.005	0.037	0.034	472.5408	0.153
Rough Terrain Forklifts	2022	251	500	0.081218	0.068	0.55798	0.93709	0.005	0.009	0.008	466.5598	0.151
Rough Terrain Forklifts	2023	26	50	0.82158	0.69	3.85338	4.12519	0.005	0.204	0.187	524.8024	0.17
Rough Terrain Forklifts	2023	51	120	0.178416	0.15	1.9836	3.24217	0.005	0.064	0.059	473.1584	0.153
Rough Terrain Forklifts	2023	121	175	0.132417	0.111	1.21796	2.84289	0.005	0.043	0.04	471.6217	0.153
Rough Terrain Forklifts	2023	176	250	0.137509	0.116	1.47399	0.98987	0.005	0.034	0.032	472.7784	0.153
Rough Terrain Forklifts	2023	251	500	0.082146	0.069	0.55845	0.93788	0.005	0.009	0.008	466.554	0.151
Rough Terrain Forklifts	2024	26	50	0.678189	0.57	3.65343	3.91822	0.005	0.166	0.152	524.9235	0.17
Rough Terrain Forklifts	2024	51	120	0.172725	0.145	1.91392	3.24468	0.005	0.058	0.054	473.0631	0.153
Rough Terrain Forklifts	2024	121	175	0.122467	0.103	1.04413	2.83416	0.005	0.039	0.035	471.5346	0.153
Rough Terrain Forklifts	2024	176	250	0.141528	0.119	1.48012	0.99524	0.005	0.035	0.032	472.8527	0.153
Rough Terrain Forklifts	2024	251	500	0.078846	0.066	0.47582	0.93746	0.005	0.009	0.008	466.5479	0.151
Rough Terrain Forklifts	2025	26	50	0.542352	0.456	3.47668	3.74002	0.005	0.128	0.118	525.027	0.17
Rough Terrain Forklifts	2025	51	120	0.16354	0.137	1.82053	3.23971	0.005	0.051	0.047	473.0366	0.153
Rough Terrain Forklifts	2025	121	175	0.103861	0.087	0.78628	2.82091	0.005	0.03	0.028	471.4745	0.152
Rough Terrain Forklifts	2025	176	250	0.145736	0.122	1.48888	1.00073	0.005	0.035	0.033	472.9267	0.153
Rough Terrain Forklifts	2025	251	500	0.081817	0.069	0.47663	0.94151	0.005	0.009	0.008	466.5414	0.151
Rough Terrain Forklifts	2030	26	50	1.404	0.548	3.359	5.031	0.007	0.039	0.039	568.299	0.049
Rough Terrain Forklifts	2030	51	120	1.321	0.279	1.671	3.725	0.006	0.034	0.034	568.299	0.025
Rough Terrain Forklifts	2030	121	175	1.898	0.2	0.537	3.291	0.006	0.023	0.023	568.299	0.018
Rough Terrain Forklifts	2030	176	250	2.47	0.191	0.463	1.121	0.006	0.016	0.016	568.299	0.017
Rough Terrain Forklifts	2030	251	500	3.702	0.19	0.443	1.07	0.005	0.016	0.016	568.3	0.017
Rough Terrain Forklifts	2035	26	50	1.335	0.521	3.267	5.011	0.007	0.022	0.022	568.299	0.047
Rough Terrain Forklifts	2035	51	120	1.24	0.262	1.53	3.722	0.006	0.02	0.02	568.299	0.023
Rough Terrain Forklifts	2035	121	175	1.742	0.184	0.364	3.292	0.006	0.015	0.015	568.299	0.016
Rough Terrain Forklifts	2035	176	250	2.346	0.181	0.334	1.121	0.006	0.012	0.012	568.299	0.016
Rough Terrain Forklifts	2035	251	500	3.524	0.181	0.331	1.071	0.005	0.012	0.012	568.3	0.016
Rough Terrain Forklifts	2040	26	50	1.331	0.519	3.228	5.01	0.007	0.017	0.017	568.3	0.046
Rough Terrain Forklifts	2040	51	120	1.222	0.258	1.485	3.722	0.006	0.016	0.016	568.299	0.023
Rough Terrain Forklifts	2040	121	175	1.687	0.178	0.303	3.292	0.006	0.012	0.012	568.3	0.016
Rough Terrain Forklifts	2040	176	250	2.296	0.177	0.292	1.121	0.006	0.011	0.011	568.299	0.016
Rough Terrain Forklifts	2040	251	500	3.449	0.177	0.292	1.071	0.005	0.011	0.011	568.299	0.016
Rubber Tired Dozers	1990	121	175	6.172	1.886	14.831	5.29	0.758	1.059	1.059	568.299	0.17
Rubber Tired Dozers	1990	176	250	8.746	1.886	14.831	5.29	0.758	1.059	1.059	568.299	0.17
Rubber Tired Dozers	1990	251	500	11.084	1.655	13.986	12.26	0.662	0.899	0.899	568.299	0.149
Rubber Tired Dozers	1990	501	750	16.688	1.655	13.986	12.26	1.018	0.915	0.915	568.3	0.149
Rubber Tired Dozers	1990	751	1000	24.619	1.645	13.986	12.26	1.018	0.903	0.903	568.299	0.148
Rubber Tired Dozers	2000	121	175	4.761	1.454	10.881	4.295	0.057	0.624	0.624	568.299	0.131
Rubber Tired Dozers	2000	176	250	6.043	1.303	10.625	3.733	0.057	0.548	0.548	568.299	0.117
Rubber Tired Dozers	2000	251	500	7.775	1.161	10.023	6.982	0.05	0.474	0.474	568.299	0.104
Rubber Tired Dozers	2000	501	750	11.706	1.161	10.023	6.982	0.052	0.474	0.474	568.3	0.104
Rubber Tired Dozers	2000	751	1000	17.842	1.192	10.456	7.415	0.052	0.451	0.451	568.3	0.107
Rubber Tired Dozers	2005	121	175	4.21	1.286	9.666	4.026	0.057	0.567	0.567	568.299	0.116
Rubber Tired Dozers	2005	176	250	4.912	1.059	9.344	2.99	0.057	0.437	0.437	568.299	0.095



Rubber Tired Dozers	2005	251	500	6.277	0.937	8.574	5.159	0.05	0.38	0.38	568.299	0.084
Rubber Tired Dozers	2005	501	750	9.496	0.942	8.694	5.15	0.052	0.382	0.382	568.299	0.085
Rubber Tired Dozers	2005	751	1000	14.937	0.998	9.444	5.524	0.052	0.369	0.369	568.299	0.09
Rubber Tired Dozers	2010	121	175	1.12265	0.943	9.78349	4.17063	0.005	0.555	0.511	526.3128	0.153
Rubber Tired Dozers	2010	176	250	0.840919	0.707	8.22344	2.68761	0.005	0.394	0.362	527.9126	0.154
Rubber Tired Dozers	2010	251	500	0.88356	0.742	8.70703	6.7191	0.005	0.406	0.374	533.1476	0.155
Rubber Tired Dozers	2010	501	750	0.619996	0.521	7.42352	3.1214	0.005	0.269	0.248	525.7054	0.153
Rubber Tired Dozers	2010	751	1000	12.178	0.814	8.149	4.027	0.005	0.29	0.29	568.299	0.073
Rubber Tired Dozers	2011	121	175	1.128595	0.948	9.7992	4.18594	0.005	0.557	0.513	524.9639	0.153
Rubber Tired Dozers	2011	176	250	0.852039	0.716	8.24976	2.69892	0.005	0.396	0.364	526.5967	0.154
Rubber Tired Dozers	2011	251	500	0.878525	0.738	8.60406	6.65601	0.005	0.402	0.37	532.0871	0.155
Rubber Tired Dozers	2011	501	750	0.62921	0.529	7.4622	3.13084	0.005	0.272	0.25	524.3841	0.153
Rubber Tired Dozers	2011	751	1000	11.693	0.781	7.805	3.772	0.005	0.276	0.276	568.299	0.07
Rubber Tired Dozers	2012	121	175	1.133798	0.953	9.81194	4.1998	0.005	0.559	0.515	523.6318	0.153
Rubber Tired Dozers	2012	176	250	0.862577	0.725	8.27234	2.70943	0.005	0.398	0.366	525.281	0.154
Rubber Tired Dozers	2012	251	500	0.883165	0.742	8.58436	6.62489	0.005	0.401	0.369	530.6589	0.155
Rubber Tired Dozers	2012	501	750	0.635938	0.534	7.48052	3.13648	0.005	0.274	0.252	523.0626	0.153
Rubber Tired Dozers	2012	751	1000	11.228	0.75	7.474	3.531	0.005	0.262	0.262	568.299	0.067
Rubber Tired Dozers	2013	121	175	1.138698	0.957	9.82334	4.21297	0.005	0.561	0.516	520.9836	0.153
Rubber Tired Dozers	2013	176	250	0.859983	0.723	8.10695	2.71092	0.005	0.395	0.363	522.6456	0.154
Rubber Tired Dozers	2013	251	500	0.864011	0.726	8.33658	6.42295	0.005	0.39	0.359	527.9093	0.155
Rubber Tired Dozers	2013	501	750	0.641687	0.539	7.49129	3.14069	0.005	0.275	0.253	520.4266	0.153
Rubber Tired Dozers	2013	751	1000	10.78	0.72	7.155	3.306	0.005	0.249	0.249	568.299	0.065
Rubber Tired Dozers	2014	121	175	1.143391	0.961	9.83401	4.22564	0.005	0.563	0.518	518.335	0.153
Rubber Tired Dozers	2014	176	250	0.858402	0.721	7.97218	2.71199	0.005	0.392	0.361	520.0105	0.154
Rubber Tired Dozers	2014	251	500	0.841688	0.707	8.05819	6.16471	0.005	0.376	0.346	524.6758	0.155
Rubber Tired Dozers	2014	501	750	0.610646	0.513	7.14705	2.75605	0.005	0.258	0.237	517.7903	0.153
Rubber Tired Dozers	2014	751	1000	10.347	0.691	6.849	3.096	0.005	0.236	0.236	568.3	0.062
Rubber Tired Dozers	2015	121	175	1.147937	0.965	9.84425	4.23794	0.005	0.564	0.519	513.0549	0.153
Rubber Tired Dozers	2015	176	250	0.866859	0.728	7.9837	2.7204	0.005	0.394	0.362	514.7359	0.154
Rubber Tired Dozers	2015	251	500	0.842228	0.708	7.99736	6.10151	0.005	0.373	0.343	519.1472	0.155
Rubber Tired Dozers	2015	501	750	0.616719	0.518	7.15777	2.76062	0.005	0.259	0.238	512.5253	0.153
Rubber Tired Dozers	2015	751	1000	9.895	0.661	6.556	2.901	0.005	0.222	0.222	568.299	0.059
Rubber Tired Dozers	2016	121	175	1.152013	0.968	9.85328	4.24901	0.005	0.566	0.52	507.7744	0.153
Rubber Tired Dozers	2016	176	250	0.875531	0.736	7.99508	2.72943	0.005	0.395	0.364	509.4615	0.154
Rubber Tired Dozers	2016	251	500	0.819146	0.688	7.71034	5.82829	0.005	0.359	0.33	513.3109	0.155
Rubber Tired Dozers	2016	501	750	0.622662	0.523	7.16821	2.7651	0.005	0.26	0.239	507.2601	0.153
Rubber Tired Dozers	2016	751	1000	9.45	0.631	6.277	2.723	0.005	0.208	0.208	568.3	0.057
Rubber Tired Dozers	2017	121	175	1.074198	0.903	9.12915	4.14895	0.005	0.525	0.483	499.4096	0.153
Rubber Tired Dozers	2017	176	250	0.840865	0.707	7.67081	2.65514	0.005	0.375	0.345	501.5475	0.154
Rubber Tired Dozers	2017	251	500	0.787455	0.662	7.33345	5.52569	0.005	0.341	0.313	505.8493	0.155
Rubber Tired Dozers	2017	501	750	0.625767	0.526	7.17226	2.76746	0.005	0.26	0.239	499.3665	0.153
Rubber Tired Dozers	2017	751	1000	9.018	0.602	6.013	2.56	0.005	0.195	0.195	568.299	0.054
Rubber Tired Dozers	2018	121	175	0.954751	0.802	8.02079	3.98965	0.005	0.46	0.424	491.4921	0.153
Rubber Tired Dozers	2018	176	250	0.796398	0.669	7.20787	2.51156	0.005	0.35	0.322	493.6337	0.154
Rubber Tired Dozers	2018	251	500	0.711175	0.598	6.50184	4.98205	0.005	0.3	0.276	498.1862	0.155
Rubber Tired Dozers	2018	501	750	0.602699	0.506	6.72652	2.75902	0.005	0.248	0.228	491.4726	0.153
Rubber Tired Dozers	2018	751	1000	8.6	0.574	5.764	2.413	0.005	0.183	0.183	568.299	0.051
Rubber Tired Dozers	2019	121	175	0.90312	0.759	7.52037	3.94854	0.005	0.433	0.398	483.5585	0.153
Rubber Tired Dozers	2019	176	250	0.774882	0.651	6.92923	2.45855	0.005	0.338	0.311	485.172	0.154
Rubber Tired Dozers	2019	251	500	0.680848	0.572	6.14335	4.74309	0.005	0.283	0.26	490.383	0.155
Rubber Tired Dozers	2019	501	750	0.541107	0.455	6.12249	2.59814	0.005	0.218	0.201	483.5786	0.153
Rubber Tired Dozers	2019	751	1000	8.196	0.547	5.528	2.281	0.005	0.171	0.171	568.299	0.049
Rubber Tired Dozers	2020	121	175	0.864425	0.726	7.18525	3.89288	0.005	0.411	0.378	473.0116	0.153
Rubber Tired Dozers	2020	176	250	0.737248	0.619	6.50332	2.37104	0.005	0.318	0.293	474.7928	0.154
Rubber Tired Dozers	2020	251	500	0.636621	0.535	5.64089	4.41134	0.005	0.259	0.238	479.7569	0.155
Rubber Tired Dozers	2020	501	750	0.543245	0.456	6.12255	2.60108	0.005	0.218	0.201	473.0562	0.153
Rubber Tired Dozers	2020	751	1000	7.811	0.522	5.306	2.164	0.005	0.16	0.16	568.299	0.047
Rubber Tired Dozers	2021	121	175	0.822557	0.691	6.79037	3.84814	0.005	0.386	0.355	472.9751	0.153
Rubber Tired Dozers	2021	176	250	0.714624	0.6	6.29617	2.31719	0.005	0.306	0.281	474.7984	0.154
Rubber Tired Dozers	2021	251	500	0.585817	0.492	5.081	4.04107	0.005	0.232	0.214	478.9868	0.155
Rubber Tired Dozers	2021	501	750	0.545338	0.458	6.12254	2.60396	0.005	0.218	0.201	473.0459	0.153
Rubber Tired Dozers	2021	751	1000	7.448	0.497	5.095	2.057	0.005	0.15	0.15	568.299	0.044
Rubber Tired Dozers	2022	121	175	0.714312	0.6	5.80781	3.75194	0.005	0.326	0.3	473.9122	0.153
Rubber Tired Dozers	2022	176	250	0.571708	0.48	5.04648	2.05563	0.005	0.24	0.22	474.6166	0.154
Rubber Tired Dozers	2022	251	500	0.565033	0.475	4.80775	3.89489	0.005	0.22	0.202	479.3107	0.155
Rubber Tired Dozers	2022	501	750	0.547387	0.46	6.12245	2.60677	0.005	0.218	0.201	473.035	0.153
Rubber Tired Dozers	2022	751	1000	7.106	0.475	4.896	1.961	0.005	0.14	0.14	568.299	0.042
Rubber Tired Dozers	2023	121	175	0.700073	0.588	5.65638	3.7664	0.005	0.316	0.291	473.9009	0.153
Rubber Tired Dozers	2023	176	250	0.467601	0.393	4.09011	1.78266	0.005	0.184	0.169	474.5967	0.153
Rubber Tired Dozers	2023	251	500	0.531484	0.447	4.40835	3.68617	0.005	0.202	0.185	479.4678	0.155
Rubber Tired Dozers	2023	501	750	0.502999	0.423	5.33389	2.59131	0.005	0.196	0.18	473.0234	0.153
Rubber Tired Dozers	2023	751	1000	6.786	0.453	4.709	1.874	0.005	0.131	0.131	568.299	0.04
Rubber Tired Dozers	2024	121	175	0.633623	0.532	5.0144	3.69636	0.005	0.279	0.257	473.5147	0.153
Rubber Tired Dozers	2024	176	250	0.474702	0.399	4.0904	1.79685	0.005	0.184	0.17	474.5854	0.153
Rubber Tired Dozers	2024	251	500	0.495724	0.417	4.03046	3.45746	0.005	0.182	0.168	479.3938	0.155
Rubber Tired Dozers	2024	501	750	0.506146	0.425	5.33372	2.59604	0.005	0.196	0.18	473.0111	0.153
Rubber Tired Dozers	2024	751	1000	6.485	0.433	4.532	1.796	0.005	0.123	0.123	568.299	0.039
Rubber Tired Dozers	2025	121	175	0.548636	0.461	4.22886	3.61238	0.005	0.23	0.212	474.1029	0.153
Rubber Tired Dozers	2025	176	250	0.442605	0.372	3.80547	1.72032	0.005	0.167	0.153	474.5734	0.153
Rubber Tired Dozers	2025	251	500	0.436562	0.367	3.36957	2.95895	0.005	0.151	0.139	479.0915	0.155
Rubber Tired Dozers	2025	501	750	0.509225	0.428	5.33346	2.60066	0.005	0.196	0.18	472.9981	0.153
Rubber Tired Dozers	2025	751	1000	6.203	0.414	4.365	1.725	0.005	0.115	0.115	568.299	0.037
Rubber Tired Dozers	2030	121	175	1.303	0.398	2.034	3.496	0.006	0.111	0.111	568.299	0.035
Rubber Tired Dozers	2030	176	250	1.556	0.335	1.828	1.322	0.006	0.069	0.069	568.299	0.03
Rubber Tired Dozers	2030	251	500	2.16	0.322	1.658	1.401	0.005	0.064	0.064	568.299	0.029
Rubber Tired Dozers	2030	501	750	3.261	0.323	1.694	1.401	0.005	0.064	0.064	568.299	0.029
Rubber Tired Dozers	2030	751	1000	5.063	0.338	3.676	1.465	0.005	0.082	0.082	568.299	0.03
Rubber Tired Dozers	2035	121	175	1.054	0.322	1.345	3.481	0.006	0.071	0.071	568.299	0.029

Rubber Tired Dozers	2035	176	250	1.326	0.286	1.203	1.262	0.006	0.046	0.046	568.299	0.025
Rubber Tired Dozers	2035	251	500	1.868	0.279	1.107	1.279	0.005	0.043	0.043	568.3	0.025
Rubber Tired Dozers	2035	501	750	2.816	0.279	1.126	1.279	0.005	0.043	0.043	568.299	0.025
Rubber Tired Dozers	2035	751	1000	4.306	0.287	3.204	1.312	0.005	0.06	0.06	568.299	0.025
Rubber Tired Dozers	2040	121	175	0.9	0.275	0.903	3.47	0.006	0.045	0.045	568.299	0.024
Rubber Tired Dozers	2040	176	250	1.176	0.253	0.81	1.225	0.006	0.031	0.031	568.299	0.022
Rubber Tired Dozers	2040	251	500	1.672	0.249	0.758	1.198	0.005	0.029	0.029	568.299	0.022
Rubber Tired Dozers	2040	501	750	2.519	0.25	0.767	1.198	0.005	0.029	0.029	568.3	0.022
Rubber Tired Dozers	2040	751	1000	3.814	0.254	2.91	1.218	0.005	0.045	0.045	568.3	0.023
Rubber Tired Loaders	1990	16	25	5.92	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Rubber Tired Loaders	1990	26	50	23.869	4.848	7.964	9.805	0.871	1.279	1.279	568.299	0.437
Rubber Tired Loaders	1990	51	120	22.055	2.368	14.978	5.728	0.791	1.345	1.345	568.299	0.213
Rubber Tired Loaders	1990	121	175	30.1	1.791	14.294	5.094	0.758	0.995	0.995	568.299	0.161
Rubber Tired Loaders	1990	176	250	42.179	1.791	14.294	5.094	0.758	0.995	0.995	568.3	0.161
Rubber Tired Loaders	1990	251	500	59.295	1.583	13.545	11.282	0.662	0.851	0.851	568.3	0.142
Rubber Tired Loaders	1990	501	750	121.471	1.583	13.545	11.282	1.018	0.867	0.867	568.299	0.142
Rubber Tired Loaders	1990	751	1000	147.851	1.575	13.545	11.282	1.018	0.858	0.858	568.299	0.142
Rubber Tired Loaders	2000	16	25	5.105	1.908	6.326	4.438	0.065	0.555	0.555	568.299	0.172
Rubber Tired Loaders	2000	26	50	21.853	4.439	7.065	9.15	0.066	0.928	0.928	568.299	0.4
Rubber Tired Loaders	2000	51	120	17.155	1.842	10.433	4.652	0.06	0.896	0.896	568.299	0.166
Rubber Tired Loaders	2000	121	175	20.951	1.246	9.552	3.765	0.057	0.526	0.526	568.299	0.112
Rubber Tired Loaders	2000	176	250	24.776	1.052	9.216	3.019	0.057	0.433	0.433	568.299	0.094
Rubber Tired Loaders	2000	251	500	35.779	0.955	8.766	4.797	0.05	0.381	0.381	568.299	0.086
Rubber Tired Loaders	2000	501	750	73.296	0.955	8.766	4.797	0.052	0.381	0.381	568.299	0.086
Rubber Tired Loaders	2000	751	1000	95.549	1.018	9.342	5.369	0.052	0.372	0.372	568.299	0.091
Rubber Tired Loaders	2005	16	25	2.273	0.849	5.321	2.519	0.065	0.333	0.333	568.299	0.076
Rubber Tired Loaders	2005	26	50	19.43	3.947	6.59	8.471	0.066	0.86	0.86	568.299	0.356
Rubber Tired Loaders	2005	51	120	14.973	1.608	8.954	4.379	0.06	0.841	0.841	568.3	0.145
Rubber Tired Loaders	2005	121	175	17.677	1.052	8.183	3.496	0.057	0.464	0.464	568.299	0.094
Rubber Tired Loaders	2005	176	250	18.23	0.774	7.781	2.143	0.057	0.31	0.31	568.3	0.069
Rubber Tired Loaders	2005	251	500	25.602	0.683	7.066	2.836	0.05	0.275	0.275	568.3	0.061
Rubber Tired Loaders	2005	501	750	53.332	0.695	7.236	2.831	0.052	0.278	0.278	568.299	0.062
Rubber Tired Loaders	2005	751	1000	74.257	0.791	8.232	3.279	0.052	0.275	0.275	568.299	0.071
Rubber Tired Loaders	2010	16	25	2.807425	2.359	6.29919	7.88269	0.005	0.734	0.675	581.9969	0.169
Rubber Tired Loaders	2010	26	50	2.807425	2.359	6.29919	7.88269	0.005	0.734	0.675	581.9969	0.169
Rubber Tired Loaders	2010	51	120	1.132276	0.951	7.85298	4.28386	0.005	0.68	0.626	519.5038	0.151
Rubber Tired Loaders	2010	121	175	0.772004	0.649	7.01127	3.56499	0.005	0.387	0.356	523.9006	0.152
Rubber Tired Loaders	2010	176	250	0.475737	0.4	5.94632	1.50852	0.005	0.199	0.183	522.3501	0.152
Rubber Tired Loaders	2010	251	500	0.495122	0.416	5.66307	2.61599	0.005	0.211	0.194	521.885	0.152
Rubber Tired Loaders	2010	501	750	0.454547	0.382	5.06362	2.10254	0.005	0.197	0.181	507.2864	0.148
Rubber Tired Loaders	2010	751	1000	0.464861	0.391	6.63966	1.45926	0.005	0.187	0.172	523.2526	0.152
Rubber Tired Loaders	2011	16	25	2.679774	2.252	6.24779	7.77095	0.005	0.711	0.654	581.4262	0.17
Rubber Tired Loaders	2011	26	50	2.679774	2.252	6.24779	7.77095	0.005	0.711	0.654	581.4262	0.17
Rubber Tired Loaders	2011	51	120	1.113092	0.935	7.68957	4.28739	0.005	0.671	0.618	517.9363	0.151
Rubber Tired Loaders	2011	121	175	0.757164	0.636	6.81375	3.57219	0.005	0.378	0.348	522.5315	0.152
Rubber Tired Loaders	2011	176	250	0.481296	0.404	5.87694	1.50155	0.005	0.197	0.181	520.9732	0.152
Rubber Tired Loaders	2011	251	500	0.501144	0.421	5.5868	2.56846	0.005	0.209	0.192	520.154	0.152
Rubber Tired Loaders	2011	501	750	0.472712	0.397	5.09397	2.12943	0.005	0.2	0.184	505.881	0.148
Rubber Tired Loaders	2011	751	1000	0.476526	0.4	6.69396	1.47057	0.005	0.191	0.176	521.9232	0.152
Rubber Tired Loaders	2012	16	25	2.730745	2.295	6.30427	7.96233	0.005	0.724	0.666	579.9785	0.17
Rubber Tired Loaders	2012	26	50	2.730745	2.295	6.30427	7.96233	0.005	0.724	0.666	579.9785	0.17
Rubber Tired Loaders	2012	51	120	1.113822	0.936	7.65616	4.31845	0.005	0.671	0.617	516.6239	0.151
Rubber Tired Loaders	2012	121	175	0.765409	0.643	6.79567	3.60616	0.005	0.38	0.349	521.0995	0.152
Rubber Tired Loaders	2012	176	250	0.492248	0.414	5.85805	1.51119	0.005	0.198	0.182	519.646	0.152
Rubber Tired Loaders	2012	251	500	0.515336	0.433	5.58714	2.59983	0.005	0.211	0.194	518.7236	0.152
Rubber Tired Loaders	2012	501	750	0.485752	0.408	5.07921	2.14848	0.005	0.201	0.185	504.6824	0.148
Rubber Tired Loaders	2012	751	1000	0.48616	0.409	6.73245	1.47877	0.005	0.194	0.178	520.592	0.152
Rubber Tired Loaders	2013	16	25	2.60616	2.19	6.18494	7.83573	0.005	0.695	0.64	577.0156	0.17
Rubber Tired Loaders	2013	26	50	2.60616	2.19	6.18494	7.83573	0.005	0.695	0.64	577.0156	0.17
Rubber Tired Loaders	2013	51	120	1.087575	0.914	7.47698	4.31523	0.005	0.654	0.602	513.9368	0.151
Rubber Tired Loaders	2013	121	175	0.750707	0.631	6.6063	3.60722	0.005	0.369	0.339	518.3787	0.152
Rubber Tired Loaders	2013	176	250	0.496511	0.417	5.75293	1.5142	0.005	0.196	0.181	516.9736	0.152
Rubber Tired Loaders	2013	251	500	0.517428	0.435	5.4738	2.55447	0.005	0.208	0.191	515.9429	0.152
Rubber Tired Loaders	2013	501	750	0.49047	0.412	4.99146	2.0823	0.005	0.199	0.183	502.8589	0.148
Rubber Tired Loaders	2013	751	1000	0.484243	0.407	6.66719	1.45163	0.005	0.193	0.178	517.9506	0.152
Rubber Tired Loaders	2014	16	25	2.51646	2.115	6.10324	7.7699	0.005	0.676	0.622	573.5218	0.169
Rubber Tired Loaders	2014	26	50	2.51646	2.115	6.10324	7.7699	0.005	0.676	0.622	573.5218	0.169
Rubber Tired Loaders	2014	51	120	1.032758	0.868	7.12932	4.26762	0.005	0.619	0.569	510.0099	0.151
Rubber Tired Loaders	2014	121	175	0.720145	0.605	6.27196	3.58536	0.005	0.35	0.322	515.7685	0.152
Rubber Tired Loaders	2014	176	250	0.483874	0.407	5.49539	1.48551	0.005	0.187	0.172	514.2167	0.152
Rubber Tired Loaders	2014	251	500	0.501158	0.421	5.19438	2.40656	0.005	0.196	0.18	512.5095	0.151
Rubber Tired Loaders	2014	501	750	0.483251	0.406	4.81047	1.94616	0.005	0.19	0.175	499.6952	0.148
Rubber Tired Loaders	2014	751	1000	0.492279	0.414	6.69249	1.45724	0.005	0.195	0.179	515.307	0.152
Rubber Tired Loaders	2015	16	25	2.508512	2.108	6.11232	7.83443	0.005	0.675	0.621	567.672	0.169
Rubber Tired Loaders	2015	26	50	2.508512	2.108	6.11232	7.83443	0.005	0.675	0.621	567.672	0.169
Rubber Tired Loaders	2015	51	120	1.018295	0.856	7.01153	4.27362	0.005	0.606	0.558	505.0231	0.151
Rubber Tired Loaders	2015	121	175	0.708161	0.595	6.09735	3.58815	0.005	0.341	0.313	510.4677	0.152
Rubber Tired Loaders	2015	176	250	0.482642	0.406	5.36927	1.47986	0.005	0.183	0.169	508.9127	0.152
Rubber Tired Loaders	2015	251	500	0.494223	0.415	5.0195	2.33208	0.005	0.19	0.174	506.3723	0.151
Rubber Tired Loaders	2015	501	750	0.469822	0.395	4.55578	1.78908	0.005	0.179	0.165	495.31	0.148
Rubber Tired Loaders	2015	751	1000	0.499538	0.42	6.71262	1.46167	0.005	0.197	0.181	510.0449	0.152
Rubber Tired Loaders	2016	16	25	2.445921	2.055	6.05258	7.79111	0.005	0.66	0.607	561.9032	0.169
Rubber Tired Loaders	2016	26	50	2.445921	2.055	6.05258	7.79111	0.005	0.66	0.607	561.9032	0.169
Rubber Tired Loaders	2016	51	120	0.955142	0.803	6.58334	4.21236	0.005	0.565	0.52	499.5935	0.151
Rubber Tired Loaders	2016	121	175	0.67267	0.565	5.72558	3.56236	0.005	0.319	0.294	505.1308	0.152
Rubber Tired Loaders	2016	176	250	0.468005	0.393	5.1151	1.45212	0.005	0.174	0.16	503.6542	0.152
Rubber Tired Loaders	2016	251	500	0.465473	0.391	4.62743	2.15506	0.005	0.174	0.16	500.4314	0.151
Rubber Tired Loaders	2016	501	750	0.443728	0.373	4.17165	1.70263	0.005	0.164	0.151	491.9183	0.148
Rubber Tired Loaders	2016	751	1000	0.505153	0.424	6.72411	1.46404	0.005	0.198	0.182	504.7801	0.152

Rubber Tired Loaders	2017	16	25	2.32856	1.957	5.95377	7.65953	0.005	0.633	0.582	553.5831	0.17
Rubber Tired Loaders	2017	26	50	2.32856	1.957	5.95377	7.65953	0.005	0.633	0.582	553.5831	0.17
Rubber Tired Loaders	2017	51	120	0.900842	0.757	6.23569	4.17083	0.005	0.53	0.487	491.8531	0.151
Rubber Tired Loaders	2017	121	175	0.620654	0.522	5.19525	3.5175	0.005	0.289	0.266	497.3533	0.152
Rubber Tired Loaders	2017	176	250	0.443532	0.373	4.75473	1.4172	0.005	0.162	0.149	495.9499	0.152
Rubber Tired Loaders	2017	251	500	0.439436	0.369	4.25314	2.06046	0.005	0.16	0.147	492.2764	0.151
Rubber Tired Loaders	2017	501	750	0.436922	0.367	4.05049	1.70044	0.005	0.16	0.147	484.3661	0.148
Rubber Tired Loaders	2017	751	1000	0.493245	0.414	6.55319	1.45641	0.005	0.192	0.176	496.8966	0.152
Rubber Tired Loaders	2018	16	25	2.100538	1.765	5.67925	7.29915	0.005	0.576	0.53	545.0529	0.17
Rubber Tired Loaders	2018	26	50	2.100538	1.765	5.67925	7.29915	0.005	0.576	0.53	545.0529	0.17
Rubber Tired Loaders	2018	51	120	0.779856	0.655	5.47032	4.04742	0.005	0.452	0.416	484.0931	0.151
Rubber Tired Loaders	2018	121	175	0.533198	0.448	4.36814	3.42332	0.005	0.242	0.223	489.5114	0.152
Rubber Tired Loaders	2018	176	250	0.396861	0.333	4.13133	1.34644	0.005	0.14	0.129	487.9023	0.152
Rubber Tired Loaders	2018	251	500	0.397312	0.334	3.72607	1.86807	0.005	0.14	0.128	484.5709	0.151
Rubber Tired Loaders	2018	501	750	0.393495	0.331	3.5437	1.55549	0.005	0.14	0.129	476.5663	0.148
Rubber Tired Loaders	2018	751	1000	0.399711	0.336	5.67315	1.21289	0.005	0.154	0.142	488.4037	0.152
Rubber Tired Loaders	2019	16	25	1.906195	1.602	5.43193	6.97769	0.005	0.518	0.476	536.2254	0.17
Rubber Tired Loaders	2019	26	50	1.906195	1.602	5.43193	6.97769	0.005	0.518	0.476	536.2254	0.17
Rubber Tired Loaders	2019	51	120	0.707701	0.595	5.00611	3.97887	0.005	0.402	0.37	475.8636	0.151
Rubber Tired Loaders	2019	121	175	0.482139	0.405	3.85918	3.38084	0.005	0.213	0.196	481.7364	0.152
Rubber Tired Loaders	2019	176	250	0.368194	0.309	3.74452	1.30248	0.005	0.126	0.116	480.0997	0.152
Rubber Tired Loaders	2019	251	500	0.363843	0.306	3.28755	1.7248	0.005	0.123	0.113	477.0415	0.151
Rubber Tired Loaders	2019	501	750	0.348958	0.293	3.01875	1.45157	0.005	0.118	0.109	471.1874	0.149
Rubber Tired Loaders	2019	751	1000	0.384887	0.323	5.45926	1.20834	0.005	0.146	0.134	480.523	0.152
Rubber Tired Loaders	2020	16	25	1.761913	1.48	5.25369	6.76793	0.005	0.474	0.436	524.6967	0.17
Rubber Tired Loaders	2020	26	50	1.761913	1.48	5.25369	6.76793	0.005	0.474	0.436	524.6967	0.17
Rubber Tired Loaders	2020	51	120	0.661113	0.556	4.68644	3.94839	0.005	0.367	0.338	465.6735	0.151
Rubber Tired Loaders	2020	121	175	0.450696	0.379	3.51735	3.36809	0.005	0.194	0.178	471.2135	0.152
Rubber Tired Loaders	2020	176	250	0.345399	0.29	3.42116	1.26885	0.005	0.114	0.104	469.5127	0.152
Rubber Tired Loaders	2020	251	500	0.343959	0.289	3.01666	1.6304	0.005	0.112	0.103	466.7831	0.151
Rubber Tired Loaders	2020	501	750	0.329462	0.277	2.76722	1.39991	0.005	0.107	0.099	462.193	0.149
Rubber Tired Loaders	2020	751	1000	0.370676	0.311	5.25309	1.20366	0.005	0.139	0.127	469.9352	0.152
Rubber Tired Loaders	2021	16	25	1.577419	1.325	4.97419	6.44855	0.005	0.409	0.376	524.5505	0.17
Rubber Tired Loaders	2021	26	50	1.577419	1.325	4.97419	6.44855	0.005	0.409	0.376	524.5505	0.17
Rubber Tired Loaders	2021	51	120	0.592559	0.498	4.21491	3.8917	0.005	0.316	0.291	466.4213	0.151
Rubber Tired Loaders	2021	121	175	0.411896	0.346	3.11886	3.35381	0.005	0.171	0.157	471.0804	0.152
Rubber Tired Loaders	2021	176	250	0.316703	0.266	2.9977	1.24034	0.005	0.1	0.092	469.5642	0.152
Rubber Tired Loaders	2021	251	500	0.314488	0.264	2.61037	1.52922	0.005	0.097	0.09	467.9277	0.151
Rubber Tired Loaders	2021	501	750	0.322962	0.271	2.64092	1.39703	0.005	0.102	0.094	462.0548	0.149
Rubber Tired Loaders	2021	751	1000	0.350105	0.294	4.97489	1.2055	0.005	0.128	0.118	471.2577	0.152
Rubber Tired Loaders	2022	16	25	1.402643	1.179	4.74817	6.20445	0.005	0.354	0.326	524.7914	0.17
Rubber Tired Loaders	2022	26	50	1.402643	1.179	4.74817	6.20445	0.005	0.354	0.326	524.7914	0.17
Rubber Tired Loaders	2022	51	120	0.523774	0.44	3.7684	3.83931	0.005	0.267	0.245	466.4936	0.151
Rubber Tired Loaders	2022	121	175	0.350975	0.295	2.5181	3.30208	0.005	0.136	0.125	470.9274	0.152
Rubber Tired Loaders	2022	176	250	0.269035	0.226	2.34693	1.188	0.005	0.079	0.072	469.9041	0.152
Rubber Tired Loaders	2022	251	500	0.281674	0.237	2.17525	1.441	0.005	0.081	0.075	468.1288	0.151
Rubber Tired Loaders	2022	501	750	0.27713	0.233	2.0971	1.31524	0.005	0.08	0.074	463.8194	0.15
Rubber Tired Loaders	2022	751	1000	0.229104	0.193	3.61655	1.16216	0.005	0.074	0.069	472.8577	0.153
Rubber Tired Loaders	2023	16	25	1.248748	1.049	4.52113	5.97233	0.005	0.304	0.279	524.304	0.17
Rubber Tired Loaders	2023	26	50	1.248748	1.049	4.52113	5.97233	0.005	0.304	0.279	524.304	0.17
Rubber Tired Loaders	2023	51	120	0.490267	0.412	3.51183	3.82678	0.005	0.238	0.219	466.5584	0.151
Rubber Tired Loaders	2023	121	175	0.320411	0.269	2.19586	3.29198	0.005	0.118	0.108	470.6601	0.152
Rubber Tired Loaders	2023	176	250	0.249759	0.21	2.05963	1.17136	0.005	0.069	0.063	469.824	0.152
Rubber Tired Loaders	2023	251	500	0.258421	0.217	1.86629	1.38396	0.005	0.069	0.064	468.466	0.152
Rubber Tired Loaders	2023	501	750	0.269537	0.226	1.92719	1.32307	0.005	0.074	0.069	464.5553	0.15
Rubber Tired Loaders	2023	751	1000	0.229405	0.193	3.52792	1.17379	0.005	0.071	0.065	472.3032	0.153
Rubber Tired Loaders	2024	16	25	1.200513	1.009	4.46751	5.98698	0.005	0.286	0.263	524.2299	0.17
Rubber Tired Loaders	2024	26	50	1.200513	1.009	4.46751	5.98698	0.005	0.286	0.263	524.2299	0.17
Rubber Tired Loaders	2024	51	120	0.472864	0.397	3.33895	3.83209	0.005	0.22	0.203	466.8084	0.151
Rubber Tired Loaders	2024	121	175	0.292737	0.246	1.88365	3.28823	0.005	0.1	0.092	470.3567	0.152
Rubber Tired Loaders	2024	176	250	0.234511	0.197	1.80598	1.1607	0.005	0.06	0.056	469.7875	0.152
Rubber Tired Loaders	2024	251	500	0.249195	0.209	1.70166	1.3518	0.005	0.063	0.058	468.5133	0.152
Rubber Tired Loaders	2024	501	750	0.268468	0.226	1.88137	1.33327	0.005	0.072	0.066	464.8656	0.15
Rubber Tired Loaders	2024	751	1000	0.238754	0.201	3.54358	1.19144	0.005	0.071	0.066	472.3454	0.153
Rubber Tired Loaders	2025	16	25	1.142731	0.96	4.34846	5.9413	0.005	0.259	0.238	523.9076	0.169
Rubber Tired Loaders	2025	26	50	1.142731	0.96	4.34846	5.9413	0.005	0.259	0.238	523.9076	0.169
Rubber Tired Loaders	2025	51	120	0.418779	0.352	2.97026	3.79086	0.005	0.179	0.165	466.8982	0.151
Rubber Tired Loaders	2025	121	175	0.266202	0.224	1.59023	3.28059	0.005	0.084	0.077	470.4594	0.152
Rubber Tired Loaders	2025	176	250	0.211073	0.177	1.44207	1.1417	0.005	0.048	0.045	469.8711	0.152
Rubber Tired Loaders	2025	251	500	0.22979	0.193	1.43264	1.2763	0.005	0.053	0.048	469.1434	0.152
Rubber Tired Loaders	2025	501	750	0.252566	0.212	1.65408	1.33262	0.005	0.064	0.059	465.0523	0.15
Rubber Tired Loaders	2025	751	1000	0.196905	0.165	3.08852	1.12172	0.005	0.052	0.048	472.4559	0.153
Rubber Tired Loaders	2030	16	25	1.834	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Rubber Tired Loaders	2030	26	50	3.121	0.634	3.5	5.181	0.007	0.062	0.062	568.3	0.057
Rubber Tired Loaders	2030	51	120	2.953	0.317	1.875	3.759	0.006	0.056	0.056	568.299	0.028
Rubber Tired Loaders	2030	121	175	3.898	0.232	0.787	3.312	0.006	0.036	0.036	568.299	0.02
Rubber Tired Loaders	2030	176	250	4.951	0.21	0.655	1.138	0.006	0.022	0.022	568.299	0.018
Rubber Tired Loaders	2030	251	500	7.812	0.208	0.619	1.085	0.005	0.021	0.021	568.299	0.018
Rubber Tired Loaders	2030	501	750	16.018	0.208	0.627	1.085	0.005	0.022	0.022	568.299	0.018
Rubber Tired Loaders	2030	751	1000	20.168	0.214	2.722	1.099	0.005	0.039	0.039	568.299	0.019
Rubber Tired Loaders	2035	16	25	1.834	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Rubber Tired Loaders	2035	26	50	2.833	0.575	3.337	5.126	0.007	0.035	0.035	568.299	0.051
Rubber Tired Loaders	2035	51	120	2.663	0.286	1.639	3.751	0.006	0.033	0.033	568.299	0.025
Rubber Tired Loaders	2035	121	175	3.376	0.2	0.481	3.312	0.006	0.022	0.022	568.299	0.018
Rubber Tired Loaders	2035	176	250	4.514	0.191	0.434	1.129	0.006	0.015	0.015	568.299	0.017
Rubber Tired Loaders	2035	251	500	7.156	0.191	0.416	1.076	0.005	0.015	0.015	568.299	0.017
Rubber Tired Loaders	2035	501	750	14.669	0.191	0.421	1.076	0.005	0.015	0.015	568.299	0.017
Rubber Tired Loaders	2035	751	1000	18.204	0.193	2.584	1.082	0.005	0.03	0.03	568.299	0.017
Rubber Tired Loaders	2040	16	25	1.834	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061

Rubber Tired Loaders	2040	26	50	2.684	0.545	3.283	5.102	0.007	0.024	0.024	568.3	0.049
Rubber Tired Loaders	2040	51	120	2.53	0.271	1.543	3.748	0.006	0.022	0.022	568.3	0.024
Rubber Tired Loaders	2040	121	175	3.172	0.188	0.365	3.314	0.006	0.016	0.016	568.299	0.017
Rubber Tired Loaders	2040	176	250	4.375	0.185	0.346	1.128	0.006	0.013	0.013	568.299	0.016
Rubber Tired Loaders	2040	251	500	6.953	0.185	0.338	1.076	0.005	0.013	0.013	568.3	0.016
Rubber Tired Loaders	2040	501	750	14.247	0.185	0.34	1.076	0.005	0.013	0.013	568.299	0.016
Rubber Tired Loaders	2040	751	1000	17.496	0.186	2.522	1.076	0.005	0.026	0.026	568.299	0.016
Scrapers	1990	51	120	7.335	2.413	15.182	5.806	0.791	1.373	1.373	568.299	0.217
Scrapers	1990	121	175	8.743	1.823	14.491	5.174	0.758	1.017	1.017	568.299	0.164
Scrapers	1990	176	250	12.369	1.823	14.491	5.174	0.758	1.017	1.017	568.299	0.164
Scrapers	1990	251	500	16.73	1.607	13.709	11.673	0.662	0.867	0.867	568.299	0.145
Scrapers	1990	501	750	28.902	1.607	13.709	11.673	1.018	0.883	0.883	568.299	0.145
Scrapers	2000	51	120	6.006	1.975	11.177	4.906	0.06	0.949	0.949	568.299	0.178
Scrapers	2000	121	175	6.456	1.346	10.226	4.046	0.057	0.572	0.572	568.299	0.121
Scrapers	2000	176	250	8.023	1.183	9.944	3.423	0.057	0.493	0.493	568.299	0.106
Scrapers	2000	251	500	11.061	1.062	9.42	6.04	0.05	0.43	0.43	568.299	0.095
Scrapers	2000	501	750	19.108	1.062	9.42	6.04	0.052	0.43	0.43	568.299	0.095
Scrapers	2005	51	120	5.36	1.763	9.807	4.636	0.06	0.901	0.901	568.299	0.159
Scrapers	2005	121	175	5.592	1.166	8.934	3.76	0.057	0.514	0.514	568.299	0.105
Scrapers	2005	176	250	6.251	0.921	8.58	2.602	0.057	0.377	0.377	568.299	0.083
Scrapers	2005	251	500	8.477	0.814	7.854	4.07	0.05	0.331	0.331	568.3	0.073
Scrapers	2005	501	750	14.794	0.822	7.99	4.063	0.052	0.333	0.333	568.299	0.074
Scrapers	2010	51	120	0.828186	0.696	7.09453	3.97834	0.005	0.507	0.466	537.9051	0.157
Scrapers	2010	121	175	0.907518	0.763	8.55764	3.83189	0.005	0.444	0.408	532.551	0.155
Scrapers	2010	176	250	0.939807	0.79	9.42837	3.25278	0.005	0.434	0.399	520.9381	0.152
Scrapers	2010	251	500	0.595043	0.5	6.75544	4.1939	0.005	0.272	0.25	525.1553	0.153
Scrapers	2010	501	750	0.454495	0.382	5.53444	3.13671	0.005	0.209	0.192	525.522	0.153
Scrapers	2011	51	120	0.831534	0.699	7.06921	4.00655	0.005	0.509	0.469	536.4691	0.157
Scrapers	2011	121	175	0.907072	0.762	8.51777	3.84357	0.005	0.444	0.409	531.1835	0.155
Scrapers	2011	176	250	0.933155	0.784	9.34756	3.22574	0.005	0.43	0.396	519.6705	0.152
Scrapers	2011	251	500	0.590447	0.496	6.64672	4.14563	0.005	0.268	0.246	523.9083	0.153
Scrapers	2011	501	750	0.45862	0.385	5.48614	3.14165	0.005	0.208	0.191	524.1241	0.153
Scrapers	2012	51	120	0.847004	0.712	7.11199	4.04661	0.005	0.519	0.477	535.1238	0.157
Scrapers	2012	121	175	0.915185	0.769	8.53485	3.8659	0.005	0.448	0.412	529.8158	0.155
Scrapers	2012	176	250	0.935111	0.786	9.33173	3.22909	0.005	0.43	0.396	518.3695	0.152
Scrapers	2012	251	500	0.596548	0.501	6.64299	4.16192	0.005	0.269	0.247	522.6784	0.153
Scrapers	2012	501	750	0.468161	0.393	5.49999	3.16628	0.005	0.209	0.193	522.7621	0.153
Scrapers	2013	51	120	0.850862	0.715	7.08801	4.06971	0.005	0.523	0.482	532.4144	0.157
Scrapers	2013	121	175	0.895558	0.753	8.33026	3.85136	0.005	0.438	0.403	527.0754	0.155
Scrapers	2013	176	250	0.923168	0.776	9.20338	3.18463	0.005	0.423	0.389	515.7585	0.152
Scrapers	2013	251	500	0.590637	0.496	6.51716	4.08663	0.005	0.264	0.242	520.0884	0.153
Scrapers	2013	501	750	0.462466	0.389	5.3398	3.09865	0.005	0.204	0.187	520.1031	0.153
Scrapers	2014	51	120	0.855598	0.719	7.0654	4.09983	0.005	0.526	0.484	529.9445	0.157
Scrapers	2014	121	175	0.85473	0.718	7.90715	3.80661	0.005	0.419	0.385	524.1709	0.155
Scrapers	2014	176	250	0.882887	0.742	8.81494	3.06131	0.005	0.403	0.371	512.8529	0.152
Scrapers	2014	251	500	0.569739	0.479	6.23299	3.89824	0.005	0.251	0.231	517.3608	0.153
Scrapers	2014	501	750	0.438954	0.369	5.01248	2.84564	0.005	0.19	0.174	517.3937	0.153
Scrapers	2015	51	120	0.869823	0.731	7.10509	4.13678	0.005	0.535	0.492	524.5601	0.157
Scrapers	2015	121	175	0.849601	0.714	7.76471	3.80865	0.005	0.415	0.382	518.8294	0.155
Scrapers	2015	176	250	0.868271	0.73	8.66317	3.00753	0.005	0.395	0.364	507.5699	0.152
Scrapers	2015	251	500	0.561967	0.472	6.08577	3.788	0.005	0.246	0.226	511.9471	0.153
Scrapers	2015	501	750	0.427981	0.36	4.83862	2.68469	0.005	0.182	0.167	512.0837	0.153
Scrapers	2016	51	120	0.883537	0.742	7.14312	4.17273	0.005	0.543	0.5	519.1668	0.157
Scrapers	2016	121	175	0.818244	0.688	7.3844	3.78062	0.005	0.397	0.365	513.4363	0.155
Scrapers	2016	176	250	0.814194	0.684	8.10864	2.8398	0.005	0.367	0.338	502.255	0.151
Scrapers	2016	251	500	0.538344	0.452	5.75749	3.60633	0.005	0.232	0.213	506.3503	0.153
Scrapers	2016	501	750	0.404454	0.34	4.48425	2.48181	0.005	0.167	0.154	506.6381	0.153
Scrapers	2017	51	120	0.896722	0.753	7.17946	4.20744	0.005	0.551	0.507	511.1123	0.157
Scrapers	2017	121	175	0.748819	0.629	6.67066	3.70478	0.005	0.359	0.331	505.3309	0.155
Scrapers	2017	176	250	0.74607	0.627	7.39867	2.64676	0.005	0.333	0.306	494.5231	0.152
Scrapers	2017	251	500	0.505877	0.425	5.33951	3.33699	0.005	0.214	0.197	498.4571	0.153
Scrapers	2017	501	750	0.386598	0.325	4.21648	2.29479	0.005	0.156	0.143	498.6929	0.153
Scrapers	2018	51	120	0.881019	0.74	7.03577	4.20429	0.005	0.543	0.499	502.8288	0.157
Scrapers	2018	121	175	0.640866	0.539	5.64105	3.56847	0.005	0.303	0.279	497.3396	0.155
Scrapers	2018	176	250	0.662403	0.557	6.56304	2.40704	0.005	0.29	0.267	486.9908	0.152
Scrapers	2018	251	500	0.439318	0.369	4.56771	2.82811	0.005	0.18	0.166	490.7734	0.153
Scrapers	2018	501	750	0.349618	0.294	3.74582	1.96493	0.005	0.135	0.124	490.5775	0.153
Scrapers	2019	51	120	0.854498	0.718	6.84136	4.19661	0.005	0.525	0.483	494.1	0.156
Scrapers	2019	121	175	0.606989	0.51	5.26356	3.53297	0.005	0.283	0.261	489.2546	0.155
Scrapers	2019	176	250	0.596624	0.501	5.83102	2.23321	0.005	0.257	0.236	479.0317	0.152
Scrapers	2019	251	500	0.40804	0.343	4.15646	2.59466	0.005	0.163	0.15	482.7319	0.153
Scrapers	2019	501	750	0.329384	0.277	3.43103	1.82903	0.005	0.123	0.113	482.5963	0.153
Scrapers	2020	51	120	0.834143	0.701	6.6767	4.19756	0.005	0.51	0.469	483.745	0.156
Scrapers	2020	121	175	0.568453	0.478	4.86851	3.50114	0.005	0.262	0.241	478.6077	0.155
Scrapers	2020	176	250	0.531032	0.446	5.089	2.06469	0.005	0.223	0.205	468.9883	0.152
Scrapers	2020	251	500	0.380326	0.32	3.78254	2.40063	0.005	0.148	0.136	472.1751	0.153
Scrapers	2020	501	750	0.311991	0.262	3.12592	1.72502	0.005	0.113	0.104	471.7776	0.153
Scrapers	2021	51	120	0.837922	0.704	6.65882	4.21819	0.005	0.512	0.471	483.7128	0.156
Scrapers	2021	121	175	0.514014	0.432	4.34133	3.45599	0.005	0.232	0.213	478.654	0.155
Scrapers	2021	176	250	0.464853	0.391	4.36706	1.88374	0.005	0.189	0.174	469.1258	0.152
Scrapers	2021	251	500	0.356021	0.299	3.44481	2.25454	0.005	0.134	0.123	472.4636	0.153
Scrapers	2021	501	750	0.298025	0.25	2.88702	1.65772	0.005	0.105	0.097	471.7859	0.153
Scrapers	2022	51	120	0.809995	0.681	6.45548	4.20484	0.005	0.494	0.454	483.4481	0.156
Scrapers	2022	121	175	0.463814	0.39	3.83296	3.41662	0.005	0.204	0.187	478.7411	0.155
Scrapers	2022	176	250	0.406319	0.341	3.66905	1.74265	0.005	0.16	0.147	469.2686	0.152
Scrapers	2022	251	500	0.313802	0.264	2.87856	2.05212	0.005	0.112	0.103	473.2304	0.153
Scrapers	2022	501	750	0.266627	0.224	2.47537	1.50816	0.005	0.09	0.083	471.2788	0.152
Scrapers	2023	51	120	0.7496	0.63	6.02603	4.14443	0.005	0.458	0.421	483.0296	0.156
Scrapers	2023	121	175	0.430003	0.361	3.47913	3.39533	0.005	0.184	0.169	478.6814	0.155

Scrapers	2023	176	250	0.37772	0.317	3.2838	1.67839	0.005	0.144	0.133	469.5597	0.152
Scrapers	2023	251	500	0.301363	0.253	2.66611	1.97527	0.005	0.105	0.096	473.1772	0.153
Scrapers	2023	501	750	0.26361	0.222	2.38587	1.51295	0.005	0.087	0.08	471.2953	0.152
Scrapers	2024	51	120	0.683919	0.575	5.63222	4.09486	0.005	0.414	0.381	482.7009	0.156
Scrapers	2024	121	175	0.399992	0.336	3.15631	3.37249	0.005	0.166	0.153	478.8089	0.155
Scrapers	2024	176	250	0.358714	0.301	3.01379	1.62739	0.005	0.133	0.122	469.3521	0.152
Scrapers	2024	251	500	0.291137	0.245	2.47694	1.92055	0.005	0.098	0.09	472.8455	0.153
Scrapers	2024	501	750	0.253257	0.213	2.18653	1.46065	0.005	0.081	0.074	471.4291	0.152
Scrapers	2025	51	120	0.673967	0.566	5.50259	4.09423	0.005	0.405	0.372	482.3629	0.156
Scrapers	2025	121	175	0.34526	0.29	2.63098	3.3209	0.005	0.137	0.126	478.9476	0.155
Scrapers	2025	176	250	0.346529	0.291	2.80326	1.60249	0.005	0.125	0.115	469.4459	0.152
Scrapers	2025	251	500	0.257328	0.216	2.05051	1.7318	0.005	0.081	0.074	472.5394	0.153
Scrapers	2025	501	750	0.218534	0.184	1.71287	1.33825	0.005	0.064	0.059	472.115	0.153
Scrapers	2030	51	120	1.248	0.41	2.384	3.866	0.006	0.111	0.111	568.299	0.037
Scrapers	2030	121	175	1.445	0.301	1.32	3.389	0.006	0.068	0.068	568.299	0.027
Scrapers	2030	176	250	1.794	0.264	1.149	1.206	0.006	0.042	0.042	568.299	0.023
Scrapers	2030	251	500	2.697	0.259	1.057	1.184	0.005	0.04	0.04	568.299	0.023
Scrapers	2030	501	750	4.666	0.259	1.075	1.184	0.005	0.04	0.04	568.299	0.023
Scrapers	2035	51	120	1.058	0.348	1.943	3.842	0.006	0.064	0.064	568.299	0.031
Scrapers	2035	121	175	1.199	0.25	0.824	3.382	0.006	0.04	0.04	568.299	0.022
Scrapers	2035	176	250	1.553	0.229	0.717	1.175	0.006	0.026	0.026	568.299	0.02
Scrapers	2035	251	500	2.356	0.226	0.674	1.123	0.005	0.025	0.025	568.3	0.02
Scrapers	2035	501	750	4.075	0.226	0.682	1.123	0.005	0.025	0.025	568.299	0.02
Scrapers	2040	51	120	0.962	0.316	1.715	3.833	0.006	0.04	0.04	568.299	0.028
Scrapers	2040	121	175	1.063	0.221	0.549	3.381	0.006	0.026	0.026	568.299	0.02
Scrapers	2040	176	250	1.425	0.21	0.498	1.159	0.006	0.018	0.018	568.3	0.018
Scrapers	2040	251	500	2.175	0.209	0.475	1.1	0.005	0.017	0.017	568.299	0.018
Scrapers	2040	501	750	3.76	0.209	0.48	1.1	0.005	0.017	0.017	568.299	0.018
Signal Boards	1990	6	15	2.838	1.804	9.999	4.999	1.049	0.975	0.975	568.299	0.162
Signal Boards	1990	26	50	33.688	3.65	7.518	7.626	0.871	1.035	1.035	568.299	0.329
Signal Boards	1990	51	120	41.675	2.037	13.738	5.201	0.791	1.095	1.095	568.3	0.183
Signal Boards	1990	121	175	54.982	1.395	12.364	4.603	0.758	0.728	0.728	568.3	0.125
Signal Boards	1990	176	250	90.827	1.685	14.94	5.563	0.917	0.88	0.88	686.695	0.152
Signal Boards	2000	6	15	2.085	1.325	7.675	4.257	0.079	0.61	0.61	568.299	0.119
Signal Boards	2000	26	50	31.608	3.424	6.709	7.268	0.066	0.765	0.765	568.299	0.309
Signal Boards	2000	51	120	33.68	1.646	9.835	4.338	0.06	0.756	0.756	568.299	0.148
Signal Boards	2000	121	175	43.484	1.103	8.941	3.53	0.057	0.447	0.447	568.299	0.099
Signal Boards	2000	176	250	59.587	1.105	10.385	3.359	0.069	0.438	0.438	686.695	0.099
Signal Boards	2005	6	15	1.168	0.742	4.981	3.469	0.079	0.35	0.35	568.299	0.066
Signal Boards	2005	26	50	27.711	3.002	6.227	6.663	0.066	0.704	0.704	568.299	0.27
Signal Boards	2005	51	120	28.596	1.398	8.234	4	0.06	0.695	0.695	568.299	0.126
Signal Boards	2005	121	175	35.881	0.91	7.528	3.185	0.057	0.383	0.383	568.3	0.082
Signal Boards	2005	176	250	41.93	0.778	8.577	2.245	0.069	0.303	0.303	686.695	0.07
Signal Boards	2010	6	15	1.04	0.661	4.142	3.469	0.008	0.155	0.155	568.299	0.059
Signal Boards	2010	26	50	21.63	2.343	5.792	6.009	0.007	0.571	0.571	568.299	0.211
Signal Boards	2010	51	120	21.667	1.059	6.693	3.811	0.006	0.56	0.56	568.299	0.095
Signal Boards	2010	121	175	27.641	0.701	5.958	3.102	0.006	0.311	0.311	568.299	0.063
Signal Boards	2010	176	250	29.698	0.551	6.749	1.651	0.007	0.212	0.212	686.695	0.049
Signal Boards	2011	6	15	1.04	0.661	4.142	3.469	0.008	0.156	0.156	568.299	0.059
Signal Boards	2011	26	50	20.109	2.178	5.698	5.834	0.007	0.541	0.541	568.299	0.196
Signal Boards	2011	51	120	20.187	0.986	6.327	3.774	0.006	0.535	0.535	568.299	0.089
Signal Boards	2011	121	175	25.933	0.658	5.615	3.09	0.006	0.298	0.298	568.299	0.059
Signal Boards	2011	176	250	27.264	0.506	6.272	1.548	0.007	0.19	0.19	686.695	0.045
Signal Boards	2012	6	15	1.04	0.661	4.142	3.469	0.008	0.16	0.16	568.299	0.059
Signal Boards	2012	26	50	18.413	1.995	5.596	5.632	0.007	0.508	0.508	568.299	0.18
Signal Boards	2012	51	120	18.605	0.909	5.923	3.733	0.006	0.498	0.498	568.299	0.082
Signal Boards	2012	121	175	24.082	0.611	5.246	3.077	0.006	0.275	0.275	568.3	0.055
Signal Boards	2012	176	250	25.308	0.469	5.81	1.483	0.007	0.171	0.171	686.695	0.042
Signal Boards	2013	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2013	26	50	16.687	1.808	5.362	5.427	0.007	0.465	0.465	568.299	0.163
Signal Boards	2013	51	120	17.043	0.833	5.532	3.694	0.006	0.456	0.456	568.299	0.075
Signal Boards	2013	121	175	22.253	0.564	4.903	3.067	0.006	0.252	0.252	568.3	0.05
Signal Boards	2013	176	250	23.66	0.439	5.369	1.439	0.007	0.156	0.156	686.695	0.039
Signal Boards	2014	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2014	26	50	15.005	1.625	5.139	5.231	0.007	0.422	0.422	568.299	0.146
Signal Boards	2014	51	120	15.539	0.759	5.186	3.658	0.006	0.414	0.414	568.299	0.068
Signal Boards	2014	121	175	20.512	0.52	4.582	3.058	0.006	0.228	0.228	568.299	0.046
Signal Boards	2014	176	250	22.034	0.408	4.857	1.402	0.007	0.141	0.141	686.695	0.036
Signal Boards	2015	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2015	26	50	13.489	1.461	4.943	5.068	0.007	0.382	0.382	568.299	0.131
Signal Boards	2015	51	120	14.067	0.687	4.791	3.624	0.006	0.371	0.371	568.299	0.062
Signal Boards	2015	121	175	18.694	0.474	4.136	3.052	0.006	0.205	0.205	568.299	0.042
Signal Boards	2015	176	250	20.523	0.38	4.365	1.371	0.007	0.127	0.127	686.695	0.034
Signal Boards	2016	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2016	26	50	12.061	1.306	4.761	4.921	0.007	0.343	0.343	568.299	0.117
Signal Boards	2016	51	120	12.653	0.618	4.414	3.594	0.006	0.33	0.33	568.299	0.055
Signal Boards	2016	121	175	16.949	0.43	3.708	3.047	0.006	0.183	0.183	568.299	0.038
Signal Boards	2016	176	250	19.106	0.354	3.894	1.344	0.007	0.114	0.114	686.695	0.031
Signal Boards	2017	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2017	26	50	10.695	1.158	4.59	4.785	0.007	0.306	0.306	568.299	0.104
Signal Boards	2017	51	120	11.32	0.553	4.059	3.566	0.006	0.29	0.29	568.299	0.049
Signal Boards	2017	121	175	15.322	0.388	3.305	3.044	0.006	0.161	0.161	568.299	0.035
Signal Boards	2017	176	250	17.83	0.33	3.452	1.323	0.007	0.101	0.101	686.695	0.029
Signal Boards	2018	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2018	26	50	9.4	1.018	4.427	4.657	0.007	0.27	0.27	568.299	0.091
Signal Boards	2018	51	120	10.078	0.492	3.723	3.541	0.006	0.252	0.252	568.299	0.044
Signal Boards	2018	121	175	13.836	0.351	2.93	3.043	0.006	0.141	0.141	568.299	0.031
Signal Boards	2018	176	250	16.678	0.309	3.04	1.306	0.007	0.09	0.09	686.695	0.027
Signal Boards	2019	6	15	1.04	0.661	4.142	3.47	0.008	0.161	0.161	568.299	0.059

Signal Boards	2019	26	50	8.189	0.887	4.272	4.538	0.007	0.236	0.236	568.3	0.08
Signal Boards	2019	51	120	8.938	0.437	3.41	3.519	0.006	0.216	0.216	568.299	0.039
Signal Boards	2019	121	175	12.677	0.321	2.601	3.043	0.006	0.125	0.125	568.299	0.029
Signal Boards	2019	176	250	15.682	0.291	2.676	1.292	0.007	0.08	0.08	686.695	0.026
Signal Boards	2020	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2020	26	50	7.28	0.788	4.132	4.448	0.007	0.206	0.206	568.299	0.071
Signal Boards	2020	51	120	8.081	0.395	3.134	3.504	0.006	0.187	0.187	568.299	0.035
Signal Boards	2020	121	175	11.756	0.298	2.309	3.043	0.006	0.11	0.11	568.299	0.026
Signal Boards	2020	176	250	14.813	0.274	2.35	1.281	0.007	0.071	0.071	686.695	0.024
Signal Boards	2021	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2021	26	50	6.598	0.714	4.002	4.38	0.007	0.179	0.179	568.299	0.064
Signal Boards	2021	51	120	7.434	0.363	2.889	3.493	0.006	0.162	0.162	568.299	0.032
Signal Boards	2021	121	175	10.965	0.278	2.043	3.043	0.006	0.098	0.098	568.299	0.025
Signal Boards	2021	176	250	14.033	0.26	2.053	1.273	0.007	0.063	0.063	686.695	0.023
Signal Boards	2022	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.3	0.059
Signal Boards	2022	26	50	6.047	0.655	3.88	4.325	0.007	0.154	0.154	568.299	0.059
Signal Boards	2022	51	120	6.908	0.337	2.668	3.484	0.006	0.141	0.141	568.299	0.03
Signal Boards	2022	121	175	10.249	0.26	1.801	3.044	0.006	0.086	0.086	568.299	0.023
Signal Boards	2022	176	250	13.317	0.247	1.782	1.266	0.007	0.055	0.055	686.695	0.022
Signal Boards	2023	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2023	26	50	5.57	0.603	3.767	4.282	0.007	0.132	0.132	568.299	0.054
Signal Boards	2023	51	120	6.449	0.315	2.472	3.478	0.006	0.122	0.122	568.299	0.028
Signal Boards	2023	121	175	9.619	0.244	1.602	3.045	0.006	0.075	0.075	568.299	0.022
Signal Boards	2023	176	250	12.678	0.235	1.562	1.263	0.007	0.048	0.048	686.695	0.021
Signal Boards	2024	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2024	26	50	5.168	0.559	3.662	4.247	0.007	0.114	0.114	568.299	0.05
Signal Boards	2024	51	120	6.055	0.296	2.315	3.474	0.006	0.105	0.105	568.299	0.026
Signal Boards	2024	121	175	9.047	0.229	1.427	3.047	0.006	0.065	0.065	568.299	0.02
Signal Boards	2024	176	250	12.079	0.224	1.37	1.259	0.007	0.041	0.041	686.695	0.02
Signal Boards	2025	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2025	26	50	4.819	0.522	3.561	4.217	0.007	0.098	0.098	568.299	0.047
Signal Boards	2025	51	120	5.705	0.278	2.179	3.47	0.006	0.089	0.089	568.299	0.025
Signal Boards	2025	121	175	8.5	0.215	1.262	3.049	0.006	0.055	0.055	568.299	0.019
Signal Boards	2025	176	250	11.509	0.213	1.192	1.257	0.007	0.035	0.035	686.695	0.019
Signal Boards	2030	6	15	1.04	0.661	4.142	3.47	0.008	0.161	0.161	568.299	0.059
Signal Boards	2030	26	50	3.631	0.393	3.193	4.099	0.007	0.04	0.04	568.299	0.035
Signal Boards	2030	51	120	4.366	0.213	1.657	3.451	0.006	0.035	0.035	568.3	0.019
Signal Boards	2030	121	175	6.201	0.157	0.586	3.048	0.006	0.024	0.024	568.299	0.014
Signal Boards	2030	176	250	9.484	0.176	0.594	1.255	0.007	0.019	0.019	686.695	0.015
Signal Boards	2035	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2035	26	50	3.294	0.356	3.082	4.067	0.007	0.02	0.02	568.299	0.032
Signal Boards	2035	51	120	3.929	0.192	1.482	3.445	0.006	0.018	0.018	568.299	0.017
Signal Boards	2035	121	175	5.439	0.138	0.372	3.048	0.006	0.014	0.014	568.299	0.012
Signal Boards	2035	176	250	8.75	0.162	0.401	1.254	0.007	0.014	0.014	686.695	0.014
Signal Boards	2040	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2040	26	50	3.289	0.356	3.037	4.074	0.007	0.014	0.014	568.299	0.032
Signal Boards	2040	51	120	3.848	0.188	1.428	3.447	0.006	0.013	0.013	568.299	0.016
Signal Boards	2040	121	175	5.177	0.131	0.296	3.05	0.006	0.011	0.011	568.299	0.011
Signal Boards	2040	176	250	8.473	0.157	0.341	1.255	0.007	0.012	0.012	686.695	0.014
Skid Steer Loaders	1990	16	25	4.928	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Skid Steer Loaders	1990	26	50	18.4	4.466	7.821	9.113	0.871	1.202	1.202	568.299	0.403
Skid Steer Loaders	1990	51	120	15.551	2.252	14.506	5.536	0.791	1.262	1.262	568.299	0.203
Skid Steer Loaders	2000	16	25	4.659	2.092	6.403	4.777	0.065	0.568	0.568	568.299	0.188
Skid Steer Loaders	2000	26	50	15.338	3.723	6.733	7.849	0.066	0.816	0.816	568.299	0.335
Skid Steer Loaders	2000	51	120	10.902	1.579	9.028	4.162	0.06	0.779	0.779	568.299	0.142
Skid Steer Loaders	2005	16	25	3.352	1.505	5.913	3.709	0.065	0.461	0.461	568.299	0.135
Skid Steer Loaders	2005	26	50	12.458	3.024	6.068	6.864	0.066	0.716	0.716	568.3	0.272
Skid Steer Loaders	2005	51	120	9.248	1.339	7.653	3.988	0.06	0.712	0.712	568.299	0.12
Skid Steer Loaders	2010	16	25	1.189544	1	5.29745	4.48486	0.005	0.435	0.401	586.3356	0.171
Skid Steer Loaders	2010	26	50	1.189544	1	5.29745	4.48486	0.005	0.435	0.401	586.3356	0.171
Skid Steer Loaders	2010	51	120	0.504832	0.424	5.19396	3.40768	0.005	0.344	0.317	525.6915	0.153
Skid Steer Loaders	2011	16	25	1.055747	0.887	5.2163	4.32754	0.005	0.402	0.37	584.7285	0.171
Skid Steer Loaders	2011	26	50	1.055747	0.887	5.2163	4.32754	0.005	0.402	0.37	584.7285	0.171
Skid Steer Loaders	2011	51	120	0.460213	0.387	4.88341	3.38539	0.005	0.316	0.291	524.0915	0.153
Skid Steer Loaders	2012	16	25	1.031332	0.867	5.12974	4.33156	0.005	0.388	0.357	583.1258	0.171
Skid Steer Loaders	2012	26	50	1.031332	0.867	5.12974	4.33156	0.005	0.388	0.357	583.1258	0.171
Skid Steer Loaders	2012	51	120	0.443294	0.372	4.73478	3.38462	0.005	0.303	0.279	522.5357	0.153
Skid Steer Loaders	2013	16	25	0.908612	0.763	4.84472	4.17576	0.005	0.337	0.31	580.0144	0.171
Skid Steer Loaders	2013	26	50	0.908612	0.763	4.84472	4.17576	0.005	0.337	0.31	580.0144	0.171
Skid Steer Loaders	2013	51	120	0.404938	0.34	4.44237	3.36337	0.005	0.271	0.249	519.6388	0.153
Skid Steer Loaders	2014	16	25	0.790746	0.664	4.54075	4.01585	0.005	0.286	0.263	577.0757	0.171
Skid Steer Loaders	2014	26	50	0.790746	0.664	4.54075	4.01585	0.005	0.286	0.263	577.0757	0.171
Skid Steer Loaders	2014	51	120	0.361873	0.304	4.0133	3.33829	0.005	0.235	0.216	517.0621	0.153
Skid Steer Loaders	2015	16	25	0.760751	0.639	4.43612	4.00436	0.005	0.267	0.246	571.4195	0.171
Skid Steer Loaders	2015	26	50	0.760751	0.639	4.43612	4.00436	0.005	0.267	0.246	571.4195	0.171
Skid Steer Loaders	2015	51	120	0.349713	0.294	3.8106	3.33751	0.005	0.22	0.203	511.595	0.153
Skid Steer Loaders	2016	16	25	0.713135	0.599	4.26784	3.95661	0.005	0.241	0.221	565.2281	0.17
Skid Steer Loaders	2016	26	50	0.713135	0.599	4.26784	3.95661	0.005	0.241	0.221	565.2281	0.17
Skid Steer Loaders	2016	51	120	0.325064	0.273	3.53439	3.32767	0.005	0.197	0.182	506.2971	0.153
Skid Steer Loaders	2017	16	25	0.676461	0.568	4.11272	3.91907	0.005	0.217	0.2	556.7144	0.171
Skid Steer Loaders	2017	26	50	0.676461	0.568	4.11272	3.91907	0.005	0.217	0.2	556.7144	0.171
Skid Steer Loaders	2017	51	120	0.303772	0.255	3.28618	3.31863	0.005	0.177	0.162	498.3256	0.153
Skid Steer Loaders	2018	16	25	0.579635	0.487	3.88962	3.78725	0.005	0.178	0.164	547.5575	0.17
Skid Steer Loaders	2018	26	50	0.579635	0.487	3.88962	3.78725	0.005	0.178	0.164	547.5575	0.17
Skid Steer Loaders	2018	51	120	0.256853	0.216	2.86	3.28204	0.005	0.14	0.129	490.0935	0.153
Skid Steer Loaders	2019	16	25	0.531282	0.446	3.75009	3.73957	0.005	0.154	0.141	539.2667	0.171
Skid Steer Loaders	2019	26	50	0.531282	0.446	3.75009	3.73957	0.005	0.154	0.141	539.2667	0.171
Skid Steer Loaders	2019	51	120	0.2373	0.199	2.65586	3.27736	0.005	0.122	0.112	482.3844	0.153
Skid Steer Loaders	2020	16	25	0.522771	0.439	3.69113	3.76397	0.005	0.145	0.133	527.7577	0.171

Skid Steer Loaders	2020	26	50	0.522771	0.439	3.69113	3.76397	0.005	0.145	0.133	527.7577	0.171
Skid Steer Loaders	2020	51	120	0.224183	0.188	2.5046	3.2771	0.005	0.108	0.1	471.9075	0.153
Skid Steer Loaders	2021	16	25	0.486515	0.409	3.57304	3.73158	0.005	0.126	0.116	527.4501	0.171
Skid Steer Loaders	2021	26	50	0.486515	0.409	3.57304	3.73158	0.005	0.126	0.116	527.4501	0.171
Skid Steer Loaders	2021	51	120	0.211817	0.178	2.36588	3.27687	0.005	0.096	0.089	471.9774	0.153
Skid Steer Loaders	2022	16	25	0.434318	0.365	3.43256	3.65597	0.005	0.103	0.095	527.2726	0.171
Skid Steer Loaders	2022	26	50	0.434318	0.365	3.43256	3.65597	0.005	0.103	0.095	527.2726	0.171
Skid Steer Loaders	2022	51	120	0.195311	0.164	2.18922	3.27037	0.005	0.081	0.075	472.4321	0.153
Skid Steer Loaders	2023	16	25	0.420524	0.353	3.37057	3.65358	0.005	0.093	0.086	527.4231	0.171
Skid Steer Loaders	2023	26	50	0.420524	0.353	3.37057	3.65358	0.005	0.093	0.086	527.4231	0.171
Skid Steer Loaders	2023	51	120	0.182613	0.153	2.03854	3.26613	0.005	0.069	0.063	472.656	0.153
Skid Steer Loaders	2024	16	25	0.415881	0.349	3.34552	3.67076	0.005	0.089	0.082	527.8005	0.171
Skid Steer Loaders	2024	26	50	0.415881	0.349	3.34552	3.67076	0.005	0.089	0.082	527.8005	0.171
Skid Steer Loaders	2024	51	120	0.174841	0.147	1.94841	3.26403	0.005	0.063	0.058	472.847	0.153
Skid Steer Loaders	2025	16	25	0.406183	0.341	3.30934	3.6601	0.005	0.084	0.077	527.8608	0.171
Skid Steer Loaders	2025	26	50	0.406183	0.341	3.30934	3.6601	0.005	0.084	0.077	527.8608	0.171
Skid Steer Loaders	2025	51	120	0.166357	0.14	1.86736	3.25156	0.005	0.057	0.052	472.6295	0.153
Skid Steer Loaders	2030	16	25	1.526	0.685	4.332	2.34	0.007	0.162	0.162	568.299	0.061
Skid Steer Loaders	2030	26	50	1.694	0.411	3.128	4.386	0.007	0.018	0.018	568.299	0.037
Skid Steer Loaders	2030	51	120	1.478	0.214	1.477	3.538	0.006	0.017	0.017	568.299	0.019
Skid Steer Loaders	2035	16	25	1.526	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Skid Steer Loaders	2035	26	50	1.694	0.411	3.097	4.39	0.007	0.015	0.015	568.299	0.037
Skid Steer Loaders	2035	51	120	1.459	0.211	1.442	3.54	0.006	0.014	0.014	568.299	0.019
Skid Steer Loaders	2040	16	25	1.526	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Skid Steer Loaders	2040	26	50	1.696	0.411	3.093	4.392	0.007	0.014	0.014	568.299	0.037
Skid Steer Loaders	2040	51	120	1.456	0.211	1.435	3.54	0.006	0.013	0.013	568.3	0.019
Surfacing Equipment	1990	26	50	8.011	4.203	7.726	8.629	0.871	1.147	1.147	568.299	0.379
Surfacing Equipment	1990	51	120	18.985	2.203	14.403	5.473	0.791	1.214	1.214	568.299	0.198
Surfacing Equipment	1990	121	175	19.781	1.707	13.91	4.883	0.758	0.927	0.927	568.3	0.154
Surfacing Equipment	1990	176	250	31.103	1.707	13.91	4.883	0.758	0.927	0.927	568.299	0.154
Surfacing Equipment	1990	251	500	45.625	1.526	13.316	9.66	0.662	0.805	0.805	568.299	0.137
Surfacing Equipment	1990	501	750	71.58	1.526	13.316	9.66	1.018	0.82	0.82	568.299	0.137
Surfacing Equipment	2000	26	50	6.689	3.509	6.755	7.426	0.066	0.779	0.779	568.299	0.316
Surfacing Equipment	2000	51	120	14.399	1.671	9.991	4.385	0.06	0.768	0.768	568.299	0.15
Surfacing Equipment	2000	121	175	13.132	1.133	9.132	3.583	0.057	0.458	0.458	568.299	0.102
Surfacing Equipment	2000	176	250	17.689	0.97	8.84	2.937	0.057	0.385	0.385	568.299	0.087
Surfacing Equipment	2000	251	500	26.875	0.899	8.551	4.584	0.05	0.347	0.347	568.299	0.081
Surfacing Equipment	2000	501	750	42.164	0.899	8.551	4.584	0.052	0.347	0.347	568.299	0.081
Surfacing Equipment	2005	26	50	6.001	3.148	6.318	6.936	0.066	0.727	0.727	568.3	0.284
Surfacing Equipment	2005	51	120	12.568	1.458	8.636	4.122	0.06	0.718	0.718	568.299	0.131
Surfacing Equipment	2005	121	175	11.032	0.952	7.874	3.316	0.057	0.402	0.402	568.3	0.085
Surfacing Equipment	2005	176	250	13.31	0.73	7.529	2.16	0.057	0.29	0.29	568.299	0.065
Surfacing Equipment	2005	251	500	19.448	0.65	6.988	3.023	0.05	0.26	0.26	568.299	0.058
Surfacing Equipment	2005	501	750	31.164	0.664	7.132	3.019	0.052	0.262	0.262	568.299	0.059
Surfacing Equipment	2010	26	50	1.528976	1.285	5.66618	4.99949	0.005	0.479	0.44	593.0498	0.173
Surfacing Equipment	2010	51	120	0.730908	0.614	6.16537	3.59404	0.005	0.437	0.402	524.0289	0.153
Surfacing Equipment	2010	121	175	0.662829	0.557	6.60554	3.09066	0.005	0.318	0.292	522.4909	0.152
Surfacing Equipment	2010	176	250	0.488779	0.411	6.37687	1.7501	0.005	0.212	0.195	530.3611	0.154
Surfacing Equipment	2010	251	500	0.29849	0.251	4.43284	1.5491	0.005	0.144	0.133	522.9659	0.152
Surfacing Equipment	2010	501	750	0.208991	0.176	3.5514	1.09654	0.005	0.112	0.103	524.8847	0.153
Surfacing Equipment	2011	26	50	1.476255	1.24	5.62022	4.95391	0.005	0.467	0.43	590.2612	0.172
Surfacing Equipment	2011	51	120	0.710662	0.597	5.98734	3.58797	0.005	0.427	0.393	522.8446	0.153
Surfacing Equipment	2011	121	175	0.6472	0.544	6.46356	3.07389	0.005	0.312	0.287	521.1883	0.152
Surfacing Equipment	2011	176	250	0.481299	0.404	6.2863	1.72048	0.005	0.207	0.191	529.0217	0.154
Surfacing Equipment	2011	251	500	0.289572	0.243	4.26701	1.48634	0.005	0.136	0.125	520.4212	0.152
Surfacing Equipment	2011	501	750	0.214952	0.181	3.56055	1.10325	0.005	0.113	0.104	523.5482	0.153
Surfacing Equipment	2012	26	50	1.500607	1.261	5.63914	5.03037	0.005	0.473	0.435	588.7118	0.172
Surfacing Equipment	2012	51	120	0.709653	0.596	5.94999	3.59999	0.005	0.426	0.392	521.4233	0.153
Surfacing Equipment	2012	121	175	0.653605	0.549	6.48747	3.0893	0.005	0.315	0.29	519.886	0.152
Surfacing Equipment	2012	176	250	0.481696	0.405	6.22653	1.72816	0.005	0.207	0.191	527.6815	0.154
Surfacing Equipment	2012	251	500	0.290035	0.244	4.20283	1.49574	0.005	0.134	0.124	519.0487	0.152
Surfacing Equipment	2012	501	750	0.210249	0.177	3.45723	1.04051	0.005	0.109	0.1	521.0672	0.152
Surfacing Equipment	2013	26	50	1.455428	1.223	5.53803	4.99596	0.005	0.457	0.421	585.7193	0.172
Surfacing Equipment	2013	51	120	0.69949	0.588	5.8163	3.60266	0.005	0.415	0.382	518.7481	0.153
Surfacing Equipment	2013	121	175	0.588968	0.495	5.94134	3.00889	0.005	0.286	0.263	518.4738	0.152
Surfacing Equipment	2013	176	250	0.441295	0.371	5.8812	1.62196	0.005	0.187	0.172	524.5301	0.154
Surfacing Equipment	2013	251	500	0.288988	0.243	4.09243	1.50462	0.005	0.131	0.121	516.1488	0.152
Surfacing Equipment	2013	501	750	0.215353	0.181	3.46124	1.04387	0.005	0.11	0.101	518.3853	0.152
Surfacing Equipment	2014	26	50	1.358041	1.141	5.42525	4.87668	0.005	0.434	0.399	582.7249	0.172
Surfacing Equipment	2014	51	120	0.665267	0.559	5.52029	3.58043	0.005	0.391	0.36	516.3377	0.153
Surfacing Equipment	2014	121	175	0.561853	0.472	5.71146	3.01212	0.005	0.273	0.251	515.8203	0.152
Surfacing Equipment	2014	176	250	0.364211	0.306	5.10182	1.43363	0.005	0.149	0.137	521.4518	0.154
Surfacing Equipment	2014	251	500	0.2821	0.237	3.8952	1.50147	0.005	0.125	0.115	513.6157	0.152
Surfacing Equipment	2014	501	750	0.206755	0.174	3.28435	1.02007	0.005	0.103	0.095	516.3212	0.153
Surfacing Equipment	2015	26	50	1.223408	1.028	5.25471	4.69178	0.005	0.402	0.37	576.7706	0.172
Surfacing Equipment	2015	51	120	0.651534	0.547	5.37414	3.57496	0.005	0.378	0.348	510.1417	0.152
Surfacing Equipment	2015	121	175	0.568	0.477	5.73307	3.02727	0.005	0.276	0.254	510.5481	0.152
Surfacing Equipment	2015	176	250	0.36864	0.31	5.11205	1.44156	0.005	0.151	0.139	516.058	0.154
Surfacing Equipment	2015	251	500	0.286581	0.241	3.90037	1.51303	0.005	0.126	0.116	508.3985	0.152
Surfacing Equipment	2015	501	750	0.211433	0.178	3.28678	1.02353	0.005	0.104	0.096	511.1157	0.153
Surfacing Equipment	2016	26	50	1.243319	1.045	5.27275	4.7626	0.005	0.406	0.374	570.8145	0.172
Surfacing Equipment	2016	51	120	0.621267	0.522	5.05142	3.54977	0.005	0.349	0.321	505.0873	0.152
Surfacing Equipment	2016	121	175	0.544572	0.458	5.45794	3.00649	0.005	0.265	0.244	504.5576	0.152
Surfacing Equipment	2016	176	250	0.365495	0.307	5.04791	1.42946	0.005	0.148	0.136	510.7058	0.154
Surfacing Equipment	2016	251	500	0.258417	0.217	3.46816	1.42484	0.005	0.111	0.102	502.4709	0.152
Surfacing Equipment	2016	501	750	0.192579	0.162	2.87955	0.99966	0.005	0.093	0.085	506.967	0.153
Surfacing Equipment	2017	26	50	1.10469	0.928	5.0643	4.60324	0.006	0.365	0.336	564.4772	0.173
Surfacing Equipment	2017	51	120	0.604716	0.508	4.94212	3.55587	0.005	0.337	0.31	498.36	0.153
Surfacing Equipment	2017	121	175	0.541755	0.455	5.39296	3.00273	0.005	0.264	0.243	496.2741	0.152

Surfacing Equipment	2017	176	250	0.325463	0.273	4.46793	1.3431	0.005	0.129	0.119	501.8465	0.154
Surfacing Equipment	2017	251	500	0.242435	0.204	3.10636	1.3962	0.005	0.103	0.094	496.885	0.152
Surfacing Equipment	2017	501	750	0.190932	0.16	2.76955	1.00272	0.005	0.09	0.083	499.7117	0.153
Surfacing Equipment	2018	26	50	0.927049	0.779	4.81982	4.35302	0.006	0.32	0.294	555.7363	0.173
Surfacing Equipment	2018	51	120	0.49279	0.414	4.28388	3.48871	0.005	0.268	0.247	491.3172	0.153
Surfacing Equipment	2018	121	175	0.44632	0.375	4.47527	2.97609	0.005	0.215	0.198	488.4406	0.152
Surfacing Equipment	2018	176	250	0.286758	0.241	3.98866	1.234	0.005	0.113	0.104	494.1388	0.154
Surfacing Equipment	2018	251	500	0.187325	0.157	2.20389	1.22557	0.005	0.076	0.07	487.8722	0.152
Surfacing Equipment	2018	501	750	0.169556	0.142	2.26863	0.99347	0.005	0.078	0.072	488.86	0.152
Surfacing Equipment	2019	26	50	0.765383	0.643	4.41999	4.0998	0.006	0.25	0.23	547.0462	0.173
Surfacing Equipment	2019	51	120	0.42278	0.355	3.82306	3.44856	0.005	0.226	0.208	484.0757	0.153
Surfacing Equipment	2019	121	175	0.425034	0.357	4.23866	2.97177	0.005	0.204	0.187	479.6717	0.152
Surfacing Equipment	2019	176	250	0.257694	0.217	3.39993	1.21576	0.005	0.101	0.093	486.8417	0.154
Surfacing Equipment	2019	251	500	0.173135	0.145	1.89944	1.2143	0.005	0.068	0.063	481.8965	0.152
Surfacing Equipment	2019	501	750	0.168821	0.142	2.17879	0.99372	0.005	0.076	0.07	480.166	0.152
Surfacing Equipment	2020	26	50	0.637406	0.536	4.23906	3.93357	0.006	0.216	0.199	535.5275	0.173
Surfacing Equipment	2020	51	120	0.392345	0.33	3.61216	3.43932	0.005	0.206	0.19	473.8188	0.153
Surfacing Equipment	2020	121	175	0.365927	0.307	3.67232	2.93068	0.005	0.175	0.161	469.2079	0.152
Surfacing Equipment	2020	176	250	0.252128	0.212	3.22243	1.21774	0.005	0.097	0.089	476.4261	0.154
Surfacing Equipment	2020	251	500	0.173203	0.146	1.83755	1.21902	0.005	0.067	0.062	471.6331	0.153
Surfacing Equipment	2020	501	750	0.168871	0.142	2.09374	0.99569	0.005	0.074	0.068	469.6252	0.152
Surfacing Equipment	2021	26	50	0.60314	0.507	4.18875	3.93231	0.006	0.204	0.188	535.784	0.173
Surfacing Equipment	2021	51	120	0.370907	0.312	3.46112	3.43619	0.005	0.191	0.175	474.0906	0.153
Surfacing Equipment	2021	121	175	0.307112	0.258	3.09858	2.91895	0.005	0.145	0.134	469.1687	0.152
Surfacing Equipment	2021	176	250	0.245986	0.207	2.99364	1.21854	0.005	0.092	0.085	476.8023	0.154
Surfacing Equipment	2021	251	500	0.167588	0.141	1.75282	1.20226	0.005	0.064	0.058	471.7484	0.153
Surfacing Equipment	2021	501	750	0.148862	0.125	1.59712	0.99181	0.005	0.062	0.057	470.4087	0.152
Surfacing Equipment	2022	26	50	0.509163	0.428	3.9114	3.77243	0.006	0.154	0.142	535.8364	0.173
Surfacing Equipment	2022	51	120	0.34882	0.293	3.24974	3.40936	0.005	0.175	0.161	473.6362	0.153
Surfacing Equipment	2022	121	175	0.283918	0.239	2.70137	2.90957	0.005	0.13	0.12	469.1259	0.152
Surfacing Equipment	2022	176	250	0.233135	0.196	2.66709	1.21737	0.005	0.085	0.078	476.9511	0.154
Surfacing Equipment	2022	251	500	0.157417	0.132	1.5573	1.16047	0.005	0.057	0.053	470.5248	0.152
Surfacing Equipment	2022	501	750	0.136805	0.115	1.35503	0.98819	0.005	0.052	0.048	470.4004	0.152
Surfacing Equipment	2023	26	50	0.51987	0.437	3.92432	3.83184	0.006	0.155	0.143	535.9295	0.173
Surfacing Equipment	2023	51	120	0.321277	0.27	3.05811	3.39556	0.005	0.157	0.144	474.4698	0.153
Surfacing Equipment	2023	121	175	0.267066	0.224	2.45516	2.91383	0.005	0.119	0.11	470.0141	0.152
Surfacing Equipment	2023	176	250	0.22795	0.192	2.50162	1.21946	0.005	0.082	0.075	476.9606	0.154
Surfacing Equipment	2023	251	500	0.156473	0.131	1.47556	1.16329	0.005	0.056	0.051	470.3746	0.152
Surfacing Equipment	2023	501	750	0.119512	0.1	1.08063	0.98543	0.005	0.04	0.037	472.4466	0.153
Surfacing Equipment	2024	26	50	0.396453	0.333	3.72069	3.66193	0.006	0.116	0.107	536.0304	0.173
Surfacing Equipment	2024	51	120	0.29879	0.251	2.8828	3.3893	0.005	0.142	0.131	475.3806	0.154
Surfacing Equipment	2024	121	175	0.271298	0.228	2.46372	2.92962	0.005	0.12	0.111	470.0767	0.152
Surfacing Equipment	2024	176	250	0.209166	0.176	2.23638	1.18272	0.005	0.071	0.065	477.096	0.154
Surfacing Equipment	2024	251	500	0.159183	0.134	1.47769	1.16767	0.005	0.056	0.051	470.2521	0.152
Surfacing Equipment	2024	501	750	0.112194	0.094	0.94669	0.98493	0.005	0.034	0.032	472.9833	0.153
Surfacing Equipment	2025	26	50	0.279239	0.235	3.57642	3.53733	0.006	0.082	0.075	536.14	0.173
Surfacing Equipment	2025	51	120	0.276433	0.232	2.6591	3.38535	0.005	0.124	0.114	476.7656	0.154
Surfacing Equipment	2025	121	175	0.222452	0.187	1.9987	2.92602	0.005	0.094	0.087	471.0403	0.152
Surfacing Equipment	2025	176	250	0.176026	0.148	1.74736	1.14337	0.005	0.055	0.051	477.11	0.154
Surfacing Equipment	2025	251	500	0.152175	0.128	1.3268	1.16861	0.005	0.051	0.047	470.2827	0.152
Surfacing Equipment	2025	501	750	0.101486	0.085	0.76806	0.9776	0.005	0.027	0.025	470.5508	0.152
Surfacing Equipment	2030	26	50	0.988	0.518	3.4	4.295	0.007	0.075	0.075	568.299	0.046
Surfacing Equipment	2030	51	120	2.281	0.264	1.959	3.492	0.006	0.068	0.068	568.299	0.023
Surfacing Equipment	2030	121	175	2.286	0.197	0.939	3.071	0.006	0.043	0.043	568.299	0.017
Surfacing Equipment	2030	176	250	3.134	0.172	0.789	1.064	0.006	0.026	0.026	568.299	0.015
Surfacing Equipment	2030	251	500	5.062	0.169	0.738	1.032	0.005	0.025	0.025	568.299	0.015
Surfacing Equipment	2030	501	750	7.953	0.169	0.749	1.032	0.005	0.025	0.025	568.299	0.015
Surfacing Equipment	2035	26	50	0.836	0.439	3.193	4.221	0.007	0.041	0.041	568.299	0.039
Surfacing Equipment	2035	51	120	1.954	0.226	1.659	3.482	0.006	0.038	0.038	568.299	0.02
Surfacing Equipment	2035	121	175	1.887	0.162	0.567	3.072	0.006	0.025	0.025	568.299	0.014
Surfacing Equipment	2035	176	250	2.725	0.149	0.497	1.05	0.006	0.016	0.016	568.299	0.013
Surfacing Equipment	2035	251	500	4.436	0.148	0.471	1.018	0.005	0.016	0.016	568.299	0.013
Surfacing Equipment	2035	501	750	6.967	0.148	0.477	1.018	0.005	0.016	0.016	568.3	0.013
Surfacing Equipment	2040	26	50	0.753	0.395	3.114	4.183	0.007	0.025	0.025	568.299	0.035
Surfacing Equipment	2040	51	120	1.782	0.206	1.521	3.477	0.006	0.024	0.024	568.299	0.018
Surfacing Equipment	2040	121	175	1.691	0.146	0.397	3.073	0.006	0.017	0.017	568.299	0.013
Surfacing Equipment	2040	176	250	2.566	0.14	0.37	1.047	0.006	0.013	0.013	568.299	0.012
Surfacing Equipment	2040	251	500	4.197	0.14	0.358	1.015	0.005	0.012	0.012	568.299	0.012
Surfacing Equipment	2040	501	750	6.59	0.14	0.361	1.015	0.005	0.013	0.013	568.299	0.012
Sweepers/Scrubbers	1990	6	15	4.971	1.804	9.999	5	0.833	0.968	0.968	568.299	0.162
Sweepers/Scrubbers	1990	16	25	10.019	2.213	6.92	5	0.679	0.735	0.735	568.299	0.199
Sweepers/Scrubbers	1990	26	50	32.867	4.512	7.836	9.199	0.692	1.202	1.202	568.299	0.407
Sweepers/Scrubbers	1990	51	120	39.044	2.254	14.467	5.53	0.628	1.259	1.259	568.299	0.203
Sweepers/Scrubbers	1990	121	175	48.318	1.505	12.813	4.861	0.602	0.818	0.818	568.299	0.135
Sweepers/Scrubbers	1990	176	250	56.322	1.505	12.813	4.861	0.602	0.818	0.818	568.299	0.135
Sweepers/Scrubbers	2000	6	15	2.886	1.047	7.362	4.258	0.079	0.428	0.428	568.299	0.094
Sweepers/Scrubbers	2000	16	25	4.933	1.089	6.325	4.438	0.064	0.442	0.442	568.299	0.098
Sweepers/Scrubbers	2000	26	50	30.182	4.144	6.934	8.622	0.065	0.882	0.882	568.299	0.373
Sweepers/Scrubbers	2000	51	120	29.565	1.706	9.702	4.394	0.059	0.84	0.84	568.299	0.154
Sweepers/Scrubbers	2000	121	175	37.084	1.155	8.929	3.49	0.057	0.481	0.481	568.299	0.104
Sweepers/Scrubbers	2000	176	250	34.578	0.924	8.516	2.598	0.057	0.371	0.371	568.3	0.083
Sweepers/Scrubbers	2005	6	15	1.951	0.708	4.985	3.469	0.079	0.35	0.35	568.299	0.063
Sweepers/Scrubbers	2005	16	25	3.505	0.774	5.326	2.526	0.064	0.323	0.323	568.299	0.069
Sweepers/Scrubbers	2005	26	50	28.008	3.845	6.52	8.25	0.065	0.844	0.844	568.299	0.346
Sweepers/Scrubbers	2005	51	120	27.009	1.559	8.538	4.253	0.059	0.826	0.826	568.299	0.14
Sweepers/Scrubbers	2005	121	175	32.779	1.021	7.851	3.349	0.057	0.45	0.45	568.3	0.092
Sweepers/Scrubbers	2005	176	250	25.002	0.668	7.318	1.76	0.057	0.258	0.258	568.299	0.06
Sweepers/Scrubbers	2010	6	15	2.154395	1.81	5.8263	6.34286	0.005	0.615	0.566	583.6982	0.17
Sweepers/Scrubbers	2010	16	25	2.154395	1.81	5.8263	6.34286	0.005	0.615	0.566	583.6982	0.17



Sweepers/Scrubbers	2010	26	50	2.154395	1.81	5.8263	6.34286	0.005	0.615	0.566	583.6982	0.17
Sweepers/Scrubbers	2010	51	120	1.093749	0.919	7.68967	4.10149	0.005	0.657	0.604	526.7953	0.153
Sweepers/Scrubbers	2010	121	175	1.189152	0.999	10.3895	4.21032	0.005	0.578	0.532	525.6912	0.153
Sweepers/Scrubbers	2010	176	250	0.69332	0.583	7.47446	2.35018	0.005	0.319	0.294	522.3625	0.152
Sweepers/Scrubbers	2011	6	15	2.104606	1.768	5.80317	6.34227	0.005	0.606	0.557	582.239	0.17
Sweepers/Scrubbers	2011	16	25	2.104606	1.768	5.80317	6.34227	0.005	0.606	0.557	582.239	0.17
Sweepers/Scrubbers	2011	26	50	2.104606	1.768	5.80317	6.34227	0.005	0.606	0.557	582.239	0.17
Sweepers/Scrubbers	2011	51	120	1.070043	0.899	7.49949	4.08877	0.005	0.651	0.599	525.4783	0.153
Sweepers/Scrubbers	2011	121	175	1.134336	0.953	9.92737	4.14616	0.005	0.554	0.509	524.377	0.153
Sweepers/Scrubbers	2011	176	250	0.623199	0.524	7.01091	2.16425	0.005	0.284	0.261	521.0566	0.152
Sweepers/Scrubbers	2012	6	15	2.177617	1.83	5.85015	6.54958	0.005	0.621	0.571	580.7797	0.17
Sweepers/Scrubbers	2012	16	25	2.177617	1.83	5.85015	6.54958	0.005	0.621	0.571	580.7797	0.17
Sweepers/Scrubbers	2012	26	50	2.177617	1.83	5.85015	6.54958	0.005	0.621	0.571	580.7797	0.17
Sweepers/Scrubbers	2012	51	120	1.078889	0.907	7.50259	4.12474	0.005	0.659	0.606	524.1613	0.153
Sweepers/Scrubbers	2012	121	175	1.141423	0.959	9.95689	4.16243	0.005	0.558	0.513	523.0627	0.153
Sweepers/Scrubbers	2012	176	250	0.63315	0.532	7.05573	2.17716	0.005	0.286	0.264	519.7507	0.152
Sweepers/Scrubbers	2013	6	15	2.124198	1.785	5.78778	6.54294	0.005	0.608	0.559	577.8612	0.17
Sweepers/Scrubbers	2013	16	25	2.124198	1.785	5.78778	6.54294	0.005	0.608	0.559	577.8612	0.17
Sweepers/Scrubbers	2013	26	50	2.124198	1.785	5.78778	6.54294	0.005	0.608	0.559	577.8612	0.17
Sweepers/Scrubbers	2013	51	120	1.019559	0.857	7.14773	4.07918	0.005	0.626	0.576	521.5273	0.153
Sweepers/Scrubbers	2013	121	175	1.122038	0.943	9.76352	4.12302	0.005	0.547	0.503	520.4343	0.153
Sweepers/Scrubbers	2013	176	250	0.590836	0.496	6.66337	2.05413	0.005	0.263	0.242	517.1389	0.152
Sweepers/Scrubbers	2014	6	15	2.103399	1.767	5.75157	6.59249	0.005	0.603	0.555	574.9427	0.17
Sweepers/Scrubbers	2014	16	25	2.103399	1.767	5.75157	6.59249	0.005	0.603	0.555	574.9427	0.17
Sweepers/Scrubbers	2014	26	50	2.103399	1.767	5.75157	6.59249	0.005	0.603	0.555	574.9427	0.17
Sweepers/Scrubbers	2014	51	120	0.990916	0.833	6.93387	4.07085	0.005	0.61	0.562	518.8933	0.153
Sweepers/Scrubbers	2014	121	175	1.041854	0.875	9.10792	4.04161	0.005	0.503	0.463	517.8058	0.153
Sweepers/Scrubbers	2014	176	250	0.600544	0.505	6.70399	2.06593	0.005	0.265	0.244	514.5271	0.152
Sweepers/Scrubbers	2015	6	15	2.151059	1.807	5.77191	6.75408	0.005	0.611	0.562	569.1058	0.17
Sweepers/Scrubbers	2015	16	25	2.151059	1.807	5.77191	6.75408	0.005	0.611	0.562	569.1058	0.17
Sweepers/Scrubbers	2015	26	50	2.151059	1.807	5.77191	6.75408	0.005	0.611	0.562	569.1058	0.17
Sweepers/Scrubbers	2015	51	120	0.991855	0.833	6.8863	4.09682	0.005	0.61	0.561	513.6254	0.153
Sweepers/Scrubbers	2015	121	175	0.998266	0.839	8.69682	3.98239	0.005	0.479	0.441	512.5489	0.153
Sweepers/Scrubbers	2015	176	250	0.610252	0.513	6.7446	2.07774	0.005	0.268	0.246	509.3035	0.152
Sweepers/Scrubbers	2016	6	15	2.119969	1.781	5.72609	6.78514	0.005	0.603	0.555	563.2688	0.17
Sweepers/Scrubbers	2016	16	25	2.119969	1.781	5.72609	6.78514	0.005	0.603	0.555	563.2688	0.17
Sweepers/Scrubbers	2016	26	50	2.119969	1.781	5.72609	6.78514	0.005	0.603	0.555	563.2688	0.17
Sweepers/Scrubbers	2016	51	120	0.931404	0.783	6.45405	4.05916	0.005	0.571	0.525	508.3574	0.153
Sweepers/Scrubbers	2016	121	175	0.887319	0.746	7.78746	3.83865	0.005	0.419	0.385	507.292	0.153
Sweepers/Scrubbers	2016	176	250	0.61965	0.521	6.78244	2.08905	0.005	0.27	0.248	504.0799	0.152
Sweepers/Scrubbers	2017	6	15	2.037349	1.712	5.62558	6.7185	0.005	0.582	0.535	554.5133	0.17
Sweepers/Scrubbers	2017	16	25	2.037349	1.712	5.62558	6.7185	0.005	0.582	0.535	554.5133	0.17
Sweepers/Scrubbers	2017	26	50	2.037349	1.712	5.62558	6.7185	0.005	0.582	0.535	554.5133	0.17
Sweepers/Scrubbers	2017	51	120	0.857444	0.72	6.0202	4.01005	0.005	0.52	0.479	500.4555	0.153
Sweepers/Scrubbers	2017	121	175	0.845582	0.711	7.42433	3.78429	0.005	0.395	0.363	499.4066	0.153
Sweepers/Scrubbers	2017	176	250	0.610026	0.513	6.50894	2.08973	0.005	0.264	0.243	496.2444	0.152
Sweepers/Scrubbers	2018	6	15	1.838607	1.545	5.39866	6.4442	0.005	0.531	0.488	545.7578	0.17
Sweepers/Scrubbers	2018	16	25	1.838607	1.545	5.39866	6.4442	0.005	0.531	0.488	545.7578	0.17
Sweepers/Scrubbers	2018	26	50	1.838607	1.545	5.39866	6.4442	0.005	0.531	0.488	545.7578	0.17
Sweepers/Scrubbers	2018	51	120	0.713411	0.599	5.13595	3.88173	0.005	0.428	0.394	492.5536	0.153
Sweepers/Scrubbers	2018	121	175	0.700892	0.589	6.07101	3.58832	0.005	0.32	0.294	491.5213	0.153
Sweepers/Scrubbers	2018	176	250	0.415916	0.349	4.30158	1.60478	0.005	0.169	0.156	488.409	0.152
Sweepers/Scrubbers	2019	6	15	1.703052	1.431	5.22487	6.26782	0.005	0.491	0.452	537.0023	0.17
Sweepers/Scrubbers	2019	16	25	1.703052	1.431	5.22487	6.26782	0.005	0.491	0.452	537.0023	0.17
Sweepers/Scrubbers	2019	26	50	1.703052	1.431	5.22487	6.26782	0.005	0.491	0.452	537.0023	0.17
Sweepers/Scrubbers	2019	51	120	0.654062	0.55	4.77259	3.84602	0.005	0.387	0.356	484.6516	0.153
Sweepers/Scrubbers	2019	121	175	0.62277	0.523	5.30082	3.4491	0.005	0.277	0.255	483.6359	0.153
Sweepers/Scrubbers	2019	176	250	0.279258	0.235	2.86598	1.23013	0.005	0.099	0.091	480.5735	0.152
Sweepers/Scrubbers	2020	6	15	1.599203	1.344	5.09515	6.1554	0.005	0.463	0.426	525.3284	0.17
Sweepers/Scrubbers	2020	16	25	1.599203	1.344	5.09515	6.1554	0.005	0.463	0.426	525.3284	0.17
Sweepers/Scrubbers	2020	26	50	1.599203	1.344	5.09515	6.1554	0.005	0.463	0.426	525.3284	0.17
Sweepers/Scrubbers	2020	51	120	0.618762	0.52	4.4821	3.82752	0.005	0.36	0.331	474.1157	0.153
Sweepers/Scrubbers	2020	121	175	0.549287	0.462	4.60809	3.35909	0.005	0.237	0.218	473.1221	0.153
Sweepers/Scrubbers	2020	176	250	0.246498	0.207	2.4856	1.13655	0.005	0.079	0.073	470.1263	0.152
Sweepers/Scrubbers	2021	6	15	1.450842	1.219	4.84946	5.89996	0.005	0.412	0.379	525.3284	0.17
Sweepers/Scrubbers	2021	16	25	1.450842	1.219	4.84946	5.89996	0.005	0.412	0.379	525.3284	0.17
Sweepers/Scrubbers	2021	26	50	1.450842	1.219	4.84946	5.89996	0.005	0.412	0.379	525.3284	0.17
Sweepers/Scrubbers	2021	51	120	0.523878	0.44	3.96194	3.75746	0.005	0.291	0.268	474.1157	0.153
Sweepers/Scrubbers	2021	121	175	0.457963	0.385	3.70723	3.24726	0.005	0.187	0.172	473.1221	0.153
Sweepers/Scrubbers	2021	176	250	0.195441	0.164	1.75821	1.1084	0.005	0.055	0.051	470.1263	0.152
Sweepers/Scrubbers	2022	6	15	1.199805	1.008	4.49049	5.45118	0.005	0.335	0.308	525.3284	0.17
Sweepers/Scrubbers	2022	16	25	1.199805	1.008	4.49049	5.45118	0.005	0.335	0.308	525.3284	0.17
Sweepers/Scrubbers	2022	26	50	1.199805	1.008	4.49049	5.45118	0.005	0.335	0.308	525.3284	0.17
Sweepers/Scrubbers	2022	51	120	0.443216	0.372	3.47218	3.69196	0.005	0.232	0.214	474.1157	0.153
Sweepers/Scrubbers	2022	121	175	0.382446	0.321	3.00243	3.22176	0.005	0.145	0.133	473.1221	0.153
Sweepers/Scrubbers	2022	176	250	0.181362	0.152	1.60484	1.10147	0.005	0.05	0.046	470.1263	0.152
Sweepers/Scrubbers	2023	6	15	0.903476	0.759	4.12735	4.97095	0.005	0.248	0.229	525.3284	0.17
Sweepers/Scrubbers	2023	16	25	0.903476	0.759	4.12735	4.97095	0.005	0.248	0.229	525.3284	0.17
Sweepers/Scrubbers	2023	26	50	0.903476	0.759	4.12735	4.97095	0.005	0.248	0.229	525.3284	0.17
Sweepers/Scrubbers	2023	51	120	0.417244	0.351	3.28536	3.69499	0.005	0.21	0.193	474.1157	0.153
Sweepers/Scrubbers	2023	121	175	0.347747	0.292	2.60853	3.22298	0.005	0.126	0.116	473.1221	0.153
Sweepers/Scrubbers	2023	176	250	0.188622	0.158	1.61028	1.11413	0.005	0.05	0.046	470.1263	0.152
Sweepers/Scrubbers	2024	6	15	0.887865	0.746	4.0788	5.00321	0.005	0.239	0.219	525.3284	0.17
Sweepers/Scrubbers	2024	16	25	0.887865	0.746	4.0788	5.00321	0.005	0.239	0.219	525.3284	0.17
Sweepers/Scrubbers	2024	26	50	0.887865	0.746	4.0788	5.00321	0.005	0.239	0.219	525.3284	0.17
Sweepers/Scrubbers	2024	51	120	0.395131	0.332	3.09846	3.69288	0.005	0.188	0.173	474.1157	0.153
Sweepers/Scrubbers	2024	121	175	0.316819	0.266	2.2533	3.23374	0.005	0.107	0.099	473.1221	0.153
Sweepers/Scrubbers	2024	176	250	0.195631	0.164	1.61357	1.12729	0.005	0.051	0.046	470.1263	0.152
Sweepers/Scrubbers	2025	6	15	0.740656								

Sweepers/Scrubbers	2025	16	25	0.740656	0.622	3.85568	4.76791	0.005	0.191	0.176	525.3284	0.17
Sweepers/Scrubbers	2025	26	50	0.740656	0.622	3.85568	4.76791	0.005	0.191	0.176	525.3284	0.17
Sweepers/Scrubbers	2025	51	120	0.360743	0.303	2.81733	3.66402	0.005	0.16	0.147	474.1157	0.153
Sweepers/Scrubbers	2025	121	175	0.25385	0.213	1.63811	3.201	0.005	0.072	0.066	473.1221	0.153
Sweepers/Scrubbers	2025	176	250	0.202235	0.17	1.61588	1.14005	0.005	0.051	0.047	470.1263	0.152
Sweepers/Scrubbers	2030	6	15	1.624	0.589	4.142	3.47	0.008	0.161	0.161	568.299	0.053
Sweepers/Scrubbers	2030	16	25	3.103	0.685	4.332	2.34	0.007	0.161	0.161	568.299	0.061
Sweepers/Scrubbers	2030	26	50	3.714	0.509	3.294	4.947	0.007	0.026	0.026	568.299	0.046
Sweepers/Scrubbers	2030	51	120	4.528	0.261	1.569	3.703	0.006	0.023	0.023	568.299	0.023
Sweepers/Scrubbers	2030	121	175	6.02	0.187	0.431	3.275	0.006	0.017	0.017	568.299	0.016
Sweepers/Scrubbers	2030	176	250	6.813	0.182	0.37	1.116	0.006	0.013	0.013	568.299	0.016
Sweepers/Scrubbers	2035	6	15	1.624	0.589	4.142	3.47	0.008	0.161	0.161	568.299	0.053
Sweepers/Scrubbers	2035	16	25	3.103	0.685	4.332	2.34	0.007	0.161	0.161	568.3	0.061
Sweepers/Scrubbers	2035	26	50	3.681	0.505	3.214	4.929	0.007	0.017	0.017	568.299	0.045
Sweepers/Scrubbers	2035	51	120	4.386	0.253	1.486	3.698	0.006	0.016	0.016	568.299	0.022
Sweepers/Scrubbers	2035	121	175	5.628	0.175	0.313	3.271	0.006	0.012	0.012	568.299	0.015
Sweepers/Scrubbers	2035	176	250	6.501	0.173	0.294	1.114	0.006	0.011	0.011	568.299	0.015
Sweepers/Scrubbers	2040	6	15	1.624	0.589	4.142	3.47	0.008	0.161	0.161	568.3	0.053
Sweepers/Scrubbers	2040	16	25	3.103	0.685	4.332	2.34	0.007	0.161	0.161	568.299	0.061
Sweepers/Scrubbers	2040	26	50	3.675	0.504	3.203	4.925	0.007	0.016	0.016	568.3	0.045
Sweepers/Scrubbers	2040	51	120	4.354	0.251	1.469	3.697	0.006	0.015	0.015	568.299	0.022
Sweepers/Scrubbers	2040	121	175	5.537	0.172	0.284	3.27	0.006	0.011	0.011	568.299	0.015
Sweepers/Scrubbers	2040	176	250	6.454	0.172	0.284	1.114	0.006	0.011	0.011	568.299	0.015
Tractors/Loaders/Backhoe	1990	16	25	5.699	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Tractors/Loaders/Backhoe	1990	26	50	23.587	4.787	7.939	9.698	0.871	1.267	1.267	568.299	0.431
Tractors/Loaders/Backhoe	1990	51	120	19.595	2.333	14.779	5.659	0.791	1.327	1.327	568.299	0.21
Tractors/Loaders/Backhoe	1990	121	175	28.833	1.751	14.021	5.008	0.758	0.974	0.974	568.299	0.158
Tractors/Loaders/Backhoe	1990	176	250	48.841	1.751	14.021	5.008	0.758	0.974	0.974	568.299	0.158
Tractors/Loaders/Backhoe	1990	251	500	86.854	1.551	13.298	10.967	0.758	0.834	0.834	568.3	0.139
Tractors/Loaders/Backhoe	1990	501	750	130.281	1.551	13.298	10.967	1.139	0.85	0.85	568.299	0.139
Tractors/Loaders/Backhoe	2000	16	25	5.225	2.029	6.391	4.66	0.065	0.57	0.57	568.299	0.183
Tractors/Loaders/Backhoe	2000	26	50	21.043	4.271	6.964	8.855	0.066	0.903	0.903	568.299	0.385
Tractors/Loaders/Backhoe	2000	51	120	14.597	1.738	9.784	4.448	0.06	0.862	0.862	568.299	0.156
Tractors/Loaders/Backhoe	2000	121	175	19.393	1.178	9.027	3.534	0.057	0.494	0.494	568.299	0.106
Tractors/Loaders/Backhoe	2000	176	250	26.283	0.942	8.625	2.634	0.057	0.38	0.38	568.299	0.085
Tractors/Loaders/Backhoe	2000	251	500	48.341	0.863	8.225	3.629	0.057	0.339	0.339	568.299	0.077
Tractors/Loaders/Backhoe	2000	501	750	72.512	0.863	8.225	3.629	0.059	0.339	0.339	568.299	0.077
Tractors/Loaders/Backhoe	2005	16	25	3.067	1.191	5.648	3.137	0.065	0.404	0.404	568.299	0.107
Tractors/Loaders/Backhoe	2005	26	50	18.069	3.667	6.405	8.018	0.066	0.819	0.819	568.299	0.33
Tractors/Loaders/Backhoe	2005	51	120	12.595	1.499	8.325	4.22	0.06	0.802	0.802	568.299	0.135
Tractors/Loaders/Backhoe	2005	121	175	16.035	0.974	7.629	3.341	0.057	0.432	0.432	568.3	0.087
Tractors/Loaders/Backhoe	2005	176	250	18.392	0.659	7.181	1.774	0.057	0.256	0.256	568.3	0.059
Tractors/Loaders/Backhoe	2005	251	500	32.511	0.58	6.451	1.993	0.057	0.23	0.23	568.299	0.052
Tractors/Loaders/Backhoe	2005	501	750	49.91	0.594	6.656	1.99	0.059	0.234	0.234	568.299	0.053
Tractors/Loaders/Backhoe	2010	16	25	1.894649	1.592	5.63221	5.95576	0.005	0.561	0.516	569.9866	0.166
Tractors/Loaders/Backhoe	2010	26	50	1.894649	1.592	5.63221	5.95576	0.005	0.561	0.516	569.9866	0.166
Tractors/Loaders/Backhoe	2010	51	120	0.792369	0.666	6.31224	3.83197	0.005	0.504	0.464	533.5879	0.155
Tractors/Loaders/Backhoe	2010	121	175	0.559066	0.47	5.68573	3.20391	0.005	0.285	0.263	521.9624	0.152
Tractors/Loaders/Backhoe	2010	176	250	0.408454	0.343	5.58586	1.44044	0.005	0.178	0.163	522.8516	0.152
Tractors/Loaders/Backhoe	2010	251	500	0.391383	0.329	5.18517	2.07689	0.005	0.172	0.158	526.5923	0.153
Tractors/Loaders/Backhoe	2010	501	750	0.330642	0.278	4.39795	1.80487	0.005	0.153	0.141	517.4169	0.151
Tractors/Loaders/Backhoe	2011	16	25	1.788969	1.503	5.58613	5.86306	0.005	0.54	0.497	569.4176	0.166
Tractors/Loaders/Backhoe	2011	26	50	1.788969	1.503	5.58613	5.86306	0.005	0.54	0.497	569.4176	0.166
Tractors/Loaders/Backhoe	2011	51	120	0.766159	0.644	6.12981	3.83083	0.005	0.491	0.451	531.2907	0.155
Tractors/Loaders/Backhoe	2011	121	175	0.544391	0.457	5.49667	3.21464	0.005	0.277	0.255	520.8772	0.152
Tractors/Loaders/Backhoe	2011	176	250	0.400263	0.336	5.38873	1.41416	0.005	0.172	0.158	521.7143	0.152
Tractors/Loaders/Backhoe	2011	251	500	0.383321	0.322	4.98779	2.01155	0.005	0.167	0.154	525.0356	0.153
Tractors/Loaders/Backhoe	2011	501	750	0.337174	0.283	4.35896	1.80098	0.005	0.153	0.14	516.0241	0.151
Tractors/Loaders/Backhoe	2012	16	25	1.778006	1.494	5.57167	5.92961	0.005	0.537	0.494	568.1171	0.166
Tractors/Loaders/Backhoe	2012	26	50	1.778006	1.494	5.57167	5.92961	0.005	0.537	0.494	568.1171	0.166
Tractors/Loaders/Backhoe	2012	51	120	0.765477	0.643	6.07938	3.85825	0.005	0.49	0.45	529.8013	0.155
Tractors/Loaders/Backhoe	2012	121	175	0.55208	0.464	5.48812	3.24733	0.005	0.279	0.257	519.5807	0.152
Tractors/Loaders/Backhoe	2012	176	250	0.408595	0.343	5.3794	1.42415	0.005	0.173	0.159	520.5233	0.152
Tractors/Loaders/Backhoe	2012	251	500	0.391545	0.329	4.9585	2.03631	0.005	0.168	0.154	523.6066	0.153
Tractors/Loaders/Backhoe	2012	501	750	0.34578	0.291	4.30593	1.81138	0.005	0.153	0.141	514.6158	0.151
Tractors/Loaders/Backhoe	2013	16	25	1.710175	1.437	5.50692	5.8983	0.005	0.52	0.478	566.4101	0.167
Tractors/Loaders/Backhoe	2013	26	50	1.710175	1.437	5.50692	5.8983	0.005	0.52	0.478	566.4101	0.167
Tractors/Loaders/Backhoe	2013	51	120	0.736849	0.619	5.88177	3.85259	0.005	0.468	0.431	526.7149	0.155
Tractors/Loaders/Backhoe	2013	121	175	0.53894	0.453	5.32658	3.25593	0.005	0.269	0.248	516.748	0.152
Tractors/Loaders/Backhoe	2013	176	250	0.404183	0.34	5.22143	1.40715	0.005	0.168	0.155	517.9916	0.152
Tractors/Loaders/Backhoe	2013	251	500	0.386263	0.325	4.77348	1.98237	0.005	0.162	0.149	520.6472	0.153
Tractors/Loaders/Backhoe	2013	501	750	0.357231	0.3	4.31599	1.8218	0.005	0.155	0.143	511.8955	0.151
Tractors/Loaders/Backhoe	2014	16	25	1.58953	1.336	5.36869	5.77182	0.005	0.488	0.449	564.0421	0.167
Tractors/Loaders/Backhoe	2014	26	50	1.58953	1.336	5.36869	5.77182	0.005	0.488	0.449	564.0421	0.167
Tractors/Loaders/Backhoe	2014	51	120	0.692813	0.582	5.58081	3.82724	0.005	0.438	0.403	523.0168	0.155
Tractors/Loaders/Backhoe	2014	121	175	0.503298	0.423	4.93788	3.23863	0.005	0.248	0.228	513.8903	0.152
Tractors/Loaders/Backhoe	2014	176	250	0.389056	0.327	4.92175	1.37555	0.005	0.159	0.146	515.1747	0.152
Tractors/Loaders/Backhoe	2014	251	500	0.371559	0.312	4.48819	1.87787	0.005	0.152	0.14	517.1237	0.153
Tractors/Loaders/Backhoe	2014	501	750	0.362599	0.305	4.24344	1.8331	0.005	0.154	0.141	511.3367	0.151
Tractors/Loaders/Backhoe	2015	16	25	1.555682	1.307	5.32019	5.79091	0.005	0.477	0.439	558.7085	0.167
Tractors/Loaders/Backhoe	2015	26	50	1.555682	1.307	5.32019	5.79091	0.005	0.477	0.439	558.7085	0.167
Tractors/Loaders/Backhoe	2015	51	120	0.677539	0.569	5.4221	3.83198	0.005	0.424	0.39	517.3652	0.154
Tractors/Loaders/Backhoe	2015	121	175	0.501434	0.421	4.83599	3.2559	0.005	0.244	0.225	508.6819	0.152
Tractors/Loaders/Backhoe	2015	176	250	0.387795	0.326	4.7831	1.37366	0.005	0.155	0.143	509.6269	0.152
Tractors/Loaders/Backhoe	2015	251	500	0.371246	0.312	4.34833	1.88403	0.005	0.149	0.137	511.8685	0.153
Tractors/Loaders/Backhoe	2015	501	750	0.36596	0.308	4.1848	1.823	0.005	0.152	0.14	506.1469	0.151
Tractors/Loaders/Backhoe	2016	16	25	1.488115	1.25	5.21373	5.74113	0.005	0.455	0.418	553.3996	0.167
Tractors/Loaders/Backhoe	2016	26	50	1.488115	1.25	5.21373	5.74113	0.005	0.455	0.418	553.3996	0.167
Tractors/Loaders/Backhoe	2016	51	120	0.640315	0.538	5.14235	3.81146	0.005	0.396	0.364	511.3456	0.154

Tractors/Loaders/Backhoe	2016	121	175	0.46319	0.389	4.37945	3.23229	0.005	0.222	0.204	502.6294	0.152
Tractors/Loaders/Backhoe	2016	176	250	0.369743	0.311	4.42611	1.34719	0.005	0.145	0.133	504.4014	0.152
Tractors/Loaders/Backhoe	2016	251	500	0.337794	0.284	3.7866	1.78642	0.005	0.131	0.121	505.2698	0.152
Tractors/Loaders/Backhoe	2016	501	750	0.357237	0.3	4.0216	1.67424	0.005	0.144	0.133	500.955	0.151
Tractors/Loaders/Backhoe	2017	16	25	1.421071	1.194	5.10958	5.68921	0.005	0.433	0.398	544.9286	0.167
Tractors/Loaders/Backhoe	2017	26	50	1.421071	1.194	5.10958	5.68921	0.005	0.433	0.398	544.9286	0.167
Tractors/Loaders/Backhoe	2017	51	120	0.595595	0.5	4.8087	3.7818	0.005	0.362	0.333	502.7952	0.154
Tractors/Loaders/Backhoe	2017	121	175	0.420865	0.354	3.87876	3.19961	0.005	0.197	0.181	493.912	0.151
Tractors/Loaders/Backhoe	2017	176	250	0.346619	0.291	4.04062	1.30369	0.005	0.132	0.121	496.8449	0.152
Tractors/Loaders/Backhoe	2017	251	500	0.323689	0.272	3.48988	1.73851	0.005	0.122	0.112	497.1129	0.152
Tractors/Loaders/Backhoe	2017	501	750	0.35268	0.296	3.86196	1.64567	0.005	0.139	0.128	492.9529	0.151
Tractors/Loaders/Backhoe	2018	16	25	1.180685	0.992	4.76441	5.31043	0.005	0.363	0.334	536.1115	0.167
Tractors/Loaders/Backhoe	2018	26	50	1.180685	0.992	4.76441	5.31043	0.005	0.363	0.334	536.1115	0.167
Tractors/Loaders/Backhoe	2018	51	120	0.5003	0.42	4.15444	3.69155	0.005	0.294	0.271	494.1237	0.154
Tractors/Loaders/Backhoe	2018	121	175	0.353485	0.297	3.16806	3.13727	0.005	0.16	0.147	485.7754	0.151
Tractors/Loaders/Backhoe	2018	176	250	0.308076	0.259	3.45965	1.24197	0.005	0.112	0.103	489.4562	0.152
Tractors/Loaders/Backhoe	2018	251	500	0.264454	0.222	2.66877	1.44545	0.005	0.092	0.085	486.2939	0.151
Tractors/Loaders/Backhoe	2018	501	750	0.322751	0.271	3.40235	1.60068	0.005	0.124	0.114	485.0099	0.151
Tractors/Loaders/Backhoe	2019	16	25	1.095082	0.92	4.60928	5.20327	0.005	0.33	0.304	527.6843	0.167
Tractors/Loaders/Backhoe	2019	26	50	1.095082	0.92	4.60928	5.20327	0.005	0.33	0.304	527.6843	0.167
Tractors/Loaders/Backhoe	2019	51	120	0.437701	0.368	3.69257	3.63777	0.005	0.247	0.227	485.8548	0.154
Tractors/Loaders/Backhoe	2019	121	175	0.321856	0.27	2.78412	3.12158	0.005	0.14	0.129	477.9151	0.151
Tractors/Loaders/Backhoe	2019	176	250	0.291458	0.245	3.14683	1.22027	0.005	0.102	0.094	481.4206	0.152
Tractors/Loaders/Backhoe	2019	251	500	0.245176	0.206	2.34458	1.38918	0.005	0.082	0.075	479.0826	0.152
Tractors/Loaders/Backhoe	2019	501	750	0.311873	0.262	3.12046	1.6025	0.005	0.117	0.107	478.9216	0.152
Tractors/Loaders/Backhoe	2020	16	25	0.987255	0.83	4.39784	5.03491	0.005	0.288	0.265	515.874	0.167
Tractors/Loaders/Backhoe	2020	26	50	0.987255	0.83	4.39784	5.03491	0.005	0.288	0.265	515.874	0.167
Tractors/Loaders/Backhoe	2020	51	120	0.393883	0.331	3.32571	3.60147	0.005	0.21	0.193	475.1543	0.154
Tractors/Loaders/Backhoe	2020	121	175	0.29217	0.246	2.41467	3.10518	0.005	0.122	0.112	467.5132	0.151
Tractors/Loaders/Backhoe	2020	176	250	0.268036	0.225	2.73794	1.19592	0.005	0.09	0.083	470.4998	0.152
Tractors/Loaders/Backhoe	2020	251	500	0.230511	0.194	2.07976	1.35815	0.005	0.073	0.067	468.2447	0.151
Tractors/Loaders/Backhoe	2020	501	750	0.318709	0.268	3.11926	1.60984	0.005	0.117	0.108	468.6602	0.152
Tractors/Loaders/Backhoe	2021	16	25	0.899672	0.756	4.22643	4.90172	0.005	0.254	0.234	515.1213	0.167
Tractors/Loaders/Backhoe	2021	26	50	0.899672	0.756	4.22643	4.90172	0.005	0.254	0.234	515.1213	0.167
Tractors/Loaders/Backhoe	2021	51	120	0.35209	0.296	2.995	3.57072	0.005	0.177	0.162	475.3621	0.154
Tractors/Loaders/Backhoe	2021	121	175	0.263016	0.221	2.06221	3.0907	0.005	0.104	0.096	467.5285	0.151
Tractors/Loaders/Backhoe	2021	176	250	0.249239	0.209	2.36922	1.18606	0.005	0.08	0.074	470.5716	0.152
Tractors/Loaders/Backhoe	2021	251	500	0.213479	0.179	1.776	1.34147	0.005	0.064	0.059	469.3025	0.152
Tractors/Loaders/Backhoe	2021	501	750	0.294477	0.247	2.75417	1.43254	0.005	0.104	0.096	466.4564	0.151
Tractors/Loaders/Backhoe	2022	16	25	0.818675	0.688	4.03024	4.75954	0.005	0.218	0.2	514.4613	0.166
Tractors/Loaders/Backhoe	2022	26	50	0.818675	0.688	4.03024	4.75954	0.005	0.218	0.2	514.4613	0.166
Tractors/Loaders/Backhoe	2022	51	120	0.309669	0.26	2.64718	3.53551	0.005	0.142	0.131	475.8975	0.154
Tractors/Loaders/Backhoe	2022	121	175	0.237945	0.2	1.75274	3.07944	0.005	0.089	0.082	467.8004	0.151
Tractors/Loaders/Backhoe	2022	176	250	0.222521	0.187	1.94251	1.16248	0.005	0.067	0.062	470.1236	0.152
Tractors/Loaders/Backhoe	2022	251	500	0.190771	0.16	1.43694	1.28026	0.005	0.053	0.049	469.2562	0.152
Tractors/Loaders/Backhoe	2022	501	750	0.276438	0.232	2.4532	1.35272	0.005	0.094	0.087	466.6327	0.151
Tractors/Loaders/Backhoe	2023	16	25	0.738634	0.621	3.85698	4.62935	0.005	0.185	0.17	513.7962	0.166
Tractors/Loaders/Backhoe	2023	26	50	0.738634	0.621	3.85698	4.62935	0.005	0.185	0.17	513.7962	0.166
Tractors/Loaders/Backhoe	2023	51	120	0.284572	0.239	2.42607	3.52504	0.005	0.12	0.11	476.4307	0.154
Tractors/Loaders/Backhoe	2023	121	175	0.219196	0.184	1.52095	3.0777	0.005	0.077	0.07	468.821	0.152
Tractors/Loaders/Backhoe	2023	176	250	0.201205	0.169	1.58768	1.14809	0.005	0.058	0.053	469.7518	0.152
Tractors/Loaders/Backhoe	2023	251	500	0.180818	0.152	1.24708	1.27923	0.005	0.047	0.043	469.4652	0.152
Tractors/Loaders/Backhoe	2023	501	750	0.278685	0.234	2.41861	1.36081	0.005	0.095	0.087	466.6756	0.151
Tractors/Loaders/Backhoe	2024	16	25	0.701609	0.59	3.76811	4.60899	0.005	0.166	0.153	513.8517	0.166
Tractors/Loaders/Backhoe	2024	26	50	0.701609	0.59	3.76811	4.60899	0.005	0.166	0.153	513.8517	0.166
Tractors/Loaders/Backhoe	2024	51	120	0.270597	0.227	2.28795	3.5318	0.005	0.105	0.097	476.7313	0.154
Tractors/Loaders/Backhoe	2024	121	175	0.209421	0.176	1.37643	3.08913	0.005	0.068	0.063	469.4029	0.152
Tractors/Loaders/Backhoe	2024	176	250	0.199431	0.168	1.49113	1.15125	0.005	0.054	0.05	469.9143	0.152
Tractors/Loaders/Backhoe	2024	251	500	0.178929	0.15	1.16321	1.277	0.005	0.044	0.041	470.0841	0.152
Tractors/Loaders/Backhoe	2024	501	750	0.262816	0.221	2.21548	1.31051	0.005	0.085	0.079	466.6381	0.151
Tractors/Loaders/Backhoe	2025	16	25	0.654585	0.55	3.66186	4.55974	0.005	0.145	0.133	513.8025	0.166
Tractors/Loaders/Backhoe	2025	26	50	0.654585	0.55	3.66186	4.55974	0.005	0.145	0.133	513.8025	0.166
Tractors/Loaders/Backhoe	2025	51	120	0.248412	0.209	2.10918	3.52242	0.005	0.085	0.079	477.188	0.154
Tractors/Loaders/Backhoe	2025	121	175	0.192617	0.162	1.18039	3.08323	0.005	0.058	0.054	469.3289	0.152
Tractors/Loaders/Backhoe	2025	176	250	0.183368	0.154	1.23458	1.14554	0.005	0.047	0.044	470.5976	0.152
Tractors/Loaders/Backhoe	2025	251	500	0.171862	0.144	1.04575	1.23405	0.005	0.039	0.036	470.9102	0.152
Tractors/Loaders/Backhoe	2025	501	750	0.222943	0.187	1.64868	1.26139	0.005	0.067	0.062	466.4517	0.151
Tractors/Loaders/Backhoe	2030	16	25	1.765	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Tractors/Loaders/Backhoe	2030	26	50	2.657	0.539	3.299	4.966	0.007	0.033	0.033	568.299	0.048
Tractors/Loaders/Backhoe	2030	51	120	2.285	0.272	1.624	3.705	0.006	0.03	0.03	568.299	0.024
Tractors/Loaders/Backhoe	2030	121	175	3.178	0.193	0.485	3.273	0.006	0.02	0.02	568.299	0.017
Tractors/Loaders/Backhoe	2030	176	250	5.112	0.183	0.418	1.115	0.006	0.014	0.014	568.299	0.016
Tractors/Loaders/Backhoe	2030	251	500	10.236	0.182	0.403	1.066	0.006	0.014	0.014	568.299	0.016
Tractors/Loaders/Backhoe	2030	501	750	15.363	0.182	0.407	1.066	0.006	0.014	0.014	568.299	0.016
Tractors/Loaders/Backhoe	2035	16	25	1.765	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Tractors/Loaders/Backhoe	2035	26	50	2.538	0.515	3.244	4.949	0.007	0.022	0.022	568.299	0.046
Tractors/Loaders/Backhoe	2035	51	120	2.17	0.258	1.521	3.703	0.006	0.02	0.02	568.299	0.023
Tractors/Loaders/Backhoe	2035	121	175	2.956	0.179	0.348	3.275	0.006	0.015	0.015	568.299	0.016
Tractors/Loaders/Backhoe	2035	176	250	4.945	0.177	0.331	1.115	0.006	0.012	0.012	568.299	0.016
Tractors/Loaders/Backhoe	2035	251	500	9.922	0.177	0.326	1.066	0.006	0.012	0.012	568.299	0.015
Tractors/Loaders/Backhoe	2035	501	750	14.886	0.177	0.327	1.066	0.006	0.012	0.012	568.299	0.015
Tractors/Loaders/Backhoe	2040	16	25	1.765	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Tractors/Loaders/Backhoe	2040	26	50	2.506	0.508	3.22	4.946	0.007	0.018	0.018	568.299	0.045
Tractors/Loaders/Backhoe	2040	51	120	2.135	0.254	1.485	3.703	0.006	0.016	0.016	568.299	0.022
Tractors/Loaders/Backhoe	2040	121	175	2.891	0.175	0.305	3.276	0.006	0.012	0.012	568.299	0.015
Tractors/Loaders/Backhoe	2040	176	250	4.877	0.174	0.297	1.116	0.006	0.011	0.011	568.3	0.015
Tractors/Loaders/Backhoe	2040	251	500	9.794	0.174	0.297	1.066	0.006	0.011	0.011	568.299	0.015
Tractors/Loaders/Backhoe	2040	501	750	14.69	0.174	0.297	1.066	0.006	0.011			

Trenchers	1990	16	25	18.341	2.213	6.919	4.999	0.855	0.741	0.741	568.3	0.199
Trenchers	1990	26	50	37.589	4.535	7.849	9.232	0.871	1.215	1.215	568.3	0.409
Trenchers	1990	51	120	37.519	2.296	14.752	5.621	0.791	1.284	1.284	568.299	0.207
Trenchers	1990	121	175	63.364	1.748	14.125	5.014	0.758	0.96	0.96	568.299	0.157
Trenchers	1990	176	250	98.152	1.748	14.125	5.014	0.758	0.96	0.96	568.299	0.157
Trenchers	1990	251	500	121.775	1.553	13.45	10.572	0.662	0.827	0.827	568.299	0.14
Trenchers	1990	501	750	229.57	1.553	13.45	10.572	1.018	0.843	0.843	568.299	0.14
Trenchers	2000	6	15	2.824	1.325	7.675	4.257	0.079	0.61	0.61	568.299	0.119
Trenchers	2000	16	25	15.815	1.908	6.326	4.438	0.065	0.555	0.555	568.299	0.172
Trenchers	2000	26	50	34.945	4.216	7.029	8.713	0.066	0.89	0.89	568.299	0.38
Trenchers	2000	51	120	30.939	1.893	10.98	4.777	0.06	0.882	0.882	568.299	0.17
Trenchers	2000	121	175	46.959	1.296	10.057	3.969	0.057	0.541	0.541	568.299	0.116
Trenchers	2000	176	250	64.645	1.151	9.8	3.402	0.057	0.474	0.474	568.299	0.103
Trenchers	2000	251	500	81.678	1.042	9.354	6.221	0.05	0.416	0.416	568.299	0.094
Trenchers	2000	501	750	153.98	1.042	9.354	6.221	0.052	0.416	0.416	568.299	0.094
Trenchers	2005	6	15	1.582	0.742	4.981	3.469	0.079	0.35	0.35	568.299	0.066
Trenchers	2005	16	25	7.043	0.849	5.321	2.519	0.065	0.333	0.333	568.3	0.076
Trenchers	2005	26	50	32.497	3.921	6.674	8.33	0.066	0.849	0.849	568.299	0.353
Trenchers	2005	51	120	27.751	1.698	9.727	4.526	0.06	0.839	0.839	568.299	0.153
Trenchers	2005	121	175	40.799	1.126	8.861	3.695	0.057	0.487	0.487	568.299	0.101
Trenchers	2005	176	250	51.63	0.92	8.545	2.668	0.057	0.379	0.379	568.299	0.083
Trenchers	2005	251	500	63.694	0.812	7.903	4.395	0.05	0.332	0.332	568.299	0.073
Trenchers	2005	501	750	121.568	0.822	8.023	4.387	0.052	0.333	0.333	568.299	0.074
Trenchers	2010	6	15	1.531711	1.287	5.52761	5.11336	0.005	0.509	0.468	586.297	0.171
Trenchers	2010	16	25	1.531711	1.287	5.52761	5.11336	0.005	0.509	0.468	586.297	0.171
Trenchers	2010	26	50	1.531711	1.287	5.52761	5.11336	0.005	0.509	0.468	586.297	0.171
Trenchers	2010	51	120	1.099287	0.924	7.99924	4.07421	0.005	0.62	0.571	529.306	0.154
Trenchers	2010	121	175	0.922781	0.775	8.65095	3.7406	0.005	0.441	0.406	519.6876	0.151
Trenchers	2010	176	250	0.705197	0.593	7.86432	2.36576	0.005	0.314	0.288	527.3537	0.154
Trenchers	2010	251	500	0.380701	0.32	4.85363	2.10547	0.005	0.176	0.162	523.7828	0.152
Trenchers	2010	501	750	0.194919	0.164	3.20501	1.33412	0.005	0.113	0.104	525.788	0.153
Trenchers	2011	6	15	1.520162	1.277	5.52336	5.14932	0.005	0.507	0.467	585.033	0.171
Trenchers	2011	16	25	1.520162	1.277	5.52336	5.14932	0.005	0.507	0.467	585.033	0.171
Trenchers	2011	26	50	1.520162	1.277	5.52336	5.14932	0.005	0.507	0.467	585.033	0.171
Trenchers	2011	51	120	1.045215	0.878	7.67483	4.02646	0.005	0.598	0.55	527.7187	0.154
Trenchers	2011	121	175	0.916044	0.77	8.56359	3.73004	0.005	0.438	0.403	518.4008	0.151
Trenchers	2011	176	250	0.655301	0.551	7.41222	2.19702	0.005	0.29	0.267	525.9543	0.153
Trenchers	2011	251	500	0.372561	0.313	4.66474	2.04569	0.005	0.171	0.158	522.8418	0.153
Trenchers	2011	501	750	0.180473	0.152	2.67369	1.33856	0.005	0.097	0.089	525.691	0.153
Trenchers	2012	6	15	1.545009	1.298	5.53504	5.24421	0.005	0.512	0.471	583.5639	0.171
Trenchers	2012	16	25	1.545009	1.298	5.53504	5.24421	0.005	0.512	0.471	583.5639	0.171
Trenchers	2012	26	50	1.545009	1.298	5.53504	5.24421	0.005	0.512	0.471	583.5639	0.171
Trenchers	2012	51	120	1.052636	0.885	7.69459	4.05076	0.005	0.604	0.556	526.3562	0.154
Trenchers	2012	121	175	0.907539	0.763	8.45762	3.7162	0.005	0.436	0.401	517.1147	0.151
Trenchers	2012	176	250	0.662356	0.557	7.44867	2.20863	0.005	0.293	0.27	524.572	0.153
Trenchers	2012	251	500	0.369046	0.31	4.58546	2.03349	0.005	0.168	0.155	521.6264	0.153
Trenchers	2012	501	750	0.135931	0.114	2.04792	0.95532	0.005	0.069	0.064	524.8533	0.154
Trenchers	2013	6	15	1.53809	1.292	5.51013	5.2883	0.005	0.509	0.469	580.7693	0.171
Trenchers	2013	16	25	1.53809	1.292	5.51013	5.2883	0.005	0.509	0.469	580.7693	0.171
Trenchers	2013	26	50	1.53809	1.292	5.51013	5.2883	0.005	0.509	0.469	580.7693	0.171
Trenchers	2013	51	120	1.010936	0.849	7.45031	4.02389	0.005	0.582	0.536	523.4236	0.154
Trenchers	2013	121	175	0.916392	0.77	8.49431	3.73732	0.005	0.441	0.406	514.53	0.151
Trenchers	2013	176	250	0.626949	0.527	7.03951	2.13383	0.005	0.276	0.254	520.4335	0.153
Trenchers	2013	251	500	0.376293	0.316	4.60225	2.04997	0.005	0.17	0.156	519.043	0.153
Trenchers	2013	501	750	0.144323	0.121	2.05561	0.96183	0.005	0.07	0.065	522.2778	0.154
Trenchers	2014	6	15	1.508934	1.268	5.45539	5.29329	0.005	0.501	0.46	577.7275	0.171
Trenchers	2014	16	25	1.508934	1.268	5.45539	5.29329	0.005	0.501	0.46	577.7275	0.171
Trenchers	2014	26	50	1.508934	1.268	5.45539	5.29329	0.005	0.501	0.46	577.7275	0.171
Trenchers	2014	51	120	0.973633	0.818	7.2172	3.99876	0.005	0.563	0.518	520.7658	0.154
Trenchers	2014	121	175	0.824366	0.693	7.69921	3.66799	0.005	0.395	0.364	512.1475	0.151
Trenchers	2014	176	250	0.591196	0.497	6.48427	2.07009	0.005	0.258	0.237	517.7188	0.153
Trenchers	2014	251	500	0.364023	0.306	4.37019	2.03515	0.005	0.161	0.148	513.7439	0.152
Trenchers	2014	501	750	0.140019	0.118	1.825	0.96403	0.005	0.061	0.056	519.6576	0.154
Trenchers	2015	6	15	1.498018	1.259	5.40567	5.32346	0.005	0.493	0.454	571.6674	0.171
Trenchers	2015	16	25	1.498018	1.259	5.40567	5.32346	0.005	0.493	0.454	571.6674	0.171
Trenchers	2015	26	50	1.498018	1.259	5.40567	5.32346	0.005	0.493	0.454	571.6674	0.171
Trenchers	2015	51	120	0.972367	0.817	7.17857	4.01434	0.005	0.562	0.517	515.3955	0.154
Trenchers	2015	121	175	0.829448	0.697	7.67382	3.68389	0.005	0.396	0.364	506.9434	0.151
Trenchers	2015	176	250	0.597101	0.502	6.50988	2.0797	0.005	0.26	0.239	512.4325	0.153
Trenchers	2015	251	500	0.370644	0.311	4.38344	2.05093	0.005	0.163	0.15	508.3296	0.152
Trenchers	2015	501	750	0.135272	0.114	1.62336	0.96532	0.005	0.053	0.049	514.4002	0.154
Trenchers	2016	6	15	1.450442	1.219	5.29818	5.28497	0.005	0.475	0.437	565.9942	0.171
Trenchers	2016	16	25	1.450442	1.219	5.29818	5.28497	0.005	0.475	0.437	565.9942	0.171
Trenchers	2016	26	50	1.450442	1.219	5.29818	5.28497	0.005	0.475	0.437	565.9942	0.171
Trenchers	2016	51	120	0.937737	0.788	6.90219	3.98822	0.005	0.541	0.498	509.9027	0.154
Trenchers	2016	121	175	0.693219	0.582	6.50303	3.50717	0.005	0.328	0.302	501.7809	0.151
Trenchers	2016	176	250	0.58008	0.487	6.31168	2.03007	0.005	0.251	0.231	507.1448	0.153
Trenchers	2016	251	500	0.351818	0.296	4.09912	1.96649	0.005	0.15	0.138	504.4103	0.152
Trenchers	2016	501	750	0.142468	0.12	1.63008	0.97148	0.005	0.054	0.05	509.1433	0.154
Trenchers	2017	6	15	1.367315	1.149	5.16614	5.19682	0.005	0.449	0.413	557.4601	0.171
Trenchers	2017	16	25	1.367315	1.149	5.16614	5.19682	0.005	0.449	0.413	557.4601	0.171
Trenchers	2017	26	50	1.367315	1.149	5.16614	5.19682	0.005	0.449	0.413	557.4601	0.171
Trenchers	2017	51	120	0.906302	0.762	6.67876	3.96827	0.005	0.523	0.481	501.9916	0.154
Trenchers	2017	121	175	0.638299	0.536	5.92725	3.43391	0.005	0.3	0.276	493.7642	0.151
Trenchers	2017	176	250	0.577948	0.486	6.19428	2.03655	0.005	0.25	0.23	499.2281	0.153
Trenchers	2017	251	500	0.315778	0.265	3.44157	1.96603	0.005	0.129	0.119	497.0197	0.152
Trenchers	2017	501	750	0.135465	0.114	1.42958	0.97168	0.005	0.046	0.042	501.1831	0.154
Trenchers	2018	6	15	1.236195	1.039	4.95997	5.01831	0.005	0.409	0.377	548.3607	0.171
Trenchers	2018	16	25	1.236195	1.039	4.95997	5.01831	0.005	0.409	0.377	548.3607	0.171

Trenchers	2018	26	50	1.236195	1.039	4.95997	5.01831	0.005	0.409	0.377	548.3607	0.171
Trenchers	2018	51	120	0.78315	0.658	5.91527	3.85487	0.005	0.45	0.414	493.715	0.154
Trenchers	2018	121	175	0.559787	0.47	5.12742	3.33134	0.005	0.261	0.24	485.9254	0.151
Trenchers	2018	176	250	0.498602	0.419	5.29554	1.84856	0.005	0.212	0.195	491.5649	0.153
Trenchers	2018	251	500	0.30464	0.256	3.21114	1.97444	0.005	0.121	0.112	489.6281	0.152
Trenchers	2018	501	750	0.111849	0.094	1.02523	0.96632	0.005	0.029	0.026	494.6426	0.154
Trenchers	2019	6	15	1.136688	0.955	4.78464	4.89183	0.005	0.377	0.347	539.1037	0.171
Trenchers	2019	16	25	1.136688	0.955	4.78464	4.89183	0.005	0.377	0.347	539.1037	0.171
Trenchers	2019	26	50	1.136688	0.955	4.78464	4.89183	0.005	0.377	0.347	539.1037	0.171
Trenchers	2019	51	120	0.751452	0.631	5.69508	3.83677	0.005	0.431	0.396	485.3635	0.154
Trenchers	2019	121	175	0.547248	0.46	4.95976	3.34151	0.005	0.255	0.234	478.1294	0.151
Trenchers	2019	176	250	0.481784	0.405	5.04653	1.81019	0.005	0.203	0.187	484.1167	0.153
Trenchers	2019	251	500	0.302803	0.254	3.12824	1.98689	0.005	0.118	0.109	482.1648	0.153
Trenchers	2019	501	750	0.09296	0.078	0.70662	0.95644	0.005	0.015	0.014	484.5422	0.153
Trenchers	2020	6	15	1.076913	0.905	4.67651	4.8331	0.005	0.356	0.328	527.0962	0.17
Trenchers	2020	16	25	1.076913	0.905	4.67651	4.8331	0.005	0.356	0.328	527.0962	0.17
Trenchers	2020	26	50	1.076913	0.905	4.67651	4.8331	0.005	0.356	0.328	527.0962	0.17
Trenchers	2020	51	120	0.726229	0.61	5.51952	3.83272	0.005	0.413	0.38	475.1265	0.154
Trenchers	2020	121	175	0.500709	0.421	4.46042	3.32968	0.005	0.228	0.21	467.7348	0.151
Trenchers	2020	176	250	0.466499	0.392	4.8091	1.77405	0.005	0.195	0.179	473.5951	0.153
Trenchers	2020	251	500	0.276702	0.233	2.775	1.85932	0.005	0.105	0.097	470.6367	0.152
Trenchers	2020	501	750	0.083454	0.07	0.56006	0.95004	0.005	0.009	0.008	472.6556	0.153
Trenchers	2021	6	15	0.962829	0.809	4.45891	4.66576	0.005	0.313	0.288	527.0165	0.17
Trenchers	2021	16	25	0.962829	0.809	4.45891	4.66576	0.005	0.313	0.288	527.0165	0.17
Trenchers	2021	26	50	0.962829	0.809	4.45891	4.66576	0.005	0.313	0.288	527.0165	0.17
Trenchers	2021	51	120	0.661739	0.556	5.10594	3.78912	0.005	0.371	0.341	475.287	0.154
Trenchers	2021	121	175	0.483838	0.407	4.27237	3.30363	0.005	0.219	0.201	467.7343	0.151
Trenchers	2021	176	250	0.42408	0.356	4.36036	1.66826	0.005	0.172	0.158	473.8538	0.153
Trenchers	2021	251	500	0.263326	0.221	2.49105	1.86493	0.005	0.1	0.092	470.701	0.152
Trenchers	2021	501	750	0.078358	0.066	0.47513	0.94677	0.005	0.009	0.008	472.5289	0.153
Trenchers	2022	6	15	0.859634	0.722	4.26873	4.51833	0.005	0.275	0.253	527.0258	0.17
Trenchers	2022	16	25	0.859634	0.722	4.26873	4.51833	0.005	0.275	0.253	527.0258	0.17
Trenchers	2022	26	50	0.859634	0.722	4.26873	4.51833	0.005	0.275	0.253	527.0258	0.17
Trenchers	2022	51	120	0.629528	0.529	4.91345	3.77843	0.005	0.348	0.32	475.3262	0.154
Trenchers	2022	121	175	0.470645	0.395	4.10333	3.31289	0.005	0.211	0.195	467.7337	0.151
Trenchers	2022	176	250	0.398562	0.335	3.85292	1.66329	0.005	0.16	0.148	473.8512	0.153
Trenchers	2022	251	500	0.252168	0.212	2.21226	1.87233	0.005	0.094	0.086	470.5845	0.152
Trenchers	2022	501	750	0.067683	0.057	0.30138	0.94489	0.005	0.009	0.008	474.2887	0.153
Trenchers	2023	6	15	0.763609	0.642	3.95873	4.30164	0.005	0.22	0.202	527.0954	0.17
Trenchers	2023	16	25	0.763609	0.642	3.95873	4.30164	0.005	0.22	0.202	527.0954	0.17
Trenchers	2023	26	50	0.763609	0.642	3.95873	4.30164	0.005	0.22	0.202	527.0954	0.17
Trenchers	2023	51	120	0.599816	0.504	4.70045	3.76842	0.005	0.326	0.3	475.6903	0.154
Trenchers	2023	121	175	0.427489	0.359	3.65725	3.29061	0.005	0.185	0.171	467.7332	0.151
Trenchers	2023	176	250	0.390278	0.328	3.7365	1.6386	0.005	0.155	0.143	473.8485	0.153
Trenchers	2023	251	500	0.236268	0.199	2.00504	1.72273	0.005	0.085	0.078	471.6125	0.153
Trenchers	2023	501	750	0.071688	0.06	0.30278	0.95111	0.005	0.009	0.008	474.4705	0.153
Trenchers	2024	6	15	0.714783	0.601	3.83415	4.23326	0.005	0.197	0.181	527.0216	0.17
Trenchers	2024	16	25	0.714783	0.601	3.83415	4.23326	0.005	0.197	0.181	527.0216	0.17
Trenchers	2024	26	50	0.714783	0.601	3.83415	4.23326	0.005	0.197	0.181	527.0216	0.17
Trenchers	2024	51	120	0.588274	0.494	4.59319	3.76854	0.005	0.318	0.292	475.6324	0.154
Trenchers	2024	121	175	0.432612	0.364	3.66715	3.31073	0.005	0.187	0.172	467.7326	0.151
Trenchers	2024	176	250	0.370794	0.312	3.48285	1.59847	0.005	0.145	0.134	473.8455	0.153
Trenchers	2024	251	500	0.228039	0.192	1.85871	1.66789	0.005	0.08	0.074	469.9942	0.152
Trenchers	2024	501	750	0.076605	0.064	0.30435	0.95838	0.005	0.009	0.008	474.4782	0.153
Trenchers	2025	6	15	0.645012	0.542	3.65681	4.11956	0.005	0.163	0.15	527.1603	0.17
Trenchers	2025	16	25	0.645012	0.542	3.65681	4.11956	0.005	0.163	0.15	527.1603	0.17
Trenchers	2025	26	50	0.645012	0.542	3.65681	4.11956	0.005	0.163	0.15	527.1603	0.17
Trenchers	2025	51	120	0.5433	0.457	4.279	3.73437	0.005	0.285	0.262	475.9014	0.154
Trenchers	2025	121	175	0.426125	0.358	3.54907	3.30907	0.005	0.179	0.165	467.732	0.151
Trenchers	2025	176	250	0.365033	0.307	3.31521	1.60076	0.005	0.144	0.132	473.9168	0.153
Trenchers	2025	251	500	0.227307	0.191	1.82613	1.67595	0.005	0.079	0.072	470.4394	0.152
Trenchers	2025	501	750	0.079299	0.067	0.30526	0.96233	0.005	0.009	0.008	474.4863	0.153
Trenchers	2030	6	15	1.409	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Trenchers	2030	16	25	5.681	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Trenchers	2030	26	50	7.055	0.851	3.835	5.208	0.007	0.144	0.144	568.299	0.076
Trenchers	2030	51	120	6.697	0.409	2.559	3.743	0.006	0.132	0.132	568.299	0.036
Trenchers	2030	121	175	10.904	0.3	1.529	3.273	0.006	0.08	0.08	568.3	0.027
Trenchers	2030	176	250	14.406	0.256	1.348	1.188	0.006	0.049	0.049	568.3	0.023
Trenchers	2030	251	500	19.534	0.249	1.231	1.209	0.005	0.046	0.046	568.299	0.022
Trenchers	2030	501	750	36.902	0.249	1.254	1.209	0.005	0.047	0.047	568.299	0.022
Trenchers	2035	6	15	1.409	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Trenchers	2035	16	25	5.681	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Trenchers	2035	26	50	5.645	0.681	3.548	5.055	0.007	0.084	0.084	568.299	0.061
Trenchers	2035	51	120	5.437	0.332	2.049	3.713	0.006	0.076	0.076	568.3	0.03
Trenchers	2035	121	175	8.756	0.241	0.966	3.264	0.006	0.048	0.048	568.299	0.021
Trenchers	2035	176	250	12.171	0.216	0.847	1.149	0.006	0.031	0.031	568.299	0.019
Trenchers	2035	251	500	16.707	0.213	0.79	1.126	0.005	0.029	0.029	568.299	0.019
Trenchers	2035	501	750	31.529	0.213	0.801	1.126	0.005	0.029	0.029	568.3	0.019
Trenchers	2040	6	15	1.409	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Trenchers	2040	16	25	5.681	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Trenchers	2040	26	50	4.961	0.598	3.374	4.98	0.007	0.052	0.052	568.299	0.054
Trenchers	2040	51	120	4.791	0.293	1.767	3.699	0.006	0.047	0.047	568.299	0.026
Trenchers	2040	121	175	7.533	0.207	0.639	3.26	0.006	0.03	0.03	568.3	0.018
Trenchers	2040	176	250	10.853	0.193	0.573	1.126	0.006	0.02	0.02	568.3	0.017
Trenchers	2040	251	500	15.011	0.191	0.542	1.081	0.005	0.02	0.02	568.3	0.017
Trenchers	2040	501	750	28.323	0.191	0.549	1.081	0.005	0.02	0.02	568.299	0.017
Welders	1990	6	15	4.525	1.804	9.999	4.999	1.018	0.974	0.974	568.299	0.162
Welders	1990	16	25	10.092	2.213	6.919	4.999	0.83	0.74	0.74	568.299	0.199
Welders	1990	26	50	40.899	3.899	7.611	8.078	0.846	1.085	1.085	568.3	0.351

Welders	1990	51	120	33.632	2.107	13.999	5.312	0.768	1.146	1.146	568.3	0.19
Welders	1990	121	175	57.219	1.442	12.598	4.703	0.736	0.761	0.761	568.299	0.13
Welders	1990	176	250	69.387	1.442	12.598	4.703	0.736	0.761	0.761	568.299	0.13
Welders	1990	251	500	88.323	1.304	12.141	8.704	0.642	0.672	0.672	568.3	0.117
Welders	2000	6	15	4.323	1.723	9.08	4.875	0.079	0.747	0.747	568.299	0.155
Welders	2000	16	25	9.556	2.095	6.405	4.783	0.065	0.569	0.569	568.299	0.189
Welders	2000	26	50	38.432	3.664	6.797	7.708	0.066	0.803	0.803	568.299	0.33
Welders	2000	51	120	27.201	1.704	10.046	4.433	0.06	0.791	0.791	568.3	0.153
Welders	2000	121	175	45.269	1.14	9.126	3.61	0.057	0.468	0.468	568.299	0.102
Welders	2000	176	250	45.901	0.954	8.783	2.869	0.057	0.384	0.384	568.299	0.086
Welders	2000	251	500	59.514	0.878	8.466	4.719	0.05	0.344	0.344	568.299	0.079
Welders	2005	6	15	3.497	1.394	7.817	4.38	0.079	0.621	0.621	568.299	0.125
Welders	2005	16	25	7.401	1.622	6.014	3.922	0.065	0.483	0.483	568.299	0.146
Welders	2005	26	50	34.243	3.264	6.342	7.144	0.066	0.746	0.746	568.299	0.294
Welders	2005	51	120	23.288	1.459	8.459	4.096	0.06	0.733	0.733	568.299	0.131
Welders	2005	121	175	37.837	0.953	7.736	3.26	0.057	0.405	0.405	568.299	0.086
Welders	2005	176	250	32.839	0.682	7.302	1.941	0.057	0.268	0.268	568.299	0.061
Welders	2005	251	500	41.097	0.606	6.755	2.566	0.05	0.241	0.241	568.299	0.054
Welders	2010	6	15	2.82	1.124	6.554	4.027	0.008	0.473	0.473	568.3	0.101
Welders	2010	16	25	5.78	1.267	5.477	3.309	0.007	0.384	0.384	568.299	0.114
Welders	2010	26	50	27.885	2.658	5.944	6.571	0.007	0.623	0.623	568.299	0.239
Welders	2010	51	120	18.341	1.149	6.999	3.928	0.006	0.61	0.61	568.299	0.103
Welders	2010	121	175	30.26	0.762	6.255	3.185	0.006	0.338	0.338	568.299	0.068
Welders	2010	176	250	23.908	0.496	5.857	1.433	0.006	0.189	0.189	568.299	0.044
Welders	2010	251	500	30.15	0.445	5.26	1.621	0.005	0.174	0.174	568.299	0.04
Welders	2011	6	15	2.677	1.067	6.283	3.952	0.008	0.441	0.441	568.299	0.096
Welders	2011	16	25	5.436	1.192	5.36	3.179	0.007	0.361	0.361	568.3	0.107
Welders	2011	26	50	26.104	2.488	5.85	6.392	0.007	0.593	0.593	568.299	0.224
Welders	2011	51	120	17.199	1.077	6.632	3.891	0.006	0.584	0.584	568.3	0.097
Welders	2011	121	175	28.559	0.719	5.91	3.173	0.006	0.325	0.325	568.299	0.064
Welders	2011	176	250	22.03	0.457	5.462	1.34	0.006	0.17	0.17	568.299	0.041
Welders	2011	251	500	27.869	0.411	4.886	1.473	0.005	0.157	0.157	568.299	0.037
Welders	2012	6	15	2.527	1.007	5.999	3.874	0.008	0.407	0.407	568.299	0.09
Welders	2012	16	25	5.076	1.113	5.239	3.043	0.007	0.337	0.337	568.299	0.1
Welders	2012	26	50	24.122	2.299	5.749	6.185	0.007	0.56	0.56	568.299	0.207
Welders	2012	51	120	15.992	1.001	6.232	3.852	0.006	0.549	0.549	568.299	0.09
Welders	2012	121	175	26.736	0.673	5.543	3.161	0.006	0.303	0.303	568.299	0.06
Welders	2012	176	250	20.583	0.427	5.087	1.281	0.006	0.154	0.154	568.299	0.038
Welders	2012	251	500	26.151	0.386	4.532	1.369	0.005	0.144	0.144	568.299	0.034
Welders	2013	6	15	2.378	0.948	5.716	3.796	0.008	0.373	0.373	568.299	0.085
Welders	2013	16	25	4.718	1.034	5.117	2.907	0.007	0.314	0.314	568.299	0.093
Welders	2013	26	50	22.037	2.101	5.526	5.967	0.007	0.517	0.517	568.299	0.189
Welders	2013	51	120	14.766	0.925	5.836	3.813	0.006	0.507	0.507	568.3	0.083
Welders	2013	121	175	24.884	0.627	5.195	3.151	0.006	0.279	0.279	568.299	0.056
Welders	2013	176	250	19.36	0.402	4.723	1.241	0.006	0.141	0.141	568.299	0.036
Welders	2013	251	500	24.728	0.365	4.191	1.291	0.005	0.131	0.131	568.299	0.032
Welders	2014	6	15	2.237	0.891	5.445	3.723	0.008	0.341	0.341	568.3	0.08
Welders	2014	16	25	4.381	0.96	5	2.78	0.007	0.291	0.291	568.299	0.086
Welders	2014	26	50	19.935	1.9	5.308	5.749	0.007	0.473	0.473	568.3	0.171
Welders	2014	51	120	13.552	0.849	5.481	3.774	0.006	0.464	0.464	568.299	0.076
Welders	2014	121	175	23.067	0.581	4.862	3.141	0.006	0.255	0.255	568.299	0.052
Welders	2014	176	250	18.135	0.376	4.297	1.207	0.006	0.128	0.128	568.299	0.034
Welders	2014	251	500	23.294	0.343	3.788	1.227	0.005	0.119	0.119	568.299	0.031
Welders	2015	6	15	2.109	0.84	5.196	3.658	0.008	0.311	0.311	568.299	0.075
Welders	2015	16	25	4.078	0.894	4.89	2.666	0.007	0.27	0.27	568.299	0.08
Welders	2015	26	50	17.994	1.715	5.113	5.562	0.007	0.43	0.43	568.3	0.154
Welders	2015	51	120	12.337	0.772	5.077	3.738	0.006	0.419	0.419	568.299	0.069
Welders	2015	121	175	21.139	0.532	4.408	3.133	0.006	0.23	0.23	568.299	0.048
Welders	2015	176	250	16.976	0.352	3.88	1.178	0.006	0.116	0.116	568.299	0.031
Welders	2015	251	500	21.953	0.324	3.398	1.176	0.005	0.108	0.108	568.299	0.029
Welders	2016	6	15	2.03	0.809	5.023	3.622	0.008	0.289	0.289	568.299	0.073
Welders	2016	16	25	3.903	0.855	4.803	2.604	0.007	0.255	0.255	568.299	0.077
Welders	2016	26	50	16.155	1.54	4.936	5.395	0.007	0.389	0.389	568.299	0.138
Welders	2016	51	120	11.165	0.699	4.692	3.705	0.006	0.375	0.375	568.3	0.063
Welders	2016	121	175	19.285	0.486	3.973	3.128	0.006	0.206	0.206	568.299	0.043
Welders	2016	176	250	15.901	0.33	3.481	1.153	0.006	0.104	0.104	568.299	0.029
Welders	2016	251	500	20.731	0.306	3.032	1.134	0.005	0.097	0.097	568.299	0.027
Welders	2017	6	15	1.973	0.786	4.887	3.599	0.008	0.272	0.272	568.299	0.07
Welders	2017	16	25	3.785	0.83	4.729	2.564	0.007	0.243	0.243	568.299	0.074
Welders	2017	26	50	14.392	1.372	4.768	5.239	0.007	0.35	0.35	568.299	0.123
Welders	2017	51	120	10.06	0.63	4.328	3.675	0.006	0.332	0.332	568.299	0.056
Welders	2017	121	175	17.561	0.442	3.562	3.124	0.006	0.183	0.183	568.299	0.039
Welders	2017	176	250	14.942	0.31	3.105	1.133	0.006	0.094	0.094	568.299	0.028
Welders	2017	251	500	19.705	0.29	2.713	1.102	0.005	0.088	0.088	568.299	0.026
Welders	2018	6	15	1.923	0.766	4.762	3.58	0.008	0.256	0.256	568.3	0.069
Welders	2018	16	25	3.684	0.807	4.661	2.531	0.007	0.232	0.232	568.299	0.072
Welders	2018	26	50	12.698	1.21	4.607	5.092	0.007	0.311	0.311	568.299	0.109
Welders	2018	51	120	9.016	0.564	3.98	3.648	0.006	0.29	0.29	568.299	0.05
Welders	2018	121	175	15.966	0.402	3.176	3.123	0.006	0.162	0.162	568.299	0.036
Welders	2018	176	250	14.068	0.292	2.751	1.118	0.006	0.084	0.084	568.299	0.026
Welders	2018	251	500	18.804	0.277	2.43	1.08	0.005	0.08	0.08	568.299	0.025
Welders	2019	6	15	1.877	0.748	4.647	3.562	0.008	0.241	0.241	568.299	0.067
Welders	2019	16	25	3.592	0.787	4.596	2.501	0.007	0.222	0.222	568.299	0.071
Welders	2019	26	50	11.071	1.055	4.449	4.95	0.007	0.273	0.273	568.299	0.095
Welders	2019	51	120	8.032	0.503	3.648	3.623	0.006	0.25	0.25	568.299	0.045
Welders	2019	121	175	14.693	0.37	2.832	3.122	0.006	0.143	0.143	568.3	0.033
Welders	2019	176	250	13.284	0.276	2.432	1.104	0.006	0.075	0.075	568.299	0.024
Welders	2019	251	500	17.937	0.264	2.163	1.065	0.005	0.072	0.072	568.3	0.023
Welders	2020	6	15	1.835	0.731	4.542	3.546	0.008	0.227	0.227	568.299	0.066

Welders	2020	16	25	3.507	0.769	4.538	2.473	0.007	0.212	0.212	568.299	0.069
Welders	2020	26	50	9.83	0.937	4.304	4.84	0.007	0.238	0.238	568.299	0.084
Welders	2020	51	120	7.278	0.455	3.351	3.605	0.006	0.216	0.216	568.299	0.041
Welders	2020	121	175	13.663	0.344	2.523	3.122	0.006	0.127	0.127	568.299	0.031
Welders	2020	176	250	12.577	0.261	2.143	1.093	0.006	0.066	0.066	568.299	0.023
Welders	2020	251	500	17.094	0.252	1.91	1.055	0.005	0.064	0.064	568.299	0.022
Welders	2021	6	15	1.8	0.717	4.462	3.531	0.008	0.214	0.214	568.299	0.064
Welders	2021	16	25	3.431	0.752	4.497	2.446	0.007	0.201	0.201	568.299	0.067
Welders	2021	26	50	8.704	0.829	4.133	4.708	0.007	0.203	0.203	568.299	0.074
Welders	2021	51	120	6.572	0.411	3.042	3.579	0.006	0.184	0.184	568.299	0.037
Welders	2021	121	175	12.512	0.315	2.189	3.112	0.006	0.11	0.11	568.299	0.028
Welders	2021	176	250	11.711	0.243	1.836	1.081	0.006	0.057	0.057	568.299	0.021
Welders	2021	251	500	15.998	0.236	1.642	1.044	0.005	0.055	0.055	568.299	0.021
Welders	2022	6	15	1.774	0.707	4.408	3.519	0.008	0.203	0.203	568.3	0.063
Welders	2022	16	25	3.374	0.739	4.47	2.426	0.007	0.193	0.193	568.299	0.066
Welders	2022	26	50	7.959	0.758	4.007	4.645	0.007	0.175	0.175	568.299	0.068
Welders	2022	51	120	6.112	0.382	2.808	3.57	0.006	0.16	0.16	568.299	0.034
Welders	2022	121	175	11.714	0.295	1.935	3.113	0.006	0.097	0.097	568.3	0.026
Welders	2022	176	250	11.128	0.231	1.598	1.074	0.006	0.05	0.05	568.299	0.02
Welders	2022	251	500	15.267	0.225	1.454	1.038	0.005	0.049	0.049	568.3	0.02
Welders	2023	6	15	1.751	0.698	4.359	3.508	0.008	0.194	0.194	568.3	0.063
Welders	2023	16	25	3.322	0.728	4.447	2.407	0.007	0.186	0.186	568.299	0.065
Welders	2023	26	50	7.318	0.697	3.891	4.596	0.007	0.151	0.151	568.299	0.062
Welders	2023	51	120	5.713	0.357	2.599	3.564	0.006	0.139	0.139	568.299	0.032
Welders	2023	121	175	11.013	0.277	1.726	3.115	0.006	0.085	0.085	568.299	0.025
Welders	2023	176	250	10.606	0.22	1.404	1.071	0.006	0.044	0.044	568.299	0.019
Welders	2023	251	500	14.602	0.215	1.289	1.034	0.005	0.042	0.042	568.299	0.019
Welders	2024	6	15	1.731	0.69	4.316	3.499	0.008	0.188	0.188	568.299	0.062
Welders	2024	16	25	3.276	0.718	4.426	2.39	0.007	0.181	0.181	568.299	0.064
Welders	2024	26	50	6.78	0.646	3.782	4.557	0.007	0.13	0.13	568.299	0.058
Welders	2024	51	120	5.366	0.336	2.43	3.56	0.006	0.12	0.12	568.299	0.03
Welders	2024	121	175	10.369	0.261	1.541	3.118	0.006	0.074	0.074	568.299	0.023
Welders	2024	176	250	10.107	0.21	1.234	1.068	0.006	0.038	0.038	568.299	0.018
Welders	2024	251	500	13.957	0.206	1.135	1.032	0.005	0.037	0.037	568.299	0.018
Welders	2025	6	15	1.713	0.683	4.278	3.491	0.008	0.183	0.183	568.3	0.061
Welders	2025	16	25	3.237	0.709	4.407	2.376	0.007	0.177	0.177	568.299	0.064
Welders	2025	26	50	6.315	0.602	3.676	4.524	0.007	0.112	0.112	568.299	0.054
Welders	2025	51	120	5.055	0.316	2.283	3.557	0.006	0.102	0.102	568.299	0.028
Welders	2025	121	175	9.743	0.245	1.365	3.121	0.006	0.063	0.063	568.299	0.022
Welders	2025	176	250	9.621	0.199	1.075	1.065	0.006	0.032	0.032	568.299	0.018
Welders	2025	251	500	13.325	0.196	0.99	1.029	0.005	0.031	0.031	568.299	0.017
Welders	2030	6	15	1.665	0.663	4.164	3.47	0.008	0.166	0.166	568.299	0.059
Welders	2030	16	25	3.133	0.687	4.347	2.34	0.007	0.165	0.165	568.299	0.061
Welders	2030	26	50	4.719	0.449	3.273	4.387	0.007	0.045	0.045	568.299	0.04
Welders	2030	51	120	3.827	0.239	1.707	3.535	0.006	0.04	0.04	568.299	0.021
Welders	2030	121	175	7.011	0.176	0.628	3.121	0.006	0.027	0.027	568.299	0.015
Welders	2030	176	250	7.829	0.162	0.525	1.063	0.006	0.017	0.017	568.299	0.014
Welders	2030	251	500	10.967	0.161	0.495	1.027	0.005	0.017	0.017	568.299	0.014
Welders	2035	6	15	1.659	0.661	4.143	3.469	0.008	0.162	0.162	568.299	0.059
Welders	2035	16	25	3.126	0.685	4.332	2.339	0.007	0.162	0.162	568.299	0.061
Welders	2035	26	50	4.262	0.406	3.147	4.349	0.007	0.022	0.022	568.299	0.036
Welders	2035	51	120	3.418	0.214	1.509	3.528	0.006	0.019	0.019	568.299	0.019
Welders	2035	121	175	6.087	0.153	0.387	3.121	0.006	0.015	0.015	568.299	0.013
Welders	2035	176	250	7.189	0.149	0.343	1.063	0.006	0.012	0.012	568.299	0.013
Welders	2035	251	500	10.118	0.149	0.339	1.027	0.005	0.012	0.012	568.299	0.013
Welders	2040	6	15	1.659	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Welders	2040	16	25	3.126	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Welders	2040	26	50	4.218	0.402	3.093	4.336	0.007	0.015	0.015	568.3	0.036
Welders	2040	51	120	3.322	0.208	1.447	3.524	0.006	0.014	0.014	568.299	0.018
Welders	2040	121	175	5.753	0.145	0.303	3.118	0.006	0.011	0.011	568.299	0.013
Welders	2040	176	250	6.911	0.143	0.287	1.062	0.006	0.01	0.01	568.3	0.012
Welders	2040	251	500	9.728	0.143	0.287	1.026	0.005	0.01	0.01	568.299	0.012

**Table 3.3 OFFROAD Default Horsepower and Load Factors**

<b>OFFROAD Equipment Type</b>	<b>Horsepower</b>	<b>Load Factor</b>
Aerial Lifts	63	0.31
Air Compressors	78	0.48
Bore/Drill Rigs	221	0.5
Cement and Mortar Mixers	9	0.56
Concrete/Industrial Saws	81	0.73
Cranes	231	0.29
Crawler Tractors	212	0.43
Crushing/Proc. Equipment	85	0.78
Dumpers/Tenders	16	0.38
Excavators	158	0.38
Forklifts	89	0.2
Generator Sets	84	0.74
Graders	187	0.41
Off-Highway Tractors	124	0.44
Off-Highway Trucks	402	0.38
Other Construction Equipment	172	0.42
Other General Industrial Equipment	88	0.34
Other Material Handling Equipment	168	0.4
Pavers	130	0.42
Paving Equipment	132	0.36
Plate Compactors	8	0.43
Pressure Washers	13	0.3
Pumps	84	0.74
Rollers	80	0.38
Rough Terrain Forklifts	100	0.4
Rubber Tired Dozers	247	0.4
Rubber Tired Loaders	203	0.36
Scrapers	367	0.48
Signal Boards	6	0.82
Skid Steer Loaders	65	0.37
Surfacing Equipment	263	0.3
Sweepers/Scrubbers	64	0.46
Tractors/Loaders/Backhoes	97	0.37
Trenchers	78	0.5
Welders	46	0.45



**Table 3.5 OFFROAD Emission Factor Based on Engine Tier (g/bhp-hr)**

<b>Tier</b>	<b>Low HP</b>	<b>High HP</b>	<b>CO</b>	<b>NOX</b>	<b>PM10</b>	<b>PM2.5</b>	<b>ROG</b>
Tier 1	25	49	4.1	5.26	0.48	0.48	1.74
Tier 1	50	74	6.9	6.54	0.552	0.552	1.19
Tier 1	75	119	6.9	6.54	0.552	0.552	1.19
Tier 1	120	174	6.9	6.54	0.274	0.274	0.82
Tier 1	175	299	6.9	5.93	0.108	0.108	0.38
Tier 1	300	599	6.9	5.93	0.108	0.108	0.38
Tier 1	600	750	6.9	5.93	0.108	0.108	0.38
Tier 1	751	2000	6.9	5.93	0.108	0.108	0.38
Tier 2	25	49	4.1	4.63	0.28	0.28	0.29
Tier 2	50	74	3.7	4.75	0.192	0.192	0.23
Tier 2	75	119	3.7	4.75	0.192	0.192	0.23
Tier 2	120	174	3.7	4.17	0.128	0.128	0.19
Tier 2	175	299	2.6	4.15	0.088	0.088	0.12
Tier 2	300	599	2.6	3.79	0.088	0.088	0.12
Tier 2	600	750	2.6	3.79	0.088	0.088	0.12
Tier 2	751	2000	2.6	3.79	0.088	0.088	0.12
Tier 3	25	49	4.1	4.63	0.28	0.28	0.29
Tier 3	50	74	3.7	2.74	0.192	0.192	0.12
Tier 3	75	119	3.7	2.74	0.192	0.192	0.12
Tier 3	120	174	3.7	2.32	0.112	0.112	0.12
Tier 3	175	299	2.6	2.32	0.088	0.088	0.12
Tier 3	300	599	2.6	2.32	0.088	0.088	0.12
Tier 3	600	750	2.6	2.32	0.088	0.088	0.12
Tier 3	751	2000	2.6	2.32	0.088	0.088	0.12
Tier 4 Interim	25	49	4.1	4.55	0.13	0.13	0.12
Tier 4 Interim	50	74	3.7	2.74	0.112	0.112	0.12
Tier 4 Interim	75	119	3.7	2.14	0.008	0.008	0.11
Tier 4 Interim	120	174	3.7	2.15	0.008	0.008	0.06
Tier 4 Interim	175	299	2.6	1.29	0.008	0.008	0.08
Tier 4 Interim	300	599	2.6	1.29	0.008	0.008	0.08
Tier 4 Interim	600	750	2.6	1.29	0.008	0.008	0.08
Tier 4 Interim	751	2000	2.6	2.24	0.048	0.048	0.12

MCWRA Interlake Tunnel and  
Spillway Modification Project

North Central Coast Air Basin - Unmitigated AQ/GHG Analysis

Tier 4 Final	25	49	4.1	2.75	0.01	0.01	0.12
Tier 4 Final	50	74	3.7	2.74	0.008	0.008	0.12
Tier 4 Final	75	119	3.7	0.26	0.008	0.008	0.06
Tier 4 Final	120	174	3.7	0.26	0.008	0.008	0.06
Tier 4 Final	175	299	2.2	0.26	0.008	0.008	0.06
Tier 4 Final	300	599	2.2	0.26	0.008	0.008	0.06
Tier 4 Final	600	750	2.2	0.26	0.008	0.008	0.06
Tier 4 Final	751	2000	2.6	2.24	0.016	0.016	0.06

**Source:**

ARB. 2011. The Carl Moyer Program Guidelines. Available at:

[http://www.arb.ca.gov/msprog/moyer/guidelines/2011gl/2011cmpgl\\_3\\_27\\_13.pdf](http://www.arb.ca.gov/msprog/moyer/guidelines/2011gl/2011cmpgl_3_27_13.pdf)

**Road Dust Emission Factors**

**Daily Paved Road Dust EF<sup>1</sup>**

$$E_{ext} = [k (sL)^{0.91} \times (W)^{1.02}]$$

EF<sub>paved</sub> Annual or other long-term average emission factor in the same units as k  
 k particle size multiplier for particle size range and units of interest  
 sL road surface silt loading (g/m<sup>2</sup>)  
 W average weight (tons) of all the vehicles raveling the road (2.4 tons)  
 P Number of "wet" days with at least 0.254 (0.01 in) of precipitation during the averaging period  
 N Number of days in the averaging period (e.g. 365 for annual, 91 for seasonal, 30 for monthly)

Parameters	PM10	PM2.5
k (g/VMT) <sup>2</sup>	0.997898	0.244939
sL (g/m <sup>2</sup> )	0.1	0.1
W (tons)	2.4	2.4
EF (g/mi)	3.00E-01	7.36E-02

- 1) CalEEMod User's Guide, Appendix A, p. 29
- 2) AP42: Chapter 13: Miscellaneous Sources, 13.2.1 Paved Roads, Table 13.2.1-1

**Daily Unpaved Road Dust EF<sup>1</sup> - Construction Sites**

$$E.F._{dust,i} = \left( \frac{k(s/12)^1(S/30)^{0.5}}{(M/0.5)^{0.2}} - C \right)$$

k particle size multiplier for particle size range and units of interest  
 s surface material silt content (%)  
 M surface material moisture content (%)  
 S mean vehicle speed (mph)  
 C emission factor for 1980s vehicle fleet exhaust, brakewear and tire wear

Parameters	PM10	PM2.5
k (g/VMT) <sup>2</sup>	816.462	81.6462
s <sup>3</sup>	8.5	8.5
M	0.5	0.5
S	40	40
C	0.213187	0.163292
EF (g/mi)	667.5816	66.61619

- 1) CalEEMod User's Guide, Appendix A, p. 29
- 2) AP42: Chapter 13: Miscellaneous Sources, 13.2.2 Unpaved Roads, Table 13.2.2-2
- 3) AP42: Chapter 13: Miscellaneous Sources, 13.2.2 Unpaved Roads, Table 13.2.2-1, "Construction sites"

**Daily Unpaved Road Dust EF<sup>1</sup> - Gravel Roads**

$$E.F._{dust,i} = \left( \frac{k(s/12)^1(S/30)^{0.5}}{(M/0.5)^{0.2}} - C \right)$$

k particle size multiplier for particle size range and units of interest  
 s surface material silt content (%)  
 M surface material moisture content (%)  
 S mean vehicle speed (mph)  
 C emission factor for 1980s vehicle fleet exhaust, brakewear and tire wear

Parameters	PM10	PM2.5
k (g/VMT) <sup>2</sup>	816.462	81.6462
s <sup>3</sup>	6.4	6.4
M	0.5	0.5
S	40	40 Mitigated onsite speed of 15 mph for Gravel Roads
C	0.213187	0.163292
EF (g/mi)	502.597	50.11773

- 1) CalEEMod User's Guide, Appendix A, p. 29
- 2) AP42: Chapter 13: Miscellaneous Sources, 13.2.2 Unpaved Roads, Table 13.2.2-2
- 3) AP42: Chapter 13: Miscellaneous Sources, 13.2.2 Unpaved Roads, Table 13.2.2-1, "Publicly Accessible Roads"

Vendor

**Speed**

5
10
15
20
25
30
35
40

Haul

**Speed**

5
10
15
20
25
30
35
40

Worker

**Speed**

5
10
15
20
25
30
35
40

Project Name: MCWRA ILT Project SLOAPCD Portion - unmitigated  
 -Construction Days per week

5

4/17/2023 11/15/2024 415

Construction Schedule<sup>1</sup>

Phase feature <sup>5</sup>	Phase Name <sup>5</sup>	Combined Phase Name <sup>5</sup>	Code <sup>5</sup>	Start Date <sup>5</sup>	End Date <sup>5</sup>	# of Workdays <sup>5</sup>
Tunnel Intake Structure	Excavate and support for approach channel and intake structure	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	025	10/2/2023	12/1/2023	45
Tunnel Intake Structure	Construct Intake structure structural elements	Tunnel Intake Structure - Construct Intake structure structural elements	026	12/4/2023	6/28/2024	150
Tunnel Intake Structure	Install mechanical systems	Tunnel Intake Structure - Install mechanical systems	027	7/1/2024	8/9/2024	30
Tunnel Intake Structure	Construct Control Building	Tunnel Intake Structure - Construct Control Building	028	8/12/2024	9/20/2024	30
Tunnel Intake Structure	Install pipe connection from tunnel to intake and backfill	Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	029	11/18/2024	12/13/2024	20
Tunnel Intake Structure	Install fencing and security systems	Tunnel Intake Structure - Install fencing and security systems	030	1/13/2025	1/31/2025	15
Tunnel Intake Structure	Install electrical and control systems	Tunnel Intake Structure - Install electrical and control systems	031	12/16/2024	1/10/2025	20
Tunnel Intake Structure	Testing of control systems	Tunnel Intake Structure - Testing of control systems	032	1/13/2025	1/24/2025	10
Tunnel Intake Structure	Re-vegetation and site demob	Tunnel Intake Structure - Re-vegetation and site demob	033	2/3/2025	2/28/2025	20
Tunnel Intake Structure Portal	Upgrade access road from Nacimiento Reservoir Drive	Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	059	4/17/2023	5/26/2023	30
Tunnel Intake Structure Portal	Install erosion/sediment control and silt fencing	Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	060	5/29/2023	7/7/2023	30
Tunnel Intake Structure Portal	Grade and improve staging/laydown area	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	061	5/29/2023	6/9/2023	10
Tunnel Intake Structure Portal	Install buried power/fiber optic lines	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	062	4/17/2023	6/16/2023	45
Tunnel Intake Structure Portal	Install temporary utilities. Water, power, sewage Handling, communications	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	063	7/10/2023	8/18/2023	30
Tunnel Intake Structure Portal	TBM reception portal excavation and support	Tunnel Intake Structure Portal - TBM reception portal excavation and support	064	8/21/2023	9/29/2023	30
Tunnel Intake Structure Portal	Remove TBM	Tunnel Intake Structure Portal - Remove TBM	065	10/7/2024	11/15/2024	30

SOIL VOLUMES

Soil Export Tunnel Intake Structure

Parameter	Value
Total Export Volume (CY) <sup>1</sup>	76,327.00
Haul Truck Capacity (CY/truck) <sup>2</sup>	16.00
Haul Trucks Required	4,770.44
<b>Total One-Way Haul Trucks</b>	<b>9,542.00</b>

Soil Import Tunnel Intake Structure

Parameter	Value
Total Import Volume (CY) <sup>1</sup>	30,118.00
Haul Truck Capacity (CY/truck) <sup>2</sup>	16.00
Haul Trucks Required	1,882.38
<b>Total One-Way Haul Trucks</b>	<b>3,766.00</b>

Total additional import

Parameter	Value
Total One-Way Truck Trips	13,308.00

CONCRETE POUR

Concrete Volume - Intake Structure

Parameter	Value
Total Concrete Volume (CY) <sup>1</sup>	9,493.00
Max Daily Concrete Volume (CY) <sup>1</sup>	52.74
Concrete Truck Capacity (CY/truck) <sup>2</sup>	8.00
Max Daily Concrete Trucks	6.59
<b>Total One-Way Truck Trips</b>	<b>14.00</b>

Aggregate and Chipseal<sup>6</sup>

Aggregate - South Portal

Parameter	Value
Total Import Volume (CY) <sup>1</sup>	2,316.00
Haul Truck Capacity (CY/truck) <sup>2</sup>	16.00
Haul Trucks Required	144.75
<b>Total One-Way Haul Trucks</b>	<b>290.00</b>

Aggregate - South Portal

Parameter	Value
<b>Total One-Way Truck Trips</b>	<b>290.00</b>

Chip Seal/Paving

Chipseal amount - South Portal

Parameter	Value
Total Chipseal Volume (cubic yards) <sup>1</sup>	3,444.00
Total Chipseal Volume (square feet) <sup>1</sup>	93,000.00
Total Chipseal Volume (Gallons) <sup>7</sup>	1,395.00
Max Daily Chip Seal Gallons (CY) <sup>2</sup>	3,100.00
Chipseal Truck Capacity (Gallon/truck) <sup>8</sup>	600.00
Max Daily Chip Seal Trucks	6.00
<b>Total One-Way Truck Trips</b>	<b>12.00</b>

AMM GEN-8 Avoidance/Minimization Measure

Water 2x a day/ every four hours (unpaved roads) <sup>4</sup>	55%	
Street sweeping (paved roads) <sup>4</sup>	7%	
Cover storage piles (material handling) <sup>4</sup>	90%	
	<b>MITIGATION MEASURES - DUST</b>	
Water Truck/Watering PM Reduction <sup>4</sup>	reduction	
Every three hours + 12% moisture	69%	
Every two hours	74%	
Gravel Road /Trackout for connection to paved roads	46%	
Chemical Dust Suppression (unpaved roads) <sup>4</sup> pg6-11	84%	
	<b>ONSITE VEHICLE SPEED</b>	
SLO Region Default	32.40	mph
15 mph mitigation	15.00	mph
	<b>Offroad engine Emission Reduction</b>	
	Tier 4 Final for equip. over 50hp	

Vendor Truck Trips<sup>8</sup>

Parameter	Value
Daily Vendor Trips <sup>9</sup>	8.00

Sources

- 1 Project Description
- 2 Concrete Truck Capacity
- 3 worker trips
- 4 [https://www.env.nm.gov/wp-content/uploads/sites/2/2017/02/WRAP\\_FDHandbook\\_Rev\\_06.pdf](https://www.env.nm.gov/wp-content/uploads/sites/2/2017/02/WRAP_FDHandbook_Rev_06.pdf)
- 5 Saved project files
- 6 Chip sealing trailers, trucks and chip spreaders 518-218-7676 (pavementgroup.com)
- 7 Asphalt Sealcoating and Crack Filling Calculators | Asphalt Sealcoating Direct
- 8 ILT Data Needs - Vendor Truck info
- 9 CalEEMod User guide Page 36

Total # of One-Way Worker Trips/day (Roundtrip) <sup>3</sup>	Total # of One-Way Vendor Trips/day (Roundtrip)	Total # of One-Way Haul Trucks Trips (Roundtrip)	Total One-Way Haul Truck Trips/day (Roundtrip)	Offsite Trip Length (mi)			Onsite Trip Length (mi)			Vehicle Class		
				Worker	Vendor	Haul	ONSITE (Worker)	ONSITE (Vendor)	ONSITE (Haul)	Worker	Vendor	Haul
16	8	9542	214	20.95	20.95	5.55	0.14	0.14	1.51	LD_Mix	HDT_Mix	HHDT
18	28	3766	26	20.95	20.95	27.95	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
4	8	0	0	20.95	20.95	0.00	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
6	8	0	0	20.95	20.95	0.00	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
8	8	0	0	20.95	20.95	0.00	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
6	8	0	0	20.95	20.95	0.00	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
6	8	0	0	20.95	20.95	0.00	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
6	0	0	0	20.95	20.95	0.00	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
8	10	0	0	20.95	20.95	27.95	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
8	22	290	10	20.95	20.95	27.95	1.09	1.09	1.09	LD_Mix	HDT_Mix	HHDT
8	8	0	0	20.95	20.95	0.95	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
10	10	0	0	20.95	20.95	0.95	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
6	8	0	0	20.95	20.95	0.95	1.09	1.09	1.09	LD_Mix	HDT_Mix	HHDT
6	12	0	0	20.95	20.95	0.95	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
8	8	0	0	20.95	20.95	27.95	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
56	0	0	0	20.95	20.95	0.95	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT

LD\_Mix LDA, LDT1, LDT2  
HDT\_Mix T6 Instate Construction Heavy/T7 Single Construction  
HHDT T7 Single Construction

Trip Lengths

Location	feet miles		Source
	feet	miles	
Outlet Staging area to Energy Dissipation Structure - MBARD	737	0.14	Waypoint/PD
Tunnel opening to Soil Disposal Area -MBARD	2000	0.38	Waypoint/PD
Length of the Energy Dissipation/Site Access Road - MBARD	1600	0.30	Waypoint/PD
Length of the ATV Trail - MBARD	3045	0.58	Waypoint/PD
Spillway Work Staging Area to Work Area - MBARD	2750	0.52	Waypoint/PD
Width of Spillway area - MBARD	1800	0.34	Waypoint/PD
Outlet Staging Area Length - MBARD	450	0.09	Waypoint/PD
Intake Staging Area Length - SLOAPCD	750	0.14	Waypoint/PD
Length of Road from Nacimiento Lake Drive to Intake Structure - SLOAPCD	5000	0.95	Waypoint/PD
Vault Site Access Road - MBARD	6600	1.25	Waypoint/PD
Width of Soil disposal area - MBARD	800	0.15	Waypoint/PD
Length of Tunnel within SLOAPCD (underground)	9410	1.78	Google Earth
Distance to Paso Robles Landfill	-	27.00	PD
Distance from Nacimiento Lake Drive to Vault site access Road	-	4.60	Google Earth
Vault access Road to Soil disposal Area	7220	1.37	Waypoint/PD

Offroad Equipment (Fossil Fuel) Inventory

Code	Phase	Equipment Name	General Equipment Category	#/day	Hrs/Day	# of Equipment	Fuel Type	Engine Horsepower (if known)
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	513
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Compactor, Cat 816, 25ton	Other Construction Equipment	45	10	2	Diesel	220
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Mine Truck 20ton/15cy	Off-Highway Trucks	45	10	2	Diesel	214
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Pile Hammer	Bore/Drill Rigs	45	10	1	Diesel	40
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	246
026	Tunnel Intake Structure - Construct Intake structure structural elements	Concrete Pump Truck	--	17	10	2	Diesel	500
026	Tunnel Intake Structure - Construct Intake structure structural elements	Concrete Truck	--	17	4	5	Diesel	300
026	Tunnel Intake Structure - Construct Intake structure structural elements	Pickup	--	45	10	3	--	350
027	Tunnel Intake Structure - Install mechanical systems	Pickup	--	10	10	1	--	350
028	Tunnel Intake Structure - Construct Control Building	Pickup	--	30	10	1	--	350
028	Tunnel Intake Structure - Construct Control Building	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	246
029	Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	Pickup	--	20	10	1	--	350
030	Tunnel Intake Structure - Install fencing and security systems	Pickup	--	15	10	1	--	350
031	Tunnel Intake Structure - Install electrical and control systems	Pickup	--	20	10	1	--	350
032	Tunnel Intake Structure - Testing of control systems	Pickup	--	10	10	1	--	350
033	Tunnel Intake Structure - Re-vegetation and site demob	Pickup	--	10	10	1	--	350
033	Tunnel Intake Structure - Re-vegetation and site demob	Water Truck	--	10	10	1	diesel	350
059	Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	Pickup	--	15	10	1	--	350
059	Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	Pile Hammer	Crushing/Proc. Equipment	15	10	1	diesel	40
060	Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	Pickup	Pickup	10	10	1	--	350
060	Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	Water Truck	--	10	10	1	Diesel	350
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Dozer Cat D6/5.6cy	Rubber Tired Dozers	10	10	1	Diesel	145
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Mine Truck 20ton/15cy	Off-Highway Trucks	10	10	1	Diesel	214
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Water Truck	--	10	10	1	diesel	350
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	10	10	1	Diesel	246
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	513
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Compactor, Cat 816, 25ton	Other Construction Equipment	45	10	2	Diesel	220
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Mine Truck 20ton/15cy	Off-Highway Trucks	45	10	2	Diesel	214
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	246
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	513
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Compactor, Cat 816, 25ton	Other Construction Equipment	30	10	2	Diesel	220
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Mine Truck 20ton/15cy	Off-Highway Trucks	30	10	2	Diesel	214
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	246
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Backhoe Cat 375, 176k/5cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	273
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Crawler Crane 100ton/200'	Cranes	30	10	1	Diesel	265
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Excavator >0.5cy	Excavators	30	10	1	Diesel	100
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Hydraulic Crane 40ton/105'	Cranes	30	10	1	Diesel	152
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Mine Truck 20ton/15cy	Off-Highway Trucks	30	10	1	Diesel	214
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	246
065	Tunnel Intake Structure Portal - Remove TBM	500 Ton Crane	Cranes	30	24	1	Diesel	1325
065	Tunnel Intake Structure Portal - Remove TBM	Compressor, Stationary 1200cfm	Air Compressors	30	24	1	Electric	350
065	Tunnel Intake Structure Portal - Remove TBM	Crawler Crane 100ton/200'	Cranes	30	24	1	Diesel	265
065	Tunnel Intake Structure Portal - Remove TBM	EPBM and Backup 14'9"	Bore/Drill Rigs	30	24	1	Electric	1800
065	Tunnel Intake Structure Portal - Remove TBM	Flat Car, Rail	Other Material Handling Equipment	30	24	1	--	0
065	Tunnel Intake Structure Portal - Remove TBM	Hydraulic Crane 20ton/60'	Cranes	30	24	1	Diesel	130
065	Tunnel Intake Structure Portal - Remove TBM	Locomotive 12ton/120hp	Other Material Handling Equipment	30	24	1	Diesel	120
065	Tunnel Intake Structure Portal - Remove TBM	Pump, trash 200gpm/100ft head	Other Construction Equipment	30	24	1	Electric	10
065	Tunnel Intake Structure Portal - Remove TBM	Ventilation Fan 40hp	Other Construction Equipment	30	24	1	Electric	40
065	Tunnel Intake Structure Portal - Remove TBM	Water Treatment Plant	Other Construction Equipment	30	24	1	Electric	200
065	Tunnel Intake Structure Portal - Remove TBM	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	24	1	Diesel	246

Notes:

1. Equipment that will not be modeled.
2. Offroad construction equipment is listed.
3. Onroad equipment is listed.
4. Electric equipment is listed.

SLOAPCD + Tunneling - Offroad Only Equipment

Code	Phase	Equipment Name	General Equipment Category	#/day	Hrs/Day	# of Equipment	Fuel Type	Engine Horsepower
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	513
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Compactor, Cat 816, 25ton	Other Construction Equipment	45	10	2	Diesel	220
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Mine Truck 20ton/15cy	Off-Highway Trucks	45	10	2	Diesel	214
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Pile Hammer	Bore/Drill Rigs	45	10	1	Diesel	40
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	246
028	Tunnel Intake Structure - Construct Control Building	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	246
059	Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	Pile Hammer	Crushing/Proc. Equipment	15	10	1	diesel	40
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Dozer Cat D6/5.6cy	Rubber Tired Dozers	10	10	1	Diesel	145
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Mine Truck 20ton/15cy	Off-Highway Trucks	10	10	1	Diesel	214
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	10	10	1	Diesel	246
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	513
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Compactor, Cat 816, 25ton	Other Construction Equipment	45	10	2	Diesel	220
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Mine Truck 20ton/15cy	Off-Highway Trucks	45	10	2	Diesel	214
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	246
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	513
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Compactor, Cat 816, 25ton	Other Construction Equipment	30	10	2	Diesel	220
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Mine Truck 20ton/15cy	Off-Highway Trucks	30	10	2	Diesel	214
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	246
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Backhoe Cat 375, 176k/5cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	273
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Crawler Crane 100ton/200'	Cranes	30	10	1	Diesel	265
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Excavator >0.5cy	Excavators	30	10	1	Diesel	100
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Hydraulic Crane 40ton/105'	Cranes	30	10	1	Diesel	152
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Mine Truck 20ton/15cy	Off-Highway Trucks	30	10	1	Diesel	214
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	246
065	Tunnel Intake Structure Portal - Remove TBM	500 Ton Crane	Cranes	30	24	1	Diesel	1325
065	Tunnel Intake Structure Portal - Remove TBM	Crawler Crane 100ton/200'	Cranes	30	24	1	Diesel	265
065	Tunnel Intake Structure Portal - Remove TBM	Flat Car, Rail	Other Material Handling Equipment	30	24	1	--	0
065	Tunnel Intake Structure Portal - Remove TBM	Hydraulic Crane 20ton/60'	Cranes	30	24	1	Diesel	130
065	Tunnel Intake Structure Portal - Remove TBM	Locomotive 12ton/120hp	Other Material Handling Equipment	30	24	1	Diesel	120
065	Tunnel Intake Structure Portal - Remove TBM	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	24	1	Diesel	246

**Vehicle Inventory - Onroad Equipment**

Code	Phase	Equipment Name	General Equipment Category	#/day	Hrs/Day	# of Equipment	Fuel Type	Engine Horsepower (if known)
026	Tunnel Intake Structure - Construct Intake structure structural elements	Concrete Pump Truck	--	17	10	2	Diesel	500
026	Tunnel Intake Structure - Construct Intake structure structural elements	Concrete Truck	--	17	4	5	Diesel	300
026	Tunnel Intake Structure - Construct Intake structure structural elements	Pickup	--	45	10	3	--	350
027	Tunnel Intake Structure - Install mechanical systems	Pickup	--	10	10	1	--	350
028	Tunnel Intake Structure - Construct Control Building	Pickup	--	30	10	1	--	350
029	Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	Pickup	--	20	10	1	--	350
030	Tunnel Intake Structure - Install fencing and security systems	Pickup	--	15	10	1	--	350
031	Tunnel Intake Structure - Install electrical and control systems	Pickup	--	20	10	1	--	350
032	Tunnel Intake Structure - Testing of control systems	Pickup	--	10	10	1	--	350
033	Tunnel Intake Structure - Re-vegetation and site demob	Pickup	--	10	10	1	--	350
033	Tunnel Intake Structure - Re-vegetation and site demob	Water Truck	--	10	10	1	diesel	350
059	Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	Pickup	--	15	10	1	--	350
060	Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	Pickup	Pickup	10	10	1	--	350
060	Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	Water Truck	--	10	10	1	Diesel	350
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Water Truck	--	10	10	1	diesel	350

1. This equipment would just be used to calculate vendor truck trips. Pickup trucks are accounted in the worker trips.



**Offroad Equipment (Electric) Inventory**

1 hp = 0.7456999 kilowatts

Code	Phase	equipment Name	Category	Days	Hours per day	Number	Fuel Type	Horsepower	Kilowatts	Kilowatt Hours (day)	Kilowatt Hours (total)
065	Tunnel Intake Structure Portal - Remove TBM	Compressor, Stationary 1200cfm	Air Compressors	30	24	1	Electric	350	260.99495	6263.878908	187916.3672
065	Tunnel Intake Structure Portal - Remove TBM	EPBM and Backup 14'9"	Bore/Drill Rigs	30	24	1	Electric	1800	1342.2598	32214.23438	966427.0315
065	Tunnel Intake Structure Portal - Remove TBM	Pump, trash 200gpm/100ft head	Other Construction Equipment	30	24	1	Electric	10	7.4569987	178.9679688	5369.039064
065	Tunnel Intake Structure Portal - Remove TBM	Ventilation Fan 40hp	Other Construction Equipment	30	24	1	Electric	40	29.827995	715.8718752	21476.15626
065	Tunnel Intake Structure Portal - Remove TBM	Water Treatment Plant	Other Construction Equipment	30	24	1	Electric	200	149.13997	3579.359376	107380.7813

0

1. Provided by the contractor. Assumed 100% load factor to calculate kilowatt hours.

Total kWh 1288569.375

Regional Emissions Summary - lbs/day

Phase Name	Start Date	End Date	# of Workdays	Daily Emissions (lb/day)											Daily Emissions (lb/day)			Total MT		
				ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	5.33	62.13	67.61	0.17	306.75	2.34	309.09	32.64	2.15	34.79	16964.70	3.18	1.56	346.28	0.06	0.03	357.38
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	1.57	7.55	2.51	0.05	10.89	0.08	10.97	3.29	0.07	3.37	4985.34	0.02	0.75	339.20	0.00	0.05	354.47
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	0.05	0.83	0.40	0.01	1.78	0.01	1.79	0.64	0.01	0.65	598.55	0.00	0.09	8.14	0.00	0.00	8.50
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	0.52	5.44	7.63	0.02	2.07	0.22	2.29	0.89	0.20	1.09	1585.16	0.31	0.13	21.57	0.00	0.00	22.21
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	0.08	0.86	0.67	0.01	2.37	0.01	2.38	1.14	0.01	1.15	658.49	0.01	0.09	5.97	0.00	0.00	6.22
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	0.06	0.80	0.51	0.01	2.07	0.01	2.08	0.88	0.01	0.89	621.38	0.00	0.09	4.23	0.00	0.00	4.40
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	0.06	0.85	0.54	0.01	2.07	0.01	2.08	0.89	0.01	0.90	628.52	0.00	0.09	5.70	0.00	0.00	5.94
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	0.04	0.03	0.37	0.00	0.88	0.00	0.88	0.74	0.00	0.74	88.44	0.00	0.00	0.40	0.00	0.00	0.41
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	0.08	1.01	0.67	0.01	2.67	0.01	2.68	1.16	0.01	1.17	784.09	0.01	0.11	7.11	0.00	0.00	7.41
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	0.59	5.99	3.81	0.03	41.11	0.13	41.25	10.93	0.13	11.06	3166.63	0.03	0.44	40.43	0.00	0.01	42.19
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	0.08	0.90	0.71	0.01	2.37	0.01	2.38	1.15	0.01	1.16	665.75	0.01	0.09	9.06	0.00	0.00	9.43
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	1.42	13.59	12.43	0.03	6.64	0.57	7.22	3.33	0.53	3.86	3246.76	0.79	0.22	14.73	0.00	0.00	15.12
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	4.81	46.70	61.41	0.11	14.47	2.24	16.71	6.51	2.05	8.56	10174.71	3.08	0.53	207.68	0.06	0.01	212.48
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	4.81	47.09	61.46	0.11	2.67	2.24	4.91	0.97	2.06	3.03	10423.11	3.08	0.57	141.84	0.04	0.01	145.19
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2.37	23.38	24.54	0.05	2.37	1.02	3.39	1.15	0.94	2.09	5191.05	1.47	0.30	70.64	0.02	0.00	72.35
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	9.45	93.79	68.46	0.18	8.20	3.98	12.18	6.98	3.69	10.66	16931.99	6.37	0.90	230.41	0.09	0.01	236.24
<b>Max Daily (lb/day)</b>				9.45	93.79	74.56	0.18	306.75	3.98	309.09	32.64	3.69	34.79							
				103.24																
				137																
				No	No	No	No	No	No	No	No	No	No							

SLOAPCD Regional Thresholds (Daily Thresholds)  
Exceeds Threshold?

Emissions by Year

Row Labels	Daily Emissions (lb/day)										
	Max of VOC	Max of NOX	Max of CO	Max of SOX	Max of Fugitive PM10	Max of Exhaust PM10	Max of Total PM10	Max of Fugitive PM2.5	Max of Exhaust PM2.5	Max of Total PM2.5	
2023	6.28	61.71	74.34	0.17	306.15	2.81	308.48	32.56	2.58	34.71	
2024	9.45	93.79	68.46	0.18	10.89	3.98	12.18	6.98	3.69	10.66	
2025	0.09	0.62	0.82	0.00	2.35	0.01	2.36	1.55	0.01	1.55	
<b>Max Daily (lbs/day)</b>	9.45	93.79	74.34	0.18	306.15	3.98	308.48	32.56	3.69	34.71	
<b>103.24</b>											
<b>137</b>											
No											

SLOAPCD Regional Thresholds (Daily Thresholds)

Total GHG Emission Per Construction feature

Phase Name	Start Date	End Date	# of Workdays	CO2 (MT)	CH4 (MT)	N2O (MT)	CO2e (MT)
Tunnel Intake Structure	10/2/23	2/28/25	370	738.6	0.1	0.1	766.9
Tunnel Intake Structure Portal	4/17/23	11/15/24	415	714.8	0.2	0.0	733.0

Regional Emissions Summary - Tons per Quarter

Regional Maximums (Tons per Quarter)

Row Labels	Quarters	Sum of VOC Tons	Sum of NOx Tons	Sum of CO tons	Sum of SOX tons	Sum of Fugitive PM10 Tons	Sum of Exhaust PM10 Ton	Sum of Total PM10 Tons	Sum of Fugitive PM2.5 Tons	Sum of Exhaust PM2.5 Tons	Sum of Total PM2.5 Tons	Sum of ROG + NOx
2023	Qtr2	0.1247	1.2025	1.5071	0.0030	0.9015	0.0552	0.9567	0.3306	0.0508	0.3814	1.3272
2023	Qtr3	0.1078	1.0518	1.2906	0.0024	0.0710	0.0489	0.1200	0.0335	0.0449	0.0784	1.1596
2023	Qtr4	0.1354	1.4640	1.5446	0.0043	6.9972	0.0533	7.0505	0.7656	0.0490	0.8147	1.5994
2024	Qtr1	0.0509	0.2454	0.0815	0.0015	0.3540	0.0025	0.3565	0.1070	0.0024	0.1094	0.2963
2024	Qtr2	0.0509	0.2454	0.0815	0.0015	0.3540	0.0025	0.3565	0.1070	0.0024	0.1094	0.2963
2024	Qtr3	0.0082	0.0819	0.1184	0.0002	0.0399	0.0033	0.0432	0.0208	0.0030	0.0239	0.0901
2024	Qtr4	0.1428	1.4139	1.0358	0.0027	0.1495	0.0598	0.2093	0.1203	0.0554	0.1756	1.5567
2025	Qtr1	0.0015	0.0113	0.0131	0.0001	0.0420	0.0001	0.0422	0.0240	0.0001	0.0241	0.0127
2025	Qtr2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2025	Qtr3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2025	Qtr4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Regional Emissions Summary - Quarterly

Quarters	Sum of VOC Tons	Sum of NOx Tons	Sum of CO tons	Sum of SOX tons	Sum of Fugitive PM10 Tons	Sum of Exhaust PM10 Ton	Sum of Total PM10 Tons	Sum of Fugitive PM2.5 Tons	Sum of Exhaust PM2.5 Tons	Sum of Total PM2.5 Tons	Sum of ROG + NOx
Q2 2023	0.1	1.2	1.5	0.0	0.9	0.1	1.0	0.3	0.1	0.4	1.3
Q3 2023	0.1	1.1	1.3	0.0	0.1	0.0	0.1	0.0	0.0	0.1	1.2
Q4 2023	0.1	1.5	1.5	0.0	7.0	0.1	7.1	0.8	0.0	0.8	1.6
Q1 2024	0.1	0.2	0.1	0.0	0.4	0.0	0.4	0.1	0.0	0.1	0.3
Q2 2024	0.1	0.2	0.1	0.0	0.4	0.0	0.4	0.1	0.0	0.1	0.3
Q3 2024	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Q4 2024	0.1	1.4	1.0	0.0	0.1	0.1	0.2	0.1	0.1	0.2	1.6
Q1 2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Q2 2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Q3 2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Q4 2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.1	1.5	1.5	0.0	7.0	0.1	7.1	0.8	0.1	0.8	1.6
SLOAPCD Threshold Tier 1	-	-	-	-	2.50	-	-	-	0.13	-	2.50
Exceed Threshold?	No	No	No	No	Yes	No	No	No	No	No	No
SLOAPCD Threshold Tier 2	-	-	-	-	2.5	-	-	-	0.32	-	6.30
Exceed Threshold?	No	No	No	No	Yes	No	No	No	No	No	No

Offroad Equipment

Phase Name	Start	End	# of Workdays	First Year of CSTN	EF Year	Equipment Type	# of Equipment	hours/day	HP	LF	ROG	NOX	CO	SOX
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	2023	Tractors/Loaders/Backhoes	2	10	513	0.37	0.24	2.43	3.53	0.01
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	2023	Other Construction Equipment	2	10	220	0.42	0.27	2.70	3.14	0.01
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	2023	Off-Highway Trucks	2	10	214	0.38	0.19	1.32	1.22	0.01
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	2023	Bore/Drill Rigs	1	10	40	0.5	0.11	1.05	1.04	0.01
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	2023	Tractors/Loaders/Backhoes	2	10	246	0.37	0.24	2.43	3.53	0.01
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	2024	Tractors/Loaders/Backhoes	1	10	246	0.37	0.23	2.29	3.53	0.01
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	15	2023	2023	Crushing/Proc. Equipment	1	10	40	0.78	0.39	2.55	3.70	0.01
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	2023	Rubber Tired Dozers	1	10	145	0.4	0.39	4.09	1.78	0.01
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	2023	Off-Highway Trucks	1	10	214	0.38	0.19	1.32	1.22	0.01
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37	0.24	2.43	3.53	0.01
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	2023	Tractors/Loaders/Backhoes	2	10	513	0.37	0.24	2.43	3.53	0.01
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	2023	Other Construction Equipment	2	10	220	0.42	0.27	2.70	3.14	0.01
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	2023	Off-Highway Trucks	2	10	214	0.38	0.19	1.32	1.22	0.01
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	2023	Tractors/Loaders/Backhoes	2	10	246	0.37	0.24	2.43	3.53	0.01
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	2023	Tractors/Loaders/Backhoes	2	10	513	0.37	0.24	2.43	3.53	0.01
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	2023	Other Construction Equipment	2	10	220	0.42	0.27	2.70	3.14	0.01
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	2023	Off-Highway Trucks	2	10	214	0.38	0.19	1.32	1.22	0.01
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	2023	Tractors/Loaders/Backhoes	2	10	246	0.37	0.24	2.43	3.53	0.01
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	2023	Tractors/Loaders/Backhoes	1	10	273	0.37	0.24	2.43	3.53	0.01
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	2023	Cranes	1	10	265	0.29	0.30	3.23	1.55	0.01
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	2023	Excavators	1	10	100	0.38	0.18	1.46	3.08	0.01
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	2023	Cranes	1	10	152	0.29	0.30	3.23	1.55	0.01
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	2023	Off-Highway Trucks	1	10	214	0.38	0.19	1.32	1.22	0.01
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37	0.24	2.43	3.53	0.01
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	2024	Cranes	1	24	1325	0.29	0.28	2.97	1.50	0.01
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	2024	Cranes	1	24	265	0.29	0.28	2.97	1.50	0.01
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	2024	Other Material Handling Equipment	1	24	0	0.4	0.21	1.64	3.18	0.01
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	2024	Cranes	1	24	130	0.29	0.28	2.97	1.50	0.01
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	2024	Other Material Handling Equipment	1	24	120	0.4	0.21	1.64	3.18	0.01
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	2024	Tractors/Loaders/Backhoes	1	24	246	0.37	0.23	2.29	3.53	0.01

Offroad Equipment

Phase Name	Emission Factor (g/bhp-hr)									Emissions (lb/day)									
	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00	0.12	0.12	0.00	0.11	0.11	476.43	0.15	0.02	2.00	20.30	29.50	0.04	0.00	1.00	1.00	0.00	0.92	0.92
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00	0.14	0.14	0.00	0.13	0.13	469.56	0.15	0.02	1.11	10.99	12.80	0.02	0.00	0.57	0.57	0.00	0.53	0.53
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00	0.05	0.05	0.00	0.04	0.04	475.05	0.15	0.02	0.67	4.75	4.38	0.02	0.00	0.17	0.17	0.00	0.16	0.16
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00	0.03	0.03	0.00	0.03	0.03	469.71	0.15	0.02	0.05	0.46	0.46	0.00	0.00	0.01	0.01	0.00	0.01	0.01
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00	0.12	0.12	0.00	0.11	0.11	476.43	0.15	0.02	0.96	9.74	14.15	0.02	0.00	0.48	0.48	0.00	0.44	0.44
Tunnel Intake Structure - Construct Control Building	0.00	0.11	0.11	0.00	0.10	0.10	476.73	0.15	0.02	0.46	4.59	7.09	0.01	0.00	0.21	0.21	0.00	0.19	0.19
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	0.00	0.13	0.13	0.00	0.13	0.13	568.30	0.03	0.03	0.26	1.76	2.55	0.00	0.00	0.09	0.09	0.00	0.09	0.09
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.00	0.18	0.18	0.00	0.17	0.17	474.60	0.15	0.02	0.50	5.23	2.28	0.01	0.00	0.24	0.24	0.00	0.22	0.22
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.00	0.05	0.05	0.00	0.04	0.04	475.05	0.15	0.02	0.34	2.37	2.19	0.01	0.00	0.09	0.09	0.00	0.08	0.08
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.00	0.12	0.12	0.00	0.11	0.11	476.43	0.15	0.02	0.48	4.87	7.07	0.01	0.00	0.24	0.24	0.00	0.22	0.22
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.00	0.12	0.12	0.00	0.11	0.11	476.43	0.15	0.02	2.00	20.30	29.50	0.04	0.00	1.00	1.00	0.00	0.92	0.92
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.00	0.14	0.14	0.00	0.13	0.13	469.56	0.15	0.02	1.11	10.99	12.80	0.02	0.00	0.57	0.57	0.00	0.53	0.53
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.00	0.05	0.05	0.00	0.04	0.04	475.05	0.15	0.02	0.67	4.75	4.38	0.02	0.00	0.17	0.17	0.00	0.16	0.16
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.00	0.12	0.12	0.00	0.11	0.11	476.43	0.15	0.02	0.96	9.74	14.15	0.02	0.00	0.48	0.48	0.00	0.44	0.44
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.00	0.12	0.12	0.00	0.11	0.11	476.43	0.15	0.02	2.00	20.30	29.50	0.04	0.00	1.00	1.00	0.00	0.92	0.92
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.00	0.14	0.14	0.00	0.13	0.13	469.56	0.15	0.02	1.11	10.99	12.80	0.02	0.00	0.57	0.57	0.00	0.53	0.53
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.00	0.05	0.05	0.00	0.04	0.04	475.05	0.15	0.02	0.67	4.75	4.38	0.02	0.00	0.17	0.17	0.00	0.16	0.16
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.00	0.12	0.12	0.00	0.11	0.11	476.43	0.15	0.02	0.96	9.74	14.15	0.02	0.00	0.48	0.48	0.00	0.44	0.44
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00	0.12	0.12	0.00	0.11	0.11	476.43	0.15	0.02	0.53	5.40	7.85	0.01	0.00	0.27	0.27	0.00	0.24	0.24
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00	0.14	0.14	0.00	0.12	0.12	472.97	0.15	0.02	0.50	5.47	2.63	0.01	0.00	0.23	0.23	0.00	0.21	0.21
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00	0.07	0.07	0.00	0.07	0.07	472.28	0.15	0.02	0.15	1.23	2.58	0.00	0.00	0.06	0.06	0.00	0.06	0.06
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00	0.14	0.14	0.00	0.12	0.12	472.97	0.15	0.02	0.29	3.14	1.51	0.00	0.00	0.13	0.13	0.00	0.12	0.12
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00	0.05	0.05	0.00	0.04	0.04	475.05	0.15	0.02	0.34	2.37	2.19	0.01	0.00	0.09	0.09	0.00	0.08	0.08
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00	0.12	0.12	0.00	0.11	0.11	476.43	0.15	0.02	0.48	4.87	7.07	0.01	0.00	0.24	0.24	0.00	0.22	0.22
Tunnel Intake Structure Portal - Remove TBM	0.00	0.12	0.12	0.00	0.11	0.11	472.96	0.15	0.02	5.71	60.30	30.54	0.10	0.00	2.50	2.50	0.00	2.32	2.32
Tunnel Intake Structure Portal - Remove TBM	0.00	0.12	0.12	0.00	0.11	0.11	472.96	0.15	0.02	1.14	12.06	6.11	0.02	0.00	0.50	0.50	0.00	0.46	0.46
Tunnel Intake Structure Portal - Remove TBM	0.00	0.09	0.09	0.00	0.08	0.08	472.22	0.15	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Remove TBM	0.00	0.12	0.12	0.00	0.11	0.11	472.96	0.15	0.02	0.56	5.92	3.00	0.01	0.00	0.25	0.25	0.00	0.23	0.23
Tunnel Intake Structure Portal - Remove TBM	0.00	0.09	0.09	0.00	0.08	0.08	472.22	0.15	0.02	0.53	4.16	8.08	0.01	0.00	0.22	0.22	0.00	0.21	0.21
Tunnel Intake Structure Portal - Remove TBM	0.00	0.11	0.11	0.00	0.10	0.10	476.73	0.15	0.02	1.09	11.02	17.01	0.02	0.00	0.51	0.51	0.00	0.47	0.47

Offroad Equipment

Phase Name				Total MT			
	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	3987.36	1.29	0.18	81.39	0.03	0.00	83.16
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	1913.06	0.62	0.09	39.05	0.01	0.00	39.90
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	1703.34	0.55	0.08	34.77	0.01	0.00	35.53
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	207.11	0.07	0.01	4.23	0.00	0.00	4.32
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	1912.07	0.62	0.09	39.03	0.01	0.00	39.88
Tunnel Intake Structure - Construct Control Building	956.64	0.31	0.04	13.02	0.00	0.00	13.30
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	390.90	0.02	0.02	2.66	0.00	0.00	2.70
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	606.86	0.20	0.03	2.75	0.00	0.00	2.81
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	851.67	0.28	0.04	3.86	0.00	0.00	3.95
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	956.03	0.31	0.04	4.34	0.00	0.00	4.43
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	3987.36	1.29	0.18	81.39	0.03	0.00	83.16
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	1913.06	0.62	0.09	39.05	0.01	0.00	39.90
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	1703.34	0.55	0.08	34.77	0.01	0.00	35.53
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	1912.07	0.62	0.09	39.03	0.01	0.00	39.88
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	3987.36	1.29	0.18	54.26	0.02	0.00	55.44
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	1913.06	0.62	0.09	26.03	0.01	0.00	26.60
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	1703.34	0.55	0.08	23.18	0.01	0.00	23.68
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	1912.07	0.62	0.09	26.02	0.01	0.00	26.59
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1060.96	0.34	0.05	14.44	0.00	0.00	14.75
Tunnel Intake Structure Portal - TBM reception portal excavation and support	801.34	0.26	0.04	10.90	0.00	0.00	11.14
Tunnel Intake Structure Portal - TBM reception portal excavation and support	395.66	0.13	0.02	5.38	0.00	0.00	5.50
Tunnel Intake Structure Portal - TBM reception portal excavation and support	459.64	0.15	0.02	6.25	0.00	0.00	6.39
Tunnel Intake Structure Portal - TBM reception portal excavation and support	851.67	0.28	0.04	11.59	0.00	0.00	11.84
Tunnel Intake Structure Portal - TBM reception portal excavation and support	956.03	0.31	0.04	13.01	0.00	0.00	13.29
Tunnel Intake Structure Portal - Remove TBM	9615.89	3.11	0.44	130.85	0.04	0.01	133.70
Tunnel Intake Structure Portal - Remove TBM	1923.18	0.62	0.09	26.17	0.01	0.00	26.74
Tunnel Intake Structure Portal - Remove TBM	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Remove TBM	943.45	0.31	0.04	12.84	0.00	0.00	13.12
Tunnel Intake Structure Portal - Remove TBM	1199.31	0.39	0.06	16.32	0.01	0.00	16.68
Tunnel Intake Structure Portal - Remove TBM	2295.93	0.74	0.11	31.24	0.01	0.00	31.92

Offroad Equipment - Energy Consumption

Phase	Start Date	equipment Name	Category	Year	Days	Hours per day	Number	Fuel Type	Horsepower	Kilowatts	Kilowatt Hours (day)	Kilowatt Hours (total)	lbs of CO2 per day				Total MT			
													CO2	CH4	N2O	CO2e	CO2	CH4	N2O	CO2e
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	Compressor, Stationary 1200cfm	Air compressors	2024	30	24	1	Electric	350	261	6264	187916	16.79	0.17	0.02	27.19	0.23	0.00	0.00	0.37
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	EPBM and Backup 14'9"	Air compressors	2024	30	24	1	Electric	1800	1342	32214	966427	86.33	0.87	0.11	139.81	1.17	0.01	0.00	1.90
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	Pump, trash 200gpm/100ft head	Air compressors	2024	30	24	1	Electric	10	7	179	5369	0.48	0.00	0.00	0.78	0.01	0.00	0.00	0.01
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	Ventilation Fan 40hp	Air compressors	2024	30	24	1	Electric	40	30	716	21476	1.92	0.02	0.00	3.11	0.03	0.00	0.00	0.04
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	Water Treatment Plant	Air compressors	2024	30	24	1	Electric	200	149	3579	107381	9.59	0.10	0.01	15.53	0.13	0.00	0.00	0.21

Notes:

PG&E 2019 CO2 (lbs per MWh) delivered rate 2.68  
 GHG Intensity Factor lb CH4/MWh (Statewide EF's for 2024) 0.03  
 GHG Intensity Factor lb N2O/MWh (Statewide EF's for 2024) 0.00

Source:

1. [https://www.pgecorp.com/corp\\_responsibility/reports/2021/assets/PGE\\_CRSR\\_2021.pdf](https://www.pgecorp.com/corp_responsibility/reports/2021/assets/PGE_CRSR_2021.pdf)

Truck Loading Fugitive Dust Emissions

Phase Name	Start Date	End Date	Total Days	Year	Total CY	Tons/CY	Throughput (tons)	Truck Loading EF (lb/ton throughput)						Emissions (lb/day) <sup>1</sup>					
								PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	66794	1.2642	84438.72	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.02		0.02	0.00		0.00
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	26362	1.2642	33325.95	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0	1.2642	0.00	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0	1.2642	0.00	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0	1.2642	0.00	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0	1.2642	0.00	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0	1.2642	0.00	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	1.2642	0.00	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0	1.2642	0.00	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	2030	1.2642	2566.26	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0	1.2642	0.00	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0	1.2642	0.00	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0	1.2642	0.00	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0	1.2642	0.00	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0	1.2642	0.00	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	1.2642	0.00	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00



Demolition Fugitive Dust Emissions - No Structures to be Demolished on SLOAPCD Side

Phase Name	Start Date	End Date	Total Days	Year	Demo Debris Weight (tons)	Demo EF (lb/ton throughput)						Emissions (lb/day)					
						PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00

**Bulldozing Fugitive Dust Emissions**

Phase Name	Start	End	# of Workdays	First Year of		# of Equipment	hours/day
				CSTN	Equipment Type		
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Tractors/Loaders/Backhoes	2	10
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Other Construction Equipment	2	10
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Off-Highway Trucks	2	10
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Bore/Drill Rigs	1	10
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Tractors/Loaders/Backhoes	2	10
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	Tractors/Loaders/Backhoes	1	10
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	15	2023	Crushing/Proc. Equipment	1	10
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	Rubber Tired Dozers	1	10
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	Off-Highway Trucks	1	10
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	Tractors/Loaders/Backhoes	1	10
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	Tractors/Loaders/Backhoes	2	10
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	Other Construction Equipment	2	10
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	Off-Highway Trucks	2	10
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	Tractors/Loaders/Backhoes	2	10
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	Tractors/Loaders/Backhoes	2	10
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	Other Construction Equipment	2	10
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	Off-Highway Trucks	2	10
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	Tractors/Loaders/Backhoes	2	10
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Tractors/Loaders/Backhoes	1	10
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Cranes	1	10
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Excavators	1	10
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Cranes	1	10
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Off-Highway Trucks	1	10
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Tractors/Loaders/Backhoes	1	10
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Cranes	1	24
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Cranes	1	24
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Other Material Handling Equipment	1	24
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Cranes	1	24
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Other Material Handling Equipment	1	24
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Tractors/Loaders/Backhoes	1	24

Dust Reduction % 55%

**Bulldozing Fugitive Dust Emissions**

Phase Name	Emission Factor (lb/hr)						Emissions (lb/day) <sup>1</sup>					
	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Construct Control Building	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.75		0.75	0.41		0.41	3.39		3.39	1.86		1.86
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00

Grading Fugitive Dust Emissions

Phase Name	Start	End	# of Workdays	First Year of CSTN	Equipment Type	# of Equipment	Equipment Usage (hours/day)	Acres per 8-hr day	Scaling Factor	Acres per day	Daily VMT
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Tractors/Loaders/Backhoes	2	10	0	8	0.000	0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Other Construction Equipment	2	10	0	8	0.000	0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Off-Highway Trucks	2	10	0	8	0.000	0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Bore/Drill Rigs	1	10	0	8	0.000	0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Tractors/Loaders/Backhoes	2	10	0	8	0.000	0.000
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	Tractors/Loaders/Backhoes	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	15	2023	Crushing/Proc. Equipment	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	Rubber Tired Dozers	1	10	0.5	8	0.625	0.430
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	Off-Highway Trucks	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	Tractors/Loaders/Backhoes	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	Tractors/Loaders/Backhoes	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	Other Construction Equipment	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	Off-Highway Trucks	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	Tractors/Loaders/Backhoes	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	Tractors/Loaders/Backhoes	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	Other Construction Equipment	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	Off-Highway Trucks	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	Tractors/Loaders/Backhoes	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Tractors/Loaders/Backhoes	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Cranes	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Excavators	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Cranes	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Off-Highway Trucks	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Tractors/Loaders/Backhoes	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Cranes	1	24	0	8	0.000	0.000
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Cranes	1	24	0	8	0.000	0.000
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Other Material Handling Equipment	1	24	0	8	0.000	0.000
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Cranes	1	24	0	8	0.000	0.000
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Other Material Handling Equipment	1	24	0	8	0.000	0.000
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Tractors/Loaders/Backhoes	1	24	0	8	0.000	0.000

Grading Fugitive Dust Emissions Phase Name	Emission Factor (lb/VMT)						Emissions (lb/day)					
	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure - Construct Control Building	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	1.543		1.543	0.167		0.167	0.298		0.298	0.032		0.032
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Remove TBM	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Remove TBM	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Remove TBM	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Remove TBM	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Remove TBM	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Remove TBM	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000

Worker Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi) <sup>1</sup>	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	16	0.14	0.020	0.097	1.269	0.003	942.782	0.005	942.787	391.076	0.005	391.080	0.008	0.029	0.000
Tunnel Intake Structure - Construct intake structure structural elements	12/4/2023	6/28/2024	150	2023	18	0.14	0.020	0.097	1.269	0.003	942.782	0.005	942.787	391.076	0.005	391.080	0.008	0.029	0.000
Tunnel Intake Structure - Install mechanical systems	7/1/2024	8/9/2024	30	2024	4	0.14	0.018	0.088	1.184	0.003	942.782	0.005	942.787	386.396	0.004	386.400	0.007	0.026	0.000
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	6	0.14	0.018	0.088	1.184	0.003	942.782	0.005	942.787	386.396	0.004	386.400	0.007	0.026	0.000
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/2024	12/13/2024	20	2024	8	0.14	0.018	0.088	1.184	0.003	942.782	0.005	942.787	386.396	0.004	386.400	0.007	0.026	0.000
Tunnel Intake Structure - Install fencing and security systems	1/13/2025	1/31/2025	15	2025	6	0.14	0.016	0.079	1.110	0.003	942.782	0.005	942.787	381.649	0.004	381.653	0.007	0.023	0.000
Tunnel Intake Structure - Install electrical and control systems	12/16/2024	1/10/2025	20	2024	6	0.14	0.018	0.088	1.184	0.003	942.782	0.005	942.787	386.396	0.004	386.400	0.007	0.026	0.000
Tunnel Intake Structure - Testing of control systems	1/13/2025	1/24/2025	10	2025	6	0.14	0.016	0.079	1.110	0.003	942.782	0.005	942.787	381.649	0.004	381.653	0.007	0.023	0.000
Tunnel Intake Structure - Re-vegetation and site demob	2/3/2025	2/28/2025	20	2025	8	0.14	0.016	0.079	1.110	0.003	942.782	0.005	942.787	381.649	0.004	381.653	0.007	0.023	0.000
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	30	2023	8	1.09	0.020	0.097	1.269	0.003	942.782	0.005	942.787	391.076	0.005	391.080	0.008	0.029	0.000
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/2023	7/7/2023	30	2023	8	0.14	0.020	0.097	1.269	0.003	942.782	0.005	942.787	391.076	0.005	391.080	0.008	0.029	0.000
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	10	0.14	0.020	0.097	1.269	0.003	942.782	0.005	942.787	391.076	0.005	391.080	0.008	0.029	0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	6	1.09	0.020	0.097	1.269	0.003	942.782	0.005	942.787	391.076	0.005	391.080	0.008	0.029	0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	6	0.14	0.020	0.097	1.269	0.003	942.782	0.005	942.787	391.076	0.005	391.080	0.008	0.029	0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	8	0.14	0.020	0.097	1.269	0.003	942.782	0.005	942.787	391.076	0.005	391.080	0.008	0.029	0.000
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	56	0.14	0.018	0.088	1.184	0.003	942.782	0.005	942.787	386.396	0.004	386.400	0.007	0.026	0.000

Worker Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi) <sup>1</sup>	Non-Running Emission Factors (g/trip) <sup>1</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	16	0.14	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure - Construct intake structure structural elements	12/4/2023	6/28/2024	150	2023	18	0.14	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure - Install mechanical systems	7/1/2024	8/9/2024	30	2024	4	0.14	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	6	0.14	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/2024	12/13/2024	20	2024	8	0.14	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Install fencing and security systems	1/13/2025	1/31/2025	15	2025	6	0.14	1.444	0.361	4.427	0.001	0.000	0.002	0.002	0.000	0.002	0.002	80.445	0.092	0.037
Tunnel Intake Structure - Install electrical and control systems	12/16/2024	1/10/2025	20	2024	6	0.14	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Testing of control systems	1/13/2025	1/24/2025	10	2025	6	0.14	1.444	0.361	4.427	0.001	0.000	0.002	0.002	0.000	0.002	0.002	80.445	0.092	0.037
Tunnel Intake Structure - Re-vegetation and site demob	2/3/2025	2/28/2025	20	2025	8	0.14	1.444	0.361	4.427	0.001	0.000	0.002	0.002	0.000	0.002	0.002	80.445	0.092	0.037
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	30	2023	8	1.09	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/2023	7/7/2023	30	2023	8	0.14	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	10	0.14	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	6	1.09	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Install temporary utilities, Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	6	0.14	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	8	0.14	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	56	0.14	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038

Worker Onsite Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi) <sup>1</sup>	Emissions (lb/day)														Total MT			
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e	
							Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	16	0.14	0.06	0.01	0.18	0.00	2.13	0.00	2.13	1.96	0.00	1.96	2.95
Tunnel Intake Structure - Construct intake structure structural elements	12/4/2023	6/28/2024	150	2023	18	0.14	0.06	0.02	0.20	0.00	2.39	0.00	2.39	2.20	0.00	2.20	3.32	0.00	0.00	0.23	0.00	0.00	0.26	
Tunnel Intake Structure - Install mechanical systems	7/1/2024	8/9/2024	30	2024	4	0.14	0.01	0.00	0.04	0.00	0.53	0.00	0.53	0.48	0.00	0.48	0.72	0.00	0.00	0.01	0.00	0.00	0.01	
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	6	0.14	0.02	0.01	0.06	0.00	0.80	0.00	0.80	0.73	0.00	0.73	1.09	0.00	0.00	0.01	0.00	0.00	0.02	
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/2024	12/13/2024	20	2024	8	0.14	0.03	0.01	0.09	0.00	1.06	0.00	1.06	0.97	0.00	0.97	1.45	0.00	0.00	0.01	0.00	0.00	0.02	
Tunnel Intake Structure - Install fencing and security systems	1/13/2025	1/31/2025	15	2025	6	0.14	0.02	0.00	0.06	0.00	0.80	0.00	0.80	0.72	0.00	0.72	1.06	0.00	0.00	0.01	0.00	0.00	0.01	
Tunnel Intake Structure - Install electrical and control systems	12/16/2024	1/10/2025	20	2024	6	0.14	0.02	0.01	0.06	0.00	0.80	0.00	0.80	0.73	0.00	0.73	1.09	0.00	0.00	0.01	0.00	0.00	0.01	
Tunnel Intake Structure - Testing of control systems	1/13/2025	1/24/2025	10	2025	6	0.14	0.02	0.00	0.06	0.00	0.80	0.00	0.80	0.72	0.00	0.72	1.06	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Tunnel Intake Structure - Re-vegetation and site demob	2/3/2025	2/28/2025	20	2025	8	0.14	0.03	0.01	0.08	0.00	1.06	0.00	1.06	0.96	0.00	0.96	1.42	0.00	0.00	0.01	0.00	0.00	0.02	
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	30	2023	8	1.09	0.03	0.01	0.11	0.00	8.15	0.00	8.15	7.51	0.00	7.51	1.48	0.00	0.00	0.02	0.00	0.00	0.02	
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/2023	7/7/2023	30	2023	8	0.14	0.03	0.01	0.09	0.00	1.06	0.00	1.06	0.98	0.00	0.98	1.48	0.00	0.00	0.02	0.00	0.00	0.02	
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	10	0.14	0.03	0.01	0.11	0.00	1.33	0.00	1.33	1.22	0.00	1.22	1.84	0.00	0.00	0.01	0.00	0.00	0.01	
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	6	1.09	0.02	0.01	0.08	0.00	6.11	0.00	6.11	5.63	0.00	5.63	1.11	0.00	0.00	0.02	0.00	0.00	0.03	
Tunnel Intake Structure Portal - Install temporary utilities, Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	6	0.14	0.02	0.01	0.07	0.00	0.80	0.00	0.80	0.73	0.00	0.73	1.11	0.00	0.00	0.02	0.00	0.00	0.02	
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	8	0.14	0.03	0.01	0.09	0.00	1.06	0.00	1.06	0.98	0.00	0.98	1.48	0.00	0.00	0.02	0.00	0.00	0.02	
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	56	0.14	0.19	0.05	0.60	0.00	7.44	0.00	7.44	6.78	0.00	6.78	10.13	0.01	0.00	0.14	0.00	0.00	0.16	



Worker Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	16	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure - Construct intake structure structural elements	12/4/2023	6/28/2024	150	2023	18	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure - Install mechanical systems	7/1/2024	8/9/2024	30	2024	4	20.9469697	0.017	0.089	0.987	0.003	0.315	0.002	0.316	0.078	0.001	0.079	316.640	0.004	0.007
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	6	20.9469697	0.017	0.089	0.987	0.003	0.315	0.002	0.316	0.078	0.001	0.079	316.640	0.004	0.007
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/2024	12/13/2024	20	2024	8	20.9469697	0.017	0.089	0.987	0.003	0.315	0.002	0.316	0.078	0.001	0.079	316.640	0.004	0.007
Tunnel Intake Structure - Install fencing and security systems	1/13/2025	1/31/2025	15	2025	6	20.9469697	0.016	0.081	0.923	0.003	0.315	0.001	0.316	0.078	0.001	0.079	311.517	0.004	0.007
Tunnel Intake Structure - Install electrical and control systems	12/16/2024	1/10/2025	20	2024	6	20.9469697	0.017	0.089	0.987	0.003	0.315	0.002	0.316	0.078	0.001	0.079	316.640	0.004	0.007
Tunnel Intake Structure - Testing of control systems	1/13/2025	1/24/2025	10	2025	6	20.9469697	0.016	0.081	0.923	0.003	0.315	0.001	0.316	0.078	0.001	0.079	311.517	0.004	0.007
Tunnel Intake Structure - Re-vegetation and site demob	2/3/2025	2/28/2025	20	2025	8	20.9469697	0.016	0.081	0.923	0.003	0.315	0.001	0.316	0.078	0.001	0.079	311.517	0.004	0.007
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	30	2023	8	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/2023	7/7/2023	30	2023	8	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	10	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	6	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	6	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	8	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	56	20.9469697	0.017	0.089	0.987	0.003	0.315	0.002	0.316	0.078	0.001	0.079	316.640	0.004	0.007

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Worker Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	16	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure - Construct intake structure structural elements	12/4/2023	6/28/2024	150	2023	18	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure - Install mechanical systems	7/1/2024	8/9/2024	30	2024	4	20.9469697	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	6	20.9469697	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/2024	12/13/2024	20	2024	8	20.9469697	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Install fencing and security systems	1/13/2025	1/31/2025	15	2025	6	20.9469697	1.444	0.361	4.427	0.001	0.000	0.002	0.002	0.000	0.002	0.002	80.445	0.092	0.037
Tunnel Intake Structure - Install electrical and control systems	12/16/2024	1/10/2025	20	2024	6	20.9469697	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Testing of control systems	1/13/2025	1/24/2025	10	2025	6	20.9469697	1.444	0.361	4.427	0.001	0.000	0.002	0.002	0.000	0.002	0.002	80.445	0.092	0.037
Tunnel Intake Structure - Re-vegetation and site demob	2/3/2025	2/28/2025	20	2025	8	20.9469697	1.444	0.361	4.427	0.001	0.000	0.002	0.002	0.000	0.002	0.002	80.445	0.092	0.037
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	30	2023	8	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/2023	7/7/2023	30	2023	8	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Grade and improve staging/layout area	5/29/2023	6/9/2023	10	2023	10	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	6	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	6	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	8	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	56	20.9469697	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Worker Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day)										Total MT						
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	16	20.9469697	0.07	0.09	0.96	0.00	0.22	0.00	0.22	0.06	0.00	0.06	240.64	0.01	0.01	4.91	0.00	0.00	4.96
Tunnel Intake Structure - Construct intake structure structural elements	12/4/2023	6/28/2024	150	2023	18	20.9469697	0.08	0.10	1.08	0.00	0.24	0.00	0.24	0.06	0.00	0.07	270.72	0.01	0.01	18.42	0.00	0.00	18.60
Tunnel Intake Structure - Install mechanical systems	7/1/2024	8/9/2024	30	2024	4	20.9469697	0.02	0.02	0.22	0.00	0.05	0.00	0.05	0.01	0.00	0.01	59.21	0.00	0.00	0.81	0.00	0.00	0.81
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	6	20.9469697	0.02	0.03	0.34	0.00	0.08	0.00	0.08	0.02	0.00	0.02	88.82	0.00	0.00	1.21	0.00	0.00	1.22
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/2024	12/13/2024	20	2024	8	20.9469697	0.03	0.04	0.45	0.00	0.11	0.00	0.11	0.03	0.00	0.03	118.43	0.00	0.00	1.07	0.00	0.00	1.08
Tunnel Intake Structure - Install fencing and security systems	1/13/2025	1/31/2025	15	2025	6	20.9469697	0.02	0.03	0.31	0.00	0.08	0.00	0.08	0.02	0.00	0.02	87.38	0.00	0.00	0.59	0.00	0.00	0.60
Tunnel Intake Structure - Install electrical and control systems	12/16/2024	1/10/2025	20	2024	6	20.9469697	0.02	0.03	0.34	0.00	0.08	0.00	0.08	0.02	0.00	0.02	88.82	0.00	0.00	0.81	0.00	0.00	0.81
Tunnel Intake Structure - Testing of control systems	1/13/2025	1/24/2025	10	2025	6	20.9469697	0.02	0.03	0.31	0.00	0.08	0.00	0.08	0.02	0.00	0.02	87.38	0.00	0.00	0.40	0.00	0.00	0.40
Tunnel Intake Structure - Re-vegetation and site demob	2/3/2025	2/28/2025	20	2025	8	20.9469697	0.03	0.04	0.42	0.00	0.11	0.00	0.11	0.03	0.00	0.03	116.51	0.00	0.00	1.06	0.00	0.00	1.07
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	30	2023	8	20.9469697	0.03	0.04	0.48	0.00	0.11	0.00	0.11	0.03	0.00	0.03	120.32	0.00	0.00	1.64	0.00	0.00	1.65
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/2023	7/7/2023	30	2023	8	20.9469697	0.03	0.04	0.48	0.00	0.11	0.00	0.11	0.03	0.00	0.03	120.32	0.00	0.00	1.64	0.00	0.00	1.65
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	10	20.9469697	0.04	0.05	0.60	0.00	0.14	0.00	0.14	0.04	0.00	0.04	150.40	0.00	0.00	0.68	0.00	0.00	0.69
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	6	20.9469697	0.03	0.03	0.36	0.00	0.08	0.00	0.08	0.02	0.00	0.02	90.24	0.00	0.00	1.84	0.00	0.00	1.86
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	6	20.9469697	0.03	0.03	0.36	0.00	0.08	0.00	0.08	0.02	0.00	0.02	90.24	0.00	0.00	1.23	0.00	0.00	1.24
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	8	20.9469697	0.03	0.04	0.48	0.00	0.11	0.00	0.11	0.03	0.00	0.03	120.32	0.00	0.00	1.64	0.00	0.00	1.65
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	56	20.9469697	0.23	0.28	3.13	0.01	0.76	0.00	0.76	0.20	0.00	0.21	828.99	0.02	0.02	11.28	0.00	0.00	11.38

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Vendor Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi) <sup>2</sup>	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	8	0.14	0.024	2.221	0.142	0.013	942.876	0.013	942.889	94.169	0.013	94.182	1411.688	0.001	0.222
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	28	0.14	0.024	2.221	0.142	0.013	942.876	0.013	942.889	94.169	0.013	94.182	1411.688	0.001	0.222
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	8	0.14	0.022	2.082	0.133	0.013	942.876	0.012	942.888	94.169	0.011	94.181	1396.751	0.001	0.220
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	8	0.14	0.022	2.082	0.133	0.013	942.876	0.012	942.888	94.169	0.011	94.181	1396.751	0.001	0.220
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	8	0.14	0.022	2.082	0.133	0.013	942.876	0.012	942.888	94.169	0.011	94.181	1396.751	0.001	0.220
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	8	0.14	0.020	1.935	0.124	0.013	942.876	0.011	942.886	94.169	0.010	94.179	1381.164	0.001	0.218
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	8	0.14	0.022	2.082	0.133	0.013	942.876	0.012	942.888	94.169	0.011	94.181	1396.751	0.001	0.220
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.14	0.020	1.935	0.124	0.013	942.876	0.011	942.886	94.169	0.010	94.179	1381.164	0.001	0.218
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	10	0.14	0.020	1.935	0.124	0.013	942.876	0.011	942.886	94.169	0.010	94.179	1381.164	0.001	0.218
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	22	1.09	0.024	2.221	0.142	0.013	942.876	0.013	942.889	94.169	0.013	94.182	1411.688	0.001	0.222
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	8	0.14	0.024	2.221	0.142	0.013	942.876	0.013	942.889	94.169	0.013	94.182	1411.688	0.001	0.222
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	10	0.14	0.024	2.221	0.142	0.013	942.876	0.013	942.889	94.169	0.013	94.182	1411.688	0.001	0.222
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	8	1.09	0.024	2.221	0.142	0.013	942.876	0.013	942.889	94.169	0.013	94.182	1411.688	0.001	0.222
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	12	0.14	0.024	2.221	0.142	0.013	942.876	0.013	942.889	94.169	0.013	94.182	1411.688	0.001	0.222
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	8	0.14	0.024	2.221	0.142	0.013	942.876	0.013	942.889	94.169	0.013	94.182	1411.688	0.001	0.222
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.14	0.022	2.082	0.133	0.013	942.876	0.012	942.888	94.169	0.011	94.181	1396.751	0.001	0.220

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Vendor Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi) <sup>1</sup>	Non-Running Emission Factors (g/trip) <sup>2</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	8	0.14	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	28	0.14	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	8	0.14	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	8	0.14	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	8	0.14	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	8	0.14	0.182	5.021	2.801	0.005	0.000	0.003	0.003	0.000	0.002	0.002	496.226	0.008	0.078
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	8	0.14	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.14	0.182	5.021	2.801	0.005	0.000	0.003	0.003	0.000	0.002	0.002	496.226	0.008	0.078
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	10	0.14	0.182	5.021	2.801	0.005	0.000	0.003	0.003	0.000	0.002	0.002	496.226	0.008	0.078
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	22	1.09	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	8	0.14	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	10	0.14	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	8	1.09	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Install temporary utilities: Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	12	0.14	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	8	0.14	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.14	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Vendor Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi) <sup>1</sup>	Emissions (lb/day) <sup>2</sup>											Total MT					
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	8	0.14	0.00	0.09	0.05	0.00	1.06	0.00	1.06	0.11	0.00	0.11	12.59	0.00	0.00	0.26	0.00	0.00	0.27
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	28	0.14	0.01	0.32	0.17	0.00	3.72	0.00	3.72	0.37	0.00	0.37	44.08	0.00	0.01	3.00	0.00	0.00	3.14
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	8	0.14	0.00	0.09	0.05	0.00	1.06	0.00	1.06	0.11	0.00	0.11	12.40	0.00	0.00	0.17	0.00	0.00	0.18
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	8	0.14	0.00	0.09	0.05	0.00	1.06	0.00	1.06	0.11	0.00	0.11	12.40	0.00	0.00	0.17	0.00	0.00	0.18
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	8	0.14	0.00	0.09	0.05	0.00	1.06	0.00	1.06	0.11	0.00	0.11	12.40	0.00	0.00	0.17	0.00	0.00	0.12
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	8	0.14	0.00	0.09	0.05	0.00	1.06	0.00	1.06	0.11	0.00	0.11	12.21	0.00	0.00	0.08	0.00	0.00	0.09
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	8	0.14	0.00	0.09	0.05	0.00	1.06	0.00	1.06	0.11	0.00	0.11	12.40	0.00	0.00	0.11	0.00	0.00	0.12
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	10	0.14	0.00	0.12	0.06	0.00	1.33	0.00	1.33	0.13	0.00	0.13	15.27	0.00	0.00	0.14	0.00	0.00	0.15
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	22	1.09	0.01	0.35	0.14	0.00	22.07	0.00	22.07	2.20	0.00	2.21	97.97	0.00	0.02	1.33	0.00	0.00	1.40
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	8	0.14	0.00	0.09	0.05	0.00	1.06	0.00	1.06	0.11	0.00	0.11	12.59	0.00	0.00	0.17	0.00	0.00	0.18
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	10	0.14	0.00	0.11	0.06	0.00	1.33	0.00	1.33	0.13	0.00	0.13	15.74	0.00	0.00	0.07	0.00	0.00	0.07
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	8	1.09	0.00	0.13	0.05	0.00	8.15	0.00	8.15	0.81	0.00	0.81	36.17	0.00	0.01	0.74	0.00	0.00	0.77
Tunnel Intake Structure Portal - Install temporary utilities: Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	12	0.14	0.00	0.14	0.07	0.00	1.59	0.00	1.59	0.16	0.00	0.16	18.89	0.00	0.00	0.26	0.00	0.00	0.27
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	8	0.14	0.00	0.09	0.05	0.00	1.06	0.00	1.06	0.11	0.00	0.11	12.59	0.00	0.00	0.17	0.00	0.00	0.18
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Vendor Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	8	20.9	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	28	20.9	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	8	20.9	0.026	1.702	0.106	0.013	0.386	0.021	0.407	0.101	0.020	0.122	1400.228	0.001	0.221
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	8	20.9	0.026	1.702	0.106	0.013	0.386	0.021	0.407	0.101	0.020	0.122	1400.228	0.001	0.221
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	8	20.9	0.026	1.702	0.106	0.013	0.386	0.021	0.407	0.101	0.020	0.122	1400.228	0.001	0.221
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	8	20.9	0.023	1.595	0.098	0.013	0.385	0.020	0.405	0.101	0.019	0.120	1385.789	0.001	0.218
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	8	20.9	0.026	1.702	0.106	0.013	0.386	0.021	0.407	0.101	0.020	0.122	1400.228	0.001	0.221
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	20.9	0.023	1.595	0.098	0.013	0.385	0.020	0.405	0.101	0.019	0.120	1385.789	0.001	0.218
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	10	20.9	0.023	1.595	0.098	0.013	0.385	0.020	0.405	0.101	0.019	0.120	1385.789	0.001	0.218
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	22	20.9	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	8	20.9	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	10	20.9	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	8	20.9	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	12	20.9	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	8	20.9	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	20.9	0.026	1.702	0.106	0.013	0.386	0.021	0.407	0.101	0.020	0.122	1400.228	0.001	0.221

- 1) Accounts for all exhaust and evaporative processes
- 2) Off-site would only be cement trips

Vendor Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	8	20.9	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	28	20.9	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	8	20.9	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	8	20.9	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	8	20.9	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	8	20.9	0.182	5.021	2.801	0.005	0.000	0.003	0.003	0.000	0.002	0.002	496.226	0.008	0.078
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	8	20.9	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	20.9	0.182	5.021	2.801	0.005	0.000	0.003	0.003	0.000	0.002	0.002	496.226	0.008	0.078
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	10	20.9	0.182	5.021	2.801	0.005	0.000	0.003	0.003	0.000	0.002	0.002	496.226	0.008	0.078
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	22	20.9	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	8	20.9	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	10	20.9	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	8	20.9	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	12	20.9	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	8	20.9	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	20.9	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080

1) Accounts for all exhaust and evaporative processes  
 2) Off-site would only be cement trips



Vendor Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day)												Total MT				
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	8	20.9	0.01	0.75	0.09	0.01	0.13	0.01	0.14	0.04	0.01	0.05	531.36	0.00	0.08	10.85	0.00	0.00	11.36
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	28	20.9	0.05	2.64	0.32	0.02	0.46	0.03	0.49	0.13	0.03	0.16	1859.76	0.00	0.29	126.54	0.00	0.02	132.48
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	8	20.9	0.01	0.72	0.09	0.00	0.13	0.01	0.14	0.04	0.01	0.04	526.21	0.00	0.08	7.16	0.00	0.00	7.50
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	8	20.9	0.01	0.72	0.09	0.00	0.13	0.01	0.14	0.04	0.01	0.04	526.21	0.00	0.08	7.16	0.00	0.00	7.50
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	8	20.9	0.01	0.72	0.09	0.00	0.13	0.01	0.14	0.04	0.01	0.04	526.21	0.00	0.08	4.77	0.00	0.00	5.00
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	8	20.9	0.01	0.68	0.09	0.00	0.13	0.01	0.14	0.04	0.01	0.04	520.72	0.00	0.08	3.54	0.00	0.00	3.71
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	8	20.9	0.01	0.72	0.09	0.00	0.13	0.01	0.14	0.04	0.01	0.04	526.21	0.00	0.08	4.77	0.00	0.00	5.00
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	20.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	10	20.9	0.01	0.85	0.11	0.01	0.17	0.01	0.17	0.05	0.01	0.06	650.90	0.00	0.10	5.90	0.00	0.00	6.18
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	22	20.9	0.04	2.04	0.25	0.01	0.36	0.02	0.38	0.10	0.02	0.12	1439.10	0.00	0.23	19.58	0.00	0.00	20.50
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	8	20.9	0.01	0.75	0.09	0.01	0.13	0.01	0.14	0.04	0.01	0.05	531.36	0.00	0.08	7.23	0.00	0.00	7.57
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	10	20.9	0.02	0.94	0.11	0.01	0.17	0.01	0.18	0.05	0.01	0.06	664.20	0.00	0.10	3.01	0.00	0.00	3.15
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	8	20.9	0.01	0.75	0.09	0.01	0.13	0.01	0.14	0.04	0.01	0.05	531.36	0.00	0.08	10.85	0.00	0.00	11.36
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	12	20.9	0.02	1.13	0.14	0.01	0.20	0.01	0.21	0.06	0.01	0.07	797.04	0.00	0.13	10.85	0.00	0.00	11.36
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	8	20.9	0.01	0.75	0.09	0.01	0.13	0.01	0.14	0.04	0.01	0.05	531.36	0.00	0.08	7.23	0.00	0.00	7.57
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	20.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1) Accounts for all exhaust and evaporative processes  
 2) Off-site would only be cement trips

Haul Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	214	1.51	0.02	3.35	0.17	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1775.96	0.00	0.28
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	26	0.14	0.02	3.35	0.17	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1775.96	0.00	0.28
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0	0.14	0.02	3.17	0.16	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1750.26	0.00	0.28
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0	0.14	0.02	3.17	0.16	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1750.26	0.00	0.28
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0	0.14	0.02	3.17	0.16	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1750.26	0.00	0.28
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0	0.14	0.02	2.96	0.15	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1723.24	0.00	0.27
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0	0.14	0.02	3.17	0.16	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1750.26	0.00	0.28
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.14	0.02	2.96	0.15	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1723.24	0.00	0.27
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0	0.14	0.02	2.96	0.15	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1723.24	0.00	0.27
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	10	1.09	0.02	3.35	0.17	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1775.96	0.00	0.28
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0	0.14	0.02	3.35	0.17	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1775.96	0.00	0.28
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0	0.14	0.02	3.35	0.17	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1775.96	0.00	0.28
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0	1.09	0.02	3.35	0.17	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1775.96	0.00	0.28
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0	0.14	0.02	3.35	0.17	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1775.96	0.00	0.28
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0	0.14	0.02	3.35	0.17	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1775.96	0.00	0.28
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.14	0.02	3.17	0.16	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1750.26	0.00	0.28

- 1) Accounts for all exhaust and evaporative processes
- 2) Includes dust control measure of watering exposed area

Haul Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>													
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	214	1.51	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	26	0.14	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0	0.14	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0	0.14	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0	0.14	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0	0.14	0.34	7.24	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	797.13	0.02	0.13
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0	0.14	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.14	0.34	7.24	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	797.13	0.02	0.13
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0	0.14	0.34	7.24	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	797.13	0.02	0.13
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	10	1.09	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0	0.14	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0	0.14	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0	1.09	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0	0.14	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0	0.14	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.14	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Haul Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day) <sup>2</sup>											Total MT					
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	214	1.51	0.18	5.68	2.45	0.02	302.18	0.01	302.19	30.18	0.01	30.19	1655.68	0.01	0.26	33.80	0.00	0.01	35.39
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	26	0.14	0.02	0.43	0.28	0.00	3.45	0.00	3.46	0.35	0.00	0.35	61.96	0.00	0.01	4.22	0.00	0.00	4.41
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	10	1.09	0.01	0.23	0.11	0.00	10.19	0.00	10.19	1.02	0.00	1.02	60.91	0.00	0.01	0.83	0.00	0.00	0.87
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0	1.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Haul Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	214	5.5	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	26	27.9	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0	0.0	0.02	2.18	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1661.67	0.00	0.26
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0	0.0	0.02	2.18	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1661.67	0.00	0.26
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0	0.0	0.02	2.18	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1661.67	0.00	0.26
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0	0.0	0.02	2.07	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1637.28	0.00	0.26
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0	0.0	0.02	2.18	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1661.67	0.00	0.26
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.0	0.02	2.07	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1637.28	0.00	0.26
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0	27.9	0.02	2.07	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1637.28	0.00	0.26
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	10	27.9	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0	0.9	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0	0.9	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0	0.9	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0	0.9	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0	27.9	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.9	0.02	2.18	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1661.67	0.00	0.26

1) Accounts for all exhaust and evaporative processes  
 2) Soil Import only. Soil export would be kept on-site.

Haul Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>													
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	214	5.5	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	26	27.9	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0	0.0	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0	0.0	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0	0.0	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0	0.0	0.34	7.24	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	797.13	0.02	0.13
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0	0.0	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.0	0.34	7.24	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	797.13	0.02	0.13
Tunnel Intake Structure - Re-vegetation and site demob	2/13/25	2/28/25	20	2025	0	27.9	0.34	7.24	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	797.13	0.02	0.13
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	10	27.9	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0	0.9	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0	0.9	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0	0.9	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0	0.9	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0	27.9	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.9	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13

1) Accounts for all exhaust and evaporative processes  
 2) Soil Import only. Soil export would be kept on-site.

Haul Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day)													Total MT			
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	214	5.5	0.22	9.26	2.59	0.05	1.01	0.07	1.08	0.29	0.07	0.36	4798.54	0.01	0.76	97.95	0.00	0.02	102.55
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	26	27.9	0.05	4.05	0.44	0.03	0.62	0.04	0.66	0.18	0.04	0.22	2745.50	0.00	0.43	186.80	0.00	0.03	195.58
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0	27.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	10	27.9	0.02	1.56	0.17	0.01	0.24	0.02	0.25	0.07	0.02	0.08	1055.96	0.00	0.17	14.37	0.00	0.00	15.04
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0	0.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0	0.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0	0.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0	0.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0	27.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1) Accounts for all exhaust and evaporative processes  
 2) Soil Import only. Soil export would be kept on-site.

Architectural Coating Emissions

Phase Name	Coating Type	SF	Residential Interior EF	Residential Interior Area (SF)	Residential Exterior EF	Residential Exterior Area	Non-Residential Interior EF	Non-Residential Interior Area (SF)	Non-Residential Exterior EF	Non-Residential Exterior Area	Grout EF	Grout Area	Total Emissions (lbs)
Tunnel Intake Structure - Excavate and support for approach channel and intake structure			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure - Construct Intake structure structural elements	Non-Residential	20,736	100	0	100	0	101	31104	101	10368	51	0.00	194.01
Tunnel Intake Structure - Install mechanical systems			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure - Construct Control Building			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure - Install fencing and security systems			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure - Install electrical and control systems			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure - Testing of control systems			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure - Re-vegetation and site demob			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure Portal - Remove TBM			100	0	100	0	100	0	100	0	50	0.00	0.00

Combined Phase Name5	Start Date5	End Date5	# of Workdays5	Emissions (lb/day)
				ROG
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45.00	0.00
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150.00	1.29
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30.00	0.00
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30.00	0.00
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20.00	0.00
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15.00	0.00
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20.00	0.00
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10.00	0.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20.00	0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30.00	0.00
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30.00	0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10.00	0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45.00	0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30.00	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30.00	0.00
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30.00	0.00



**Paving Off-Gassing Emissions**

Phase Name	Acres	Off-Gassing EF (lb/acre)	Total Emissions (lbs)
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	2.11	2.62	5.53
	0.00	2.62	0.00
	0.00	2.62	0.00

Combined Phase Name5	Start Date5	End Date5	# of Workdays5	Emissions (lb/day)
				ROG
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45.00	0.00
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150.00	0.00
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30.00	0.00
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30.00	0.00
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20.00	0.00
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15.00	0.00
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20.00	0.00
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10.00	0.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20.00	0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30.00	0.18
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30.00	0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10.00	0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45.00	0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30.00	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30.00	0.00
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30.00	0.00

**Mechanical or Explosive Dismemberment**

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

EF emission factor (lb/ton)  
 k particle size multiplier, AP-42 default for PM10: 0.35; PM2.5: 0.053  
 U mean wind speed, m/s to mph  
 M material moisture content (%), AP-42 Default: 2

Parameter	PM10	PM2.5	CalEEMod Wind Speed (m/s)	Changes based on Project Location 3.2 CEC forecast zone 4
	Value	Value		
k (unitless)	0.35	0.053	<--confirm these parameters for location	
U (m/s to mph)	7.16	7.16	<--confirm these parameters for location	
M (%)	2	2	<--confirm these parameters for location	
EF (lb/ton)	1.79E-03	2.70E-04		

**Debris Loading**

$$EF_L = k \times EF_{L-TSP}$$

EF<sub>L</sub> emission factor (lb/ton)  
 k particle size multiplier, AP-42 default for PM10: 0.35; PM2.5: 0.053

Default EF<sub>L-TSP</sub> 0.058

lb/ton of debris	
PM10	PM2.5
0.0203	0.003074

**Total DEMO EF**

lb/ton of debris	
PM10	PM2.5
2.21E-02	3.34E-03

**Mechanical or Explosive Dismemberment**  
 Based on the MRI report, there is no AP-42 emission factor data available for this mechanical or explosive dismemberment. Thus, the emission factor for dismemberment and collapse of a structure is calculated using the following AP-42 equation for batch drop operations:

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

Where:  
 EF<sub>D</sub> = emission factor (lb PM/ton of debris)  
 EF<sub>D-PM10</sub> = 0.0011 lb PM<sub>10</sub>/ton of debris  
 EF<sub>D-PM2.5</sub> = 0.00017 lb PM<sub>2.5</sub>/ton of debris  
 k = particle size multiplier. The AP-42 default value for PM<sub>10</sub> is 0.35 and that for PM<sub>2.5</sub> is 0.053.  
 U = mean wind speed. The program selects the default mean wind speed based on the wind speed (m/s) provided on the project characteristics screen.  
 M = material moisture content. The program uses 2% as the default based on the MRI report.

The dust emissions are calculated by multiplying the above emission factors with the total weight of building waste using the following equation:

$$E_D = EF_D \times W$$

Where:  
 E<sub>D</sub> = emissions (lb of PM)  
 EF<sub>D</sub> = emission factor (lb of PM/ton of debris)  
 W = building waste (ton of debris)

<sup>10</sup> Midwest Research Institute. 1988. Gap Filling PM10 Emission Factors for Selected Open Area Dust Sources.

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**Debris Loading**  
 The dust emission factor of PM<sub>10</sub> and PM<sub>2.5</sub> in pounds per ton building waste is estimated based on the measured total suspended particulates (TSP) emission factor using the following equation:

$$EF_L = k \times EF_{L-TSP}$$

Where:  
 EF<sub>L</sub> = emission factor (lb/ton)  
 k = particle size multiplier. The AP-42 default value for PM<sub>10</sub> is 0.35 and that for PM<sub>2.5</sub> is 0.053.

The default value for EF<sub>L-TSP</sub> is 0.058 lb/ton, the average of the two TSP factor (i.e. 0.053 and 0.063 lb/ton) measured from two tests of the filling of trucks with crushed limestone using a front-end loader.

The dust emissions from debris loading are then calculated following the same methodology used for mechanical and or explosive dismemberment:

$$E_L = EF_L \times SF \times 0.046(\text{ton} / \text{ft}^2)$$

Where:  
 E<sub>L</sub> = emissions (lb)  
 EF<sub>L</sub> = emission factor (lb/ton)  
 SF = building square footage (ft<sup>2</sup>)

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Truck Loading Emissions

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

- EF emission factor (lb/ton)
- k particle size multiplier, AP-42 default for PM10: 0.35; PM2.5: 0.053
- U mean wind speed, m/s to mph
- M material moisture content (%), AP-42 Default: 12

Parameter	CalEEMod Wind Speed (m/s)		Changes based on Project Location
	PM10	PM2.5	
k (unitless)	0.35	0.053	<--confirm these parameters for location
U (m/s to mph)	7.16	7.16	<--confirm these parameters for location
M (%)	14	14	MJA, DRAFT - Preliminary Geotechnical Design Recommendations, February 2019.
EF (lb/ton)	1.17E-04	1.77E-05	

**Emissions** **E=EF x TP**

- EF Emission factor (lb/ton)
- TP Throughput (tons)
- CY 95186 <--Enter in Project Value
- tons/CY 1.2641662
- TP 120330.92
- # of days with truck loading #REF! <--Enter in Project Value

**Truck Loading**

Processes such as truck dumping on the pile or loading out from the pile to a truck with a front-end loader also cause fugitive dust emissions. The program calculates these emissions using the methodology described in Section 13.2, Introduction to Fugitive Dust Sources, of USEPA AP-42. The emission factor that is based on the material moisture content and mean wind speed is calculated using the following formula:

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

Where:

EF = emission factor (lb/ton)

K = particle size multiplier. The AP-42 default value for PM<sub>10</sub> is 0.35 and that for PM<sub>2.5</sub> is 0.053

U = mean wind speed. The program selects wind speed based on the value listed on the Project Characteristics screen. It has been converted internally to miles per hour.

M = material moisture content (%). The moisture contents of different materials are listed in Table 13.2.4-1 of AP-42. The program uses the moisture content of cover (12%) as default.

The fugitive dust emissions are calculated by multiplying the emission factor with the throughput of loaded and unloaded material that is entered by the user.

$$E = EF \times TP$$

Where:

E = emissions (lb)

EF = emission factor (lb/ton)

TP = throughput of loaded and unloaded materials (ton)

CalEEMod assumes that 1.2641662 tons per cubic yard based on a bulk density of 1.5 grams per cubic centimeter. Typical soil densities range from about 1.25 to about 1.6 and 1.5 is the approximate density of a silty loam soil which is relatively common in most other parts of the state. The density reported above does not account for watering to suppress dust, it only accounts for natural moisture.

13.2.4.2

EMISSION FACTORS

Table 13.2.4-1. TYPICAL SILT AND MOISTURE CONTENTS OF MATERIALS AT VARIOUS INDUSTRIES\*

Industry	No. Of Facilities	Material	Silt Content (%)			Moisture Content (%)		
			No. Of Samples	Range	Mean	No. Of Samples	Range	Mean
Iron and steel production	9	Pellet ore	13	1.3 - 13	4.3	11	0.64 - 4.0	2.2
		Lump ore	9	2.8 - 19	9.5	6	1.6 - 8.0	5.4
		Coal	12	2.0 - 7.7	4.6	11	2.8 - 11	4.8
		Slag	3	3.0 - 7.3	5.3	3	0.25 - 2.0	0.92
		Flue dust	3	2.7 - 23	13	1	—	7
		Coke breeze	2	4.4 - 5.4	4.9	2	6.4 - 9.2	7.8
		Blended ore	1	—	15	1	—	6.6
		Sinter	1	—	0.7	0	—	—
		Limestone	3	0.4 - 2.3	1.0	2	ND	0.2
		Crushed limestone	2	1.3 - 1.9	1.6	2	0.3 - 1.1	0.7
Stone quarrying and processing	2	Various limestone products	8	0.8 - 14	3.9	8	0.46 - 5.0	2.1
		Pellets	9	2.2 - 5.4	3.4	7	0.05 - 2.0	0.9
Taconite mining and processing	1	Tailings	2	ND	11	1	—	0.4
		Coal	15	3.4 - 16	6.2	7	2.8 - 20	6.9
Western surface coal mining	4	Overburden	15	3.8 - 15	7.5	0	—	—
		Exposed ground	3	5.1 - 21	15	3	0.8 - 6.4	3.4
		Coal (as received)	60	0.6 - 4.8	2.2	59	2.7 - 7.4	4.5
Coal-fired power plant	1	Sand	1	—	2.6	1	—	7.4
		Slag	2	3.0 - 4.7	3.8	2	2.3 - 4.9	3.6
Municipal solid waste landfills	4	Cover	5	5.0 - 16	9.0	5	8.9 - 16	12
		Clay/dirt mix	1	—	9.2	1	—	14
		Clay	2	4.5 - 7.4	6.0	2	8.9 - 11	10
		Fly ash	4	78 - 81	80	4	26 - 29	27
		Misc. fill materials	1	—	12	1	—	11

\* References 1-10. ND = no data.

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**Bulldozing Emissions**

$$EF_{TSP} = \frac{C_{TSP} \times S^{1.2}}{M^{1.3}}, \text{ and } EF_{PM2.5} = EF_{TSP} \times F_{PM2.5}$$

$$EF_{PM15} = \frac{C_{PM15} \times S^{1.5}}{M^{1.4}}, \text{ and } EF_{PM10} = EF_{PM15} \times F_{PM10}$$

EF emission factor (lb/hr)  
 C arbitrary coefficient use by AP-42  
 M material moisture content (%)  
 S material silt content (%)  
 F scaling factor

C<sub>TSP</sub> (unitless) 5.7  
 C<sub>PM15</sub> (unitless) 1  
 M(%) 7.9  
 s (%) 6.9  
 F<sub>PM10</sub> (unitless) 0.75  
 F<sub>PM2.5</sub> (unitless) 0.105

EF<sub>TSP</sub> 3.941  
 EF<sub>PM15</sub> 1.004

**Emission Factors (lb/hr)**

EF<sub>PM10</sub> **0.753** Emission Factor Method Confirmed with comparison to CalEEMod outputs  
 EF<sub>PM2.5</sub> **0.414** Emission Factor Method Confirmed with comparison to CalEEMod outputs

Emissions= EF x Hr  
 # of hours per day 8  
 # of Bulldozers 1

Source	lb/day	
	PM10	PM2.5
Bulldozing Emissions	6.022	3.310

**Bulldozing**

Similar to the grading equipment passes emission estimation, the bulldozing emission factors for PM<sub>10</sub> and PM<sub>2.5</sub> are scaled from those of PM<sub>15</sub> and TSP. Based on Section 11.9 of AP-42, the dust emission factor for bulldozing is calculated using the following equations:

$$EF_{TSP} = \frac{C_{TSP} \times S^{1.2}}{M^{1.3}}, \text{ and } EF_{PM2.5} = EF_{TSP} \times F_{PM2.5}$$

$$EF_{PM15} = \frac{C_{PM15} \times S^{1.5}}{M^{1.4}}, \text{ and } EF_{PM10} = EF_{PM15} \times F_{PM10}$$

Where:

EF = emission factor (lb/hr)  
 C = arbitrary coefficient used by AP-42  
 M = material moisture content (%)  
 S = material silt content (%)  
 F = scaling factor

C, M, s, and F vary depending on the bulldozed material. The following table summarizes the constants for overburden<sup>8</sup> presented in AP-42<sup>9</sup>.

**Bulldozing Fugitive Emission Factors**

Constant	Overburden
C <sub>TSP</sub>	5.7
C <sub>PM15</sub>	1.0
M	7.9%
s	6.9%
F <sub>PM10</sub>	0.75
F <sub>PM2.5</sub>	0.105

The program uses the constants associated with overburden as default for calculation of bulldozing dust emissions since overburden more closely models the bulldozed materials during the development construction. The dust emissions are calculated by multiplying the emission factor with the hours of operation for the dozers listed in the equipment list using the formula below:

$$E = EF \times Hr$$

Where:

E = emissions (lb)  
 EF = emission factor (lb/hr)  
 Hr = hours of operation

<sup>8</sup> The earth that is between the topsoil and the coal seam (USEPA AP-42).

<sup>9</sup> Tables 11.9-1 and 11.9-3 of USEPA AP-42

**Grading Emissions**

EFPM15

$$EF_{PM15} = 0.051 \times (S)^{2.0}, \text{ and } EF_{PM10} = EF_{PM15} \times F_{PM10}$$

$$EF_{TSP} = 0.04 \times (S)^{2.5}, \text{ and } EF_{PM2.5} = EF_{TSP} \times F_{PM2.5}$$

EF Emission Factor (lb/VMT)  
 S mean vehicle speed (mph), AP-42 Default: 7.1 mph  
 F<sub>PM2.5</sub> PM2.5 scaling factor, AP-42 default: 0.031  
 F<sub>PM10</sub> PM10 scaling factor, AP-42 default: 0.6

S	7.1
F <sub>PM2.5</sub>	0.031
F <sub>PM10</sub>	0.6
EF <sub>PM15</sub>	2.57
EF <sub>TSP</sub>	5.37
Emission factor (lb/VMT)	
EF <sub>PM10</sub>	1.543
EF <sub>PM2.5</sub>	0.167

**Emissions= EF x VMT**

VMT:

A<sub>site</sub> acreage of grading site  
 W<sub>b</sub> Width of blade, default: 12 feet  
 Feet/acre conversion 43560  
 feet/mile conversion 5280  
 Acres per 8-hr day amount of acres graded per day, see calc below

Parameters:	Value
A <sub>site</sub>	4.3
W <sub>b</sub>	12
Feet/acre conversion	43560
feet/mile conversion	5280
Acres per 8-hr day	1.5
VMT	1.03125

**Acres per 8-hr day**

Equipment Type	Acres/8-hr day	# of equipment	Equipment Hours per day	Scaling Factor	Acres per day
Crawler Tractors	0.5		8	8	0
Graders	0.5		8	8	0
Rubber Tired Dozers	0.5	3	8	8	1.5
Scrapers	1		8	8	0

1.5

Source	lb/day	
	PM10	PM2.5
Grading Emissions	1.59E+00	1.72E-01

Calculation Method Confirmed with comparison to CalEEMod outputs

The grading dust emissions are calculated by multiplying the emission factors with the total vehicle miles traveled (VMT) for the grading equipment (i.e., grader). The VMT are estimated based on the dimensions of the grading area and the blade width of the grading equipment.

$$E = EF \times VMT, \text{ and}$$

$$VMT = As / Wb \times 43,560(\text{sqft} / \text{acre}) / 5,280(\text{ft} / \text{mile})$$

Where:  
 E: emissions (lb)  
 EF: emission factor (lb/VMT)  
 VMT: vehicle miles traveled (mile)  
 As: the acreage of the grading site (acre)  
 W<sub>b</sub>: Blade width of the grading equipment. The program uses a default blade width of 12 ft. based on Caterpillar's 140 Motor Grader<sup>7</sup>.

Note that the dimensions (e.g., length and width) of the grading site have no impact on the calculation, only the total area to be graded. In order to properly grade a piece of land multiple passes with equipment may be required. The acres is based on the equipment list and days in grading or site preparation phase according to the anticipated maximum number of acres a given piece of equipment can pass over in an 8-hour workday. The equipment-specific grading rates are given in the following table as determined by SCAQMD in consultation with building estimator references.

Equipment Type	Acres/8hr-day
Crawler Tractors	0.5
Graders	0.5
Rubber Tired Dozers	0.5
Scrapers	1

Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	NOX	CO	SO2	PM10	PM2.5	CO2	CH4
Aerial Lifts	1990	6	15	5.436	1.804	9.999	4.999	0.833	0.968	0.968	568.299	0.162
Aerial Lifts	1990	16	25	8.446	2.213	6.92	5	0.679	0.735	0.735	568.299	0.199
Aerial Lifts	1990	26	50	22.237	3.256	7.372	6.91	0.692	0.948	0.948	568.299	0.293
Aerial Lifts	1990	51	120	25.547	1.927	13.323	5.026	0.628	1.005	1.005	568.299	0.173
Aerial Lifts	1990	251	500	90.051	1.214	11.7	6.888	0.525	0.605	0.605	568.299	0.109
Aerial Lifts	1990	501	750	162.768	1.214	11.7	6.887	0.538	0.605	0.605	568.299	0.109
Aerial Lifts	2000	6	15	4.911	1.629	8.804	4.729	0.079	0.737	0.737	568.299	0.147
Aerial Lifts	2000	16	25	7.927	2.077	6.401	4.749	0.064	0.569	0.569	568.299	0.187
Aerial Lifts	2000	26	50	21.066	3.084	6.596	6.643	0.065	0.711	0.711	568.3	0.278
Aerial Lifts	2000	51	120	20.809	1.569	9.602	4.216	0.059	0.705	0.705	568.299	0.141
Aerial Lifts	2000	251	500	60.706	0.819	8.191	3.931	0.049	0.31	0.31	568.3	0.073
Aerial Lifts	2000	501	750	109.732	0.819	8.191	3.931	0.051	0.31	0.31	568.299	0.073
Aerial Lifts	2005	6	15	2.733	0.907	5.927	3.649	0.079	0.424	0.424	568.3	0.081
Aerial Lifts	2005	16	25	5.948	1.558	5.978	3.804	0.064	0.474	0.474	568.299	0.14
Aerial Lifts	2005	26	50	18.56	2.717	6.139	6.122	0.065	0.657	0.657	568.299	0.245
Aerial Lifts	2005	51	120	17.765	1.34	8.079	3.898	0.059	0.651	0.651	568.299	0.12
Aerial Lifts	2005	251	500	41.275	0.556	6.521	2.307	0.049	0.217	0.217	568.299	0.05
Aerial Lifts	2005	501	750	76.693	0.572	6.666	2.307	0.051	0.219	0.219	568.299	0.051
Aerial Lifts	2010	6	15	0.646663	0.543	4.927	3.62771	0.005	0.322	0.296	583.4159	0.17
Aerial Lifts	2010	16	25	0.646663	0.543	4.927	3.62771	0.005	0.322	0.296	583.4159	0.17
Aerial Lifts	2010	26	50	0.646663	0.543	4.927	3.62771	0.005	0.322	0.296	583.4159	0.17
Aerial Lifts	2010	51	120	0.478206	0.402	5.13121	3.35167	0.005	0.329	0.303	524.5713	0.153
Aerial Lifts	2010	251	500	0.542967	0.456	7.02372	1.70527	0.005	0.22	0.202	524.505	0.153
Aerial Lifts	2010	501	750	54.853	0.409	5.216	1.535	0.005	0.16	0.16	568.299	0.036
Aerial Lifts	2011	6	15	0.492997	0.414	4.84101	3.43961	0.005	0.274	0.253	581.9574	0.17
Aerial Lifts	2011	16	25	0.492997	0.414	4.84101	3.43961	0.005	0.274	0.253	581.9574	0.17
Aerial Lifts	2011	26	50	0.492997	0.414	4.84101	3.43961	0.005	0.274	0.253	581.9574	0.17
Aerial Lifts	2011	51	120	0.406188	0.341	4.72007	3.31532	0.005	0.287	0.264	523.2599	0.153
Aerial Lifts	2011	251	500	0.547278	0.46	7.05257	1.71344	0.005	0.222	0.204	523.1938	0.153
Aerial Lifts	2011	501	750	50.06	0.373	4.839	1.402	0.005	0.144	0.144	568.299	0.033
Aerial Lifts	2012	6	15	0.448839	0.377	4.66755	3.41137	0.005	0.247	0.227	580.4989	0.17
Aerial Lifts	2012	16	25	0.448839	0.377	4.66755	3.41137	0.005	0.247	0.227	580.4989	0.17
Aerial Lifts	2012	26	50	0.448839	0.377	4.66755	3.41137	0.005	0.247	0.227	580.4989	0.17
Aerial Lifts	2012	51	120	0.348327	0.293	4.38748	3.28979	0.005	0.251	0.231	521.9485	0.153
Aerial Lifts	2012	251	500	0.551589	0.463	7.08141	1.72161	0.005	0.225	0.207	521.8825	0.153
Aerial Lifts	2012	501	750	46.364	0.346	4.488	1.307	0.005	0.131	0.131	568.299	0.031
Aerial Lifts	2013	6	15	0.365114	0.307	4.33199	3.29997	0.005	0.196	0.18	577.5818	0.17
Aerial Lifts	2013	16	25	0.365114	0.307	4.33199	3.29997	0.005	0.196	0.18	577.5818	0.17
Aerial Lifts	2013	26	50	0.365114	0.307	4.33199	3.29997	0.005	0.196	0.18	577.5818	0.17
Aerial Lifts	2013	51	120	0.288639	0.243	3.92887	3.25075	0.005	0.202	0.186	519.3256	0.153
Aerial Lifts	2013	251	500	0.277309	0.233	4.58384	0.97787	0.005	0.1	0.092	519.26	0.153
Aerial Lifts	2013	501	750	43.268	0.322	4.155	1.237	0.005	0.119	0.119	568.299	0.029
Aerial Lifts	2014	6	15	0.309966	0.26	4.09559	3.23337	0.005	0.158	0.145	574.6647	0.17
Aerial Lifts	2014	16	25	0.309966	0.26	4.09559	3.23337	0.005	0.158	0.145	574.6647	0.17
Aerial Lifts	2014	26	50	0.309966	0.26	4.09559	3.23337	0.005	0.158	0.145	574.6647	0.17
Aerial Lifts	2014	51	120	0.240786	0.202	3.37278	3.2195	0.005	0.161	0.148	516.7028	0.153
Aerial Lifts	2014	251	500	0.281092	0.236	4.60231	0.98271	0.005	0.101	0.093	516.6375	0.153
Aerial Lifts	2014	501	750	40.165	0.299	3.761	1.178	0.005	0.109	0.109	568.299	0.027
Aerial Lifts	2015	6	15	0.295589	0.248	3.93284	3.23342	0.005	0.136	0.125	568.8305	0.17
Aerial Lifts	2015	16	25	0.295589	0.248	3.93284	3.23342	0.005	0.136	0.125	568.8305	0.17
Aerial Lifts	2015	26	50	0.295589	0.248	3.93284	3.23342	0.005	0.136	0.125	568.8305	0.17
Aerial Lifts	2015	51	120	0.226785	0.191	3.1134	3.21782	0.005	0.143	0.132	511.457	0.153
Aerial Lifts	2015	251	500	0.284874	0.239	4.62077	0.98755	0.005	0.102	0.094	511.3924	0.153
Aerial Lifts	2015	501	750	37.246	0.278	3.38	1.13	0.005	0.098	0.098	568.299	0.025
Aerial Lifts	2016	6	15	0.271111	0.228	3.67571	3.19737	0.005	0.105	0.096	562.9964	0.17
Aerial Lifts	2016	16	25	0.271111	0.228	3.67571	3.19737	0.005	0.105	0.096	562.9964	0.17
Aerial Lifts	2016	26	50	0.271111	0.228	3.67571	3.19737	0.005	0.105	0.096	562.9964	0.17
Aerial Lifts	2016	51	120	0.196986	0.166	2.72218	3.20103	0.005	0.112	0.103	506.2113	0.153
Aerial Lifts	2016	251	500	0.288656	0.243	4.63924	0.99238	0.005	0.103	0.095	506.1474	0.153
Aerial Lifts	2016	501	750	34.529	0.257	3.015	1.089	0.005	0.088	0.088	568.299	0.023
Aerial Lifts	2017	6	15	0.248829	0.209	3.46956	3.16913	0.005	0.079	0.073	554.2451	0.17
Aerial Lifts	2017	16	25	0.248829	0.209	3.46956	3.16913	0.005	0.079	0.073	554.2451	0.17
Aerial Lifts	2017	26	50	0.248829	0.209	3.46956	3.16913	0.005	0.079	0.073	554.2451	0.17
Aerial Lifts	2017	51	120	0.169799	0.143	2.36368	3.18429	0.005	0.083	0.077	498.3428	0.153
Aerial Lifts	2017	251	500	0.292438	0.246	4.6577	0.99722	0.005	0.105	0.096	498.2798	0.153
Aerial Lifts	2017	501	750	32.148	0.239	2.68	1.059	0.005	0.079	0.079	568.299	0.021
Aerial Lifts	2018	6	15	0.216292	0.182	3.2101	3.11639	0.005	0.054	0.05	545.4939	0.17
Aerial Lifts	2018	16	25	0.216292	0.182	3.2101	3.11639	0.005	0.054	0.05	545.4939	0.17
Aerial Lifts	2018	26	50	0.216292	0.182	3.2101	3.11639	0.005	0.054	0.05	545.4939	0.17
Aerial Lifts	2018	51	120	0.145088	0.122	2.0636	3.16685	0.005	0.057	0.052	490.4742	0.153
Aerial Lifts	2018	251	500	0.074117	0.062	0.63368	0.93655	0.005	0.009	0.008	490.4122	0.153
Aerial Lifts	2018	501	750	30.169	0.225	2.385	1.037	0.005	0.071	0.071	568.299	0.02
Aerial Lifts	2019	6	15	0.204518	0.172	3.07945	3.11451	0.005	0.042	0.038	536.7427	0.17
Aerial Lifts	2019	16	25	0.204518	0.172	3.07945	3.11451	0.005	0.042	0.038	536.7427	0.17
Aerial Lifts	2019	26	50	0.204518	0.172	3.07945	3.11451	0.005	0.042	0.038	536.7427	0.17
Aerial Lifts	2019	51	120	0.14071	0.118	1.97658	3.17254	0.005	0.049	0.045	482.6056	0.153
Aerial Lifts	2019	251	500	0.077988	0.066	0.63586	0.94139	0.005	0.009	0.008	482.5446	0.153
Aerial Lifts	2019	501	750	28.429	0.212	2.117	1.023	0.005	0.064	0.064	568.299	0.019
Aerial Lifts	2020	6	15	0.199447	0.168	2.95486	3.09942	0.005	0.031	0.028	525.0743	0.17
Aerial Lifts	2020	16	25	0.199447	0.168	2.95486	3.09942	0.005	0.031	0.028	525.0743	0.17
Aerial Lifts	2020	26	50	0.199447	0.168	2.95486	3.09942	0.005	0.031	0.028	525.0743	0.17
Aerial Lifts	2020	51	120	0.136778	0.115	1.86859	3.1768	0.005	0.042	0.038	472.1142	0.153
Aerial Lifts	2020	251	500	0.081859	0.069	0.63803	0.94623	0.005	0.009	0.008	472.0545	0.153
Aerial Lifts	2020	501	750	26.846	0.2	1.868	1.013	0.005	0.057	0.057	568.299	0.018
Aerial Lifts	2021	6	15	0.196174	0.165	2.92238	3.11369	0.005	0.027	0.024	525.0743	0.17
Aerial Lifts	2021	16	25	0.196174	0.165	2.92238	3.11369	0.005	0.027	0.024	525.0743	0.17

Year	Year	Horsepower	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	TOG
2018	Aerial Lifts	63	0.12	2.06	3.17	0.01	0.00	0.06	0.06	0.00	0.05	0.05	490.47	0.15	0.02	0.15
2018	Air Compressors	78	0.60	4.05	3.74	0.01	0.00	0.30	0.30	0.00	0.30	0.30	568.30	0.05	0.03	10.22
2018	Bore/Drill Rigs	221	0.16	2.15	1.07	0.01	0.00	0.06	0.06	0.00						

Aerial Lifts	2021	26	50	0.196174	0.165	2.92238	3.11369	0.005	0.027	0.024	525.0743	0.17	Other General Industrial Equipment	2020	88	0.45	4.06	3.77	0.01	0.00	0.30	0.30	0.00	0.27	0.27	470.00	0.15	0.02	0.53
Aerial Lifts	2021	51	120	0.129509	0.109	1.74368	3.17624	0.005	0.033	0.031	472.1142	0.153	Other Material Handling Equipment	2020	168	0.25	2.37	3.17	0.01	0.00	0.12	0.12	0.00	0.11	0.11	472.22	0.15	0.02	0.30
Aerial Lifts	2021	251	500	0.08573	0.072	0.64021	0.95107	0.005	0.009	0.008	472.0545	0.153	Pavers	2020	130	0.27	2.92	3.01	0.01	0.00	0.14	0.14	0.00	0.13	0.13	472.77	0.15	0.02	0.32
Aerial Lifts	2021	501	750	25.065	0.187	1.61	1.004	0.005	0.05	0.05	568.299	0.016	Paving Equipment	2020	132	0.25	2.55	3.02	0.01	0.00	0.13	0.13	0.00	0.12	0.12	470.74	0.15	0.02	0.29
Aerial Lifts	2022	6	15	0.192664	0.162	2.90676	3.11231	0.005	0.024	0.022	525.0743	0.17	Plate Compactors	2020	8	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.03	0.79
Aerial Lifts	2022	16	25	0.192664	0.162	2.90676	3.11231	0.005	0.024	0.022	525.0743	0.17	Pressure Washers	2020	13	0.65	4.52	3.55	0.01	0.00	0.21	0.21	0.00	0.21	0.21	568.30	0.06	0.03	1.78
Aerial Lifts	2022	26	50	0.192664	0.162	2.90676	3.11231	0.005	0.024	0.022	525.0743	0.17	Pumps	2020	84	0.39	3.22	3.43	0.01	0.00	0.19	0.19	0.00	0.19	0.19	568.30	0.03	0.03	8.83
Aerial Lifts	2022	51	120	0.124613	0.105	1.62659	3.17602	0.005	0.03	0.028	472.1142	0.153	Rollers	2020	80	0.39	3.88	3.53	0.01	0.00	0.25	0.25	0.00	0.23	0.23	473.86	0.15	0.02	0.46
Aerial Lifts	2022	251	500	0.089601	0.075	0.64238	0.95591	0.005	0.009	0.008	472.0545	0.153	Rough Terrain Forklifts	2020	100	0.19	2.45	3.26	0.01	0.00	0.10	0.10	0.00	0.09	0.09	472.98	0.15	0.02	0.23
Aerial Lifts	2022	501	750	23.788	0.177	1.424	0.998	0.005	0.044	0.044	568.299	0.016	Rubber Tired Dozers	2020	247	0.62	6.50	2.37	0.01	0.00	0.32	0.32	0.00	0.29	0.29	474.79	0.15	0.02	0.74
Aerial Lifts	2023	6	15	0.19346	0.163	2.89722	3.12196	0.005	0.023	0.021	525.0743	0.17	Rubber Tired Loaders	2020	203	0.29	3.42	1.27	0.01	0.00	0.11	0.11	0.00	0.10	0.10	469.51	0.15	0.02	0.35
Aerial Lifts	2023	16	25	0.19346	0.163	2.89722	3.12196	0.005	0.023	0.021	525.0743	0.17	Scrapers	2020	367	0.32	3.78	2.40	0.01	0.00	0.15	0.15	0.00	0.14	0.14	472.18	0.15	0.02	0.38
Aerial Lifts	2023	26	50	0.19346	0.163	2.89722	3.12196	0.005	0.023	0.021	525.0743	0.17	Signal Boards	2020	6	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.03	1.04
Aerial Lifts	2023	51	120	0.119594	0.1	1.5481	3.17029	0.005	0.027	0.025	472.1142	0.153	Skid Steer Loaders	2020	65	0.19	2.50	3.28	0.01	0.00	0.11	0.11	0.00	0.10	0.10	471.91	0.15	0.02	0.22
Aerial Lifts	2023	251	500	0.093472	0.079	0.64456	0.96074	0.005	0.009	0.008	472.0545	0.153	Surfacing Equipment	2020	263	0.15	1.84	1.22	0.01	0.00	0.07	0.07	0.00	0.06	0.06	471.63	0.15	0.02	0.17
Aerial Lifts	2023	501	750	22.675	0.169	1.265	0.995	0.005	0.038	0.038	568.299	0.015	Sweepers/Scrubbers	2020	64	0.52	4.48	3.83	0.01	0.00	0.36	0.36	0.00	0.33	0.33	474.12	0.15	0.02	0.62
Aerial Lifts	2024	6	15	0.188737	0.159	2.88821	3.11285	0.005	0.022	0.02	525.0743	0.17	Tractors/Loaders/Backhoes	2020	97	0.33	3.33	3.60	0.01	0.00	0.21	0.21	0.00	0.19	0.19	475.15	0.15	0.02	0.39
Aerial Lifts	2024	16	25	0.188737	0.159	2.88821	3.11285	0.005	0.022	0.02	525.0743	0.17	Trenchers	2020	78	0.61	5.52	3.83	0.01	0.00	0.41	0.41	0.00	0.38	0.38	475.13	0.15	0.02	0.73
Aerial Lifts	2024	26	50	0.188737	0.159	2.88821	3.11285	0.005	0.022	0.02	525.0743	0.17	Welders	2020	46	0.94	4.30	4.84	0.01	0.00	0.24	0.24	0.00	0.24	0.24	568.30	0.08	0.03	9.83
Aerial Lifts	2024	51	120	0.119572	0.1	1.52789	3.17255	0.005	0.026	0.024	472.1142	0.153	Aerial Lifts	2021	63	0.11	1.74	3.18	0.01	0.00	0.03	0.03	0.00	0.03	0.03	472.11	0.15	0.02	0.13
Aerial Lifts	2024	251	500	0.097343	0.082	0.64674	0.96558	0.005	0.009	0.009	472.0545	0.153	Air Compressors	2021	78	0.44	3.08	3.67	0.01	0.00	0.19	0.19	0.00	0.19	0.19	568.30	0.04	0.03	7.50
Aerial Lifts	2024	501	750	21.618	0.161	1.115	0.991	0.005	0.033	0.033	568.299	0.014	Bore/Drill Rigs	2021	221	0.13	1.55	1.06	0.01	0.00	0.05	0.05	0.00	0.04	0.04	467.99	0.15	0.02	0.16
Aerial Lifts	2025	6	15	0.182854	0.154	2.87882	3.08837	0.005	0.021	0.019	525.0743	0.17	Cement and Mortar Mixers	2021	9	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.03	1.08
Aerial Lifts	2025	16	25	0.182854	0.154	2.87882	3.08837	0.005	0.021	0.019	525.0743	0.17	Concrete/Industrial Saws	2021	81	0.37	2.91	3.52	0.01	0.00	0.17	0.17	0.00	0.17	0.17	568.30	0.03	0.03	3.72
Aerial Lifts	2025	26	50	0.182854	0.154	2.87882	3.08837	0.005	0.021	0.019	525.0743	0.17	Cranes	2021	231	0.35	4.10	1.68	0.01	0.00	0.17	0.17	0.00	0.15	0.15	472.91	0.15	0.02	0.42
Aerial Lifts	2025	51	120	0.117586	0.099	1.51077	3.16742	0.005	0.026	0.024	472.1142	0.153	Crawler Tractors	2021	212	0.34	4.33	1.51	0.01	0.00	0.16	0.16	0.00	0.15	0.15	472.92	0.15	0.02	0.41
Aerial Lifts	2025	251	500	0.101214	0.085	0.64891	0.97042	0.005	0.009	0.009	472.0545	0.153	Crushing/Proc. Equipment	2021	85	0.44	2.99	3.71	0.01	0.00	0.18	0.18	0.00	0.18	0.18	568.30	0.04	0.03	2.18
Aerial Lifts	2025	501	750	20.597	0.153	0.974	0.989	0.005	0.028	0.028	568.299	0.013	Dumpers/Tenders	2021	16	0.69	4.33	2.34	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.03	0.82
Aerial Lifts	2030	6	15	1.993	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059	Excavators	2021	158	0.22	2.03	3.09	0.01	0.00	0.10	0.10	0.00	0.09	0.09	472.36	0.15	0.02	0.26
Aerial Lifts	2030	16	25	2.616	0.685	4.332	3.339	0.007	0.162	0.162	568.299	0.061	Forklifts	2021	89	0.41	3.76	3.72	0.01	0.00	0.27	0.27	0.00	0.25	0.25	471.53	0.15	0.02	0.49
Aerial Lifts	2030	26	50	2.317	0.339	3.135	3.764	0.007	0.04	0.04	568.3	0.03	Generator Sets	2021	84	0.33	2.89	3.36	0.01	0.00	0.15	0.15	0.00	0.15	0.15	568.30	0.03	0.03	6.62
Aerial Lifts	2030	51	120	2.504	0.188	1.657	3.352	0.006	0.036	0.036	568.299	0.017	Graders	2021	187	0.34	4.38	1.31	0.01	0.00	0.14	0.14	0.00	0.13	0.13	474.54	0.15	0.02	0.40
Aerial Lifts	2030	251	500	9.37	0.126	0.479	0.986	0.005	0.016	0.016	568.299	0.011	Off-Highway Tractors	2021	124	0.26	2.66	3.22	0.01	0.00	0.13	0.13	0.00	0.12	0.12	472.92	0.15	0.02	0.31
Aerial Lifts	2030	501	750	16.962	0.126	0.485	0.986	0.005	0.016	0.016	568.299	0.011	Off-Highway Trucks	2021	402	0.23	1.95	1.34	0.01	0.00	0.07	0.07	0.00	0.07	0.07	474.54	0.15	0.02	0.27
Aerial Lifts	2035	6	15	1.993	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059	Other Construction Equipment	2021	172	0.33	3.44	3.18	0.01	0.00	0.18	0.18	0.00	0.17	0.17	469.76	0.15	0.02	0.39
Aerial Lifts	2035	16	25	2.616	0.685	4.332	3.339	0.007	0.161	0.161	568.299	0.061	Other General Industrial Equipment	2021	88	0.40	3.72	3.74	0.01	0.00	0.26	0.26	0.00	0.24	0.24	470.00	0.15	0.02	0.48
Aerial Lifts	2035	26	50	2.033	0.297	3.017	3.726	0.007	0.019	0.019	568.299	0.026	Other Material Handling Equipment	2021	168	0.25	2.25	3.20	0.01	0.00	0.11	0.11	0.00	0.11	0.11	472.22	0.15	0.02	0.30
Aerial Lifts	2035	51	120	2.202	0.166	1.466	3.345	0.006	0.017	0.017	568.299	0.014	Pavers	2021	130	0.26	2.69	3.02	0.01	0.00	0.13	0.13	0.00	0.12	0.12	472.56	0.15	0.02	0.30
Aerial Lifts	2035	251	500	8.659	0.116	0.33	0.986	0.005	0.011	0.011	568.299	0.01	Paving Equipment	2021	132	0.23	2.32	3.03	0.01	0.00	0.11	0.11	0.00	0.11	0.11	470.65	0.15	0.02	0.27
Aerial Lifts	2035	501	750	15.653	0.116	0.33	0.986	0.005	0.011	0.011	568.299	0.01	Plate Compactors	2021	8	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.03	0.79
Aerial Lifts	2040	6	15	1.993	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059	Pressure Washers	2021	13	0.63	4.44	3.53	0.01	0.00	0.20	0.20	0.00	0.20	0.20	568.30	0.06	0.03	1.75
Aerial Lifts	2040	16	25	2.616	0.685	4.332	3.339	0.007	0.161	0.161	568.299	0.061	Pumps	2021	84	0.35	2.93	3.41	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.03	0.03	7.94
Aerial Lifts	2040	26	50	2.015	0.295	2.966	3.723	0.007	0.013	0.013	568.299	0.026	Rollers	2021	80	0.35	3.59	3.51	0.01	0.00	0.22	0.22	0.00	0.2					



Air Compressors	2011	501	750	57.58	0.445	5.123	1.497	0.005	0.167	0.167	568.299	0.04
Air Compressors	2011	751	1000	98.738	0.562	6.637	1.971	0.005	0.196	0.196	568.299	0.05
Air Compressors	2012	6	15	2.626	1.007	5.999	3.874	0.008	0.407	0.407	568.299	0.09
Air Compressors	2012	16	25	5.803	1.113	5.239	3.043	0.007	0.337	0.337	568.299	0.1
Air Compressors	2012	26	50	20.318	2.527	5.869	6.682	0.007	0.6	0.6	568.299	0.228
Air Compressors	2012	51	120	17.991	1.061	6.39	3.964	0.006	0.587	0.587	568.299	0.095
Air Compressors	2012	121	175	22.92	0.717	5.684	3.251	0.006	0.324	0.324	568.299	0.064
Air Compressors	2012	176	250	21.576	0.455	5.216	1.312	0.006	0.161	0.161	568.299	0.041
Air Compressors	2012	251	500	34.608	0.413	4.618	1.392	0.005	0.15	0.15	568.299	0.037
Air Compressors	2012	501	750	54.283	0.419	4.758	1.392	0.005	0.153	0.153	568.299	0.037
Air Compressors	2012	751	1000	91.671	0.522	6.263	1.8	0.005	0.183	0.183	568.299	0.047
Air Compressors	2013	6	15	2.471	0.948	5.716	3.796	0.008	0.373	0.373	568.299	0.085
Air Compressors	2013	16	25	5.393	1.034	5.117	2.907	0.007	0.314	0.314	568.299	0.093
Air Compressors	2013	26	50	18.508	2.302	5.643	6.43	0.007	0.553	0.553	568.299	0.207
Air Compressors	2013	51	120	16.632	0.981	5.978	3.921	0.006	0.543	0.543	568.299	0.088
Air Compressors	2013	121	175	21.377	0.669	5.321	3.238	0.006	0.298	0.298	568.299	0.06
Air Compressors	2013	176	250	20.386	0.43	4.839	1.271	0.006	0.147	0.147	568.299	0.038
Air Compressors	2013	251	500	32.936	0.393	4.268	1.313	0.005	0.137	0.137	568.3	0.035
Air Compressors	2013	501	750	51.584	0.399	4.406	1.313	0.005	0.14	0.14	568.299	0.036
Air Compressors	2013	751	1000	84.725	0.482	5.883	1.639	0.005	0.17	0.17	568.299	0.043
Air Compressors	2014	6	15	2.324	0.891	5.445	3.723	0.008	0.341	0.341	568.3	0.08
Air Compressors	2014	16	25	5.008	0.96	5	2.78	0.007	0.291	0.291	568.299	0.086
Air Compressors	2014	26	50	16.691	2.076	5.421	6.181	0.007	0.505	0.505	568.299	0.187
Air Compressors	2014	51	120	15.28	0.901	5.608	3.88	0.006	0.495	0.495	568.299	0.081
Air Compressors	2014	121	175	19.856	0.621	4.973	3.227	0.006	0.272	0.272	568.299	0.056
Air Compressors	2014	176	250	19.194	0.405	4.399	1.237	0.006	0.134	0.134	568.299	0.036
Air Compressors	2014	251	500	31.25	0.373	3.855	1.249	0.005	0.125	0.125	568.299	0.033
Air Compressors	2014	501	750	48.868	0.378	3.991	1.249	0.005	0.128	0.128	568.299	0.034
Air Compressors	2014	751	1000	78.19	0.445	5.512	1.493	0.005	0.157	0.157	568.3	0.04
Air Compressors	2015	6	15	2.191	0.84	5.196	3.658	0.008	0.311	0.311	568.299	0.075
Air Compressors	2015	16	25	4.662	0.894	4.89	2.666	0.007	0.27	0.27	568.299	0.08
Air Compressors	2015	26	50	15.015	1.868	5.223	5.968	0.007	0.459	0.459	568.299	0.168
Air Compressors	2015	51	120	13.925	0.821	5.19	3.84	0.006	0.446	0.446	568.299	0.074
Air Compressors	2015	121	175	18.243	0.571	4.504	3.218	0.006	0.245	0.245	568.299	0.051
Air Compressors	2015	176	250	18.067	0.381	3.967	1.207	0.006	0.121	0.121	568.299	0.034
Air Compressors	2015	251	500	29.662	0.354	3.455	1.198	0.005	0.113	0.113	568.3	0.032
Air Compressors	2015	501	750	46.316	0.358	3.586	1.198	0.005	0.116	0.116	568.299	0.032
Air Compressors	2015	751	1000	71.885	0.409	5.157	1.37	0.005	0.142	0.142	568.299	0.036
Air Compressors	2016	6	15	2.109	0.809	5.023	3.622	0.008	0.289	0.289	568.299	0.073
Air Compressors	2016	16	25	4.462	0.855	4.803	2.604	0.007	0.255	0.255	568.299	0.077
Air Compressors	2016	26	50	13.429	1.67	5.042	5.779	0.007	0.415	0.415	568.299	0.15
Air Compressors	2016	51	120	12.618	0.744	4.79	3.804	0.006	0.397	0.397	568.299	0.067
Air Compressors	2016	121	175	16.69	0.522	4.052	3.211	0.006	0.219	0.219	568.299	0.047
Air Compressors	2016	176	250	17.023	0.359	3.553	1.182	0.006	0.109	0.109	568.299	0.032
Air Compressors	2016	251	500	28.188	0.337	3.08	1.155	0.005	0.102	0.102	568.299	0.03
Air Compressors	2016	501	750	43.972	0.34	3.201	1.155	0.005	0.104	0.104	568.299	0.03
Air Compressors	2016	751	1000	67.278	0.383	4.854	1.295	0.005	0.131	0.131	568.299	0.034
Air Compressors	2017	6	15	2.05	0.786	4.887	3.599	0.008	0.272	0.272	568.299	0.07
Air Compressors	2017	16	25	4.327	0.83	4.729	2.564	0.007	0.243	0.243	568.299	0.074
Air Compressors	2017	26	50	11.908	1.481	4.871	5.604	0.007	0.371	0.371	568.299	0.133
Air Compressors	2017	51	120	11.385	0.671	4.412	3.772	0.006	0.35	0.35	568.299	0.06
Air Compressors	2017	121	175	15.244	0.477	3.627	3.207	0.006	0.194	0.194	568.299	0.043
Air Compressors	2017	176	250	16.09	0.339	3.163	1.162	0.006	0.098	0.098	568.299	0.03
Air Compressors	2017	251	500	26.901	0.321	2.755	1.123	0.005	0.092	0.092	568.299	0.029
Air Compressors	2017	501	750	41.87	0.323	2.845	1.123	0.005	0.094	0.094	568.299	0.029
Air Compressors	2017	751	1000	63.572	0.362	4.583	1.246	0.005	0.121	0.121	568.299	0.032
Air Compressors	2018	6	15	1.998	0.766	4.762	3.58	0.008	0.256	0.256	568.299	0.069
Air Compressors	2018	16	25	4.211	0.807	4.661	2.531	0.007	0.232	0.232	568.3	0.072
Air Compressors	2018	26	50	10.449	1.3	4.707	5.439	0.007	0.329	0.329	568.299	0.117
Air Compressors	2018	51	120	10.218	0.603	4.05	3.744	0.006	0.304	0.304	568.3	0.054
Air Compressors	2018	121	175	13.906	0.435	3.228	3.205	0.006	0.17	0.17	568.299	0.039
Air Compressors	2018	176	250	15.223	0.321	2.797	1.146	0.006	0.087	0.087	568.3	0.029
Air Compressors	2018	251	500	25.723	0.307	2.465	1.101	0.005	0.083	0.083	568.299	0.027
Air Compressors	2018	501	750	39.953	0.309	2.533	1.101	0.005	0.084	0.084	568.299	0.027
Air Compressors	2018	751	1000	60.205	0.343	4.325	1.21	0.005	0.111	0.111	568.299	0.03
Air Compressors	2019	6	15	1.951	0.748	4.647	3.562	0.008	0.241	0.241	568.299	0.067
Air Compressors	2019	16	25	4.106	0.787	4.596	2.501	0.007	0.222	0.222	568.299	0.071
Air Compressors	2019	26	50	9.076	1.129	4.546	5.283	0.007	0.287	0.287	568.299	0.101
Air Compressors	2019	51	120	9.123	0.538	3.706	3.718	0.006	0.26	0.26	568.299	0.048
Air Compressors	2019	121	175	12.833	0.401	2.874	3.204	0.006	0.15	0.15	568.299	0.036
Air Compressors	2019	176	250	14.416	0.304	2.469	1.132	0.006	0.078	0.078	568.299	0.027
Air Compressors	2019	251	500	24.559	0.293	2.193	1.086	0.005	0.075	0.075	568.299	0.026
Air Compressors	2019	501	750	38.104	0.294	2.247	1.086	0.005	0.076	0.076	568.299	0.026
Air Compressors	2019	751	1000	56.984	0.324	4.073	1.182	0.005	0.102	0.102	568.299	0.029
Air Compressors	2020	6	15	1.907	0.731	4.542	3.546	0.008	0.227	0.227	568.299	0.066
Air Compressors	2020	16	25	4.009	0.769	4.538	2.473	0.007	0.212	0.212	568.3	0.069
Air Compressors	2020	26	50	8.048	1.001	4.397	5.164	0.007	0.25	0.25	568.299	0.09
Air Compressors	2020	51	120	8.287	0.489	3.4	3.698	0.006	0.224	0.224	568.299	0.044
Air Compressors	2020	121	175	11.957	0.374	2.558	3.203	0.006	0.133	0.133	568.299	0.033
Air Compressors	2020	176	250	13.668	0.288	2.172	1.121	0.006	0.069	0.069	568.299	0.026
Air Compressors	2020	251	500	23.406	0.279	1.935	1.076	0.005	0.067	0.067	568.299	0.025
Air Compressors	2020	501	750	36.303	0.28	1.982	1.076	0.005	0.067	0.067	568.299	0.025
Air Compressors	2020	751	1000	53.87	0.306	3.828	1.158	0.005	0.093	0.093	568.3	0.027
Air Compressors	2021	6	15	1.87	0.717	4.462	3.531	0.008	0.214	0.214	568.299	0.064
Air Compressors	2021	16	25	3.923	0.752	4.497	2.446	0.007	0.201	0.201	568.299	0.067
Air Compressors	2021	26	50	7.136	0.887	4.221	5.021	0.007	0.212	0.212	568.299	0.08
Air Compressors	2021	51	120	7.502	0.442	3.083	3.67	0.006	0.19	0.19	568.299	0.039
Air Compressors	2021	121	175	10.967	0.343	2.218	3.192	0.006	0.115	0.115	568.299	0.03
Air Compressors	2021	176	250	12.728	0.268	1.859	1.108	0.006	0.06	0.06	568.299	0.024

Aerial Lifts	2023	63	0.10	1.55	3.17	0.01	0.00	0.03	0.03	0.00	0.03	0.03	472.11	0.15	0.02	0.12
Air Compressors	2023	78	0.39	2.63	3.66	0.01	0.00	0.14	0.14	0.00	0.14	0.14	568.30	0.03	0.03	6.57
Bore/Drill Rigs	2023	221	0.11	1.05	1.04	0.01	0.00	0.03	0.03	0.00	0.03	0.03	469.71	0.15	0.02	0.13
Cement and Mortar Mixers	2023	9	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.03	1.08
Concrete/Industrial Saws	2023	81														

Air Compressors	2021	251	500	21.887	0.261	1.663	1.064	0.005	0.058	0.058	568.299	0.023	Paving Equipment	2025	132	0.18	1.51	3.04	0.01	0.00	0.08	0.08	0.00	0.07	0.07	470.48	0.15	0.02	0.21	
Air Compressors	2021	501	750	33.933	0.262	1.699	1.064	0.005	0.058	0.058	568.299	0.023	Plate Compactors	2025	8	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	0.16	568.30	0.06	0.03	0.79
Air Compressors	2021	751	1000	49.951	0.284	3.565	1.134	0.005	0.082	0.082	568.3	0.025	Pressure Washers	2025	13	0.61	4.27	3.49	0.01	0.00	0.18	0.18	0.00	0.18	0.18	0.18	568.30	0.05	0.03	1.67
Air Compressors	2022	6	15	1.844	0.707	4.408	3.519	0.008	0.203	0.203	568.299	0.063	Pumps	2025	84	0.26	2.21	3.39	0.01	0.00	0.09	0.09	0.00	0.09	0.09	0.09	568.30	0.02	0.03	5.99
Air Compressors	2022	16	25	3.857	0.739	4.47	2.426	0.007	0.193	0.193	568.299	0.066	Rollers	2025	80	0.26	2.69	3.44	0.01	0.00	0.14	0.14	0.00	0.13	0.13	0.13	473.85	0.15	0.02	0.30
Air Compressors	2022	26	50	6.549	0.814	4.093	4.959	0.007	0.183	0.183	568.299	0.073	Rough Terrain Forklifts	2025	100	0.14	1.82	3.24	0.01	0.00	0.05	0.05	0.00	0.05	0.05	0.05	473.04	0.15	0.02	0.16
Air Compressors	2022	51	120	7.001	0.413	2.844	3.662	0.006	0.165	0.165	568.299	0.037	Rubber Tired Dozers	2025	247	0.37	3.81	1.72	0.01	0.00	0.17	0.17	0.00	0.15	0.15	0.15	474.57	0.15	0.02	0.44
Air Compressors	2022	121	175	10.29	0.322	1.959	3.194	0.006	0.101	0.101	568.299	0.029	Rubber Tired Loaders	2025	203	0.18	1.44	1.14	0.01	0.00	0.05	0.05	0.00	0.05	0.05	0.05	469.87	0.15	0.02	0.21
Air Compressors	2022	176	250	12.099	0.255	1.617	1.102	0.006	0.052	0.052	568.3	0.023	Scrapers	2025	367	0.22	2.05	1.73	0.01	0.00	0.08	0.08	0.00	0.07	0.07	0.07	472.54	0.15	0.02	0.26
Air Compressors	2022	251	500	20.881	0.249	1.472	1.059	0.005	0.051	0.051	568.299	0.022	Signal Boards	2025	6	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	0.16	568.30	0.06	0.03	1.04
Air Compressors	2022	501	750	32.363	0.25	1.502	1.059	0.005	0.051	0.051	568.299	0.022	Skid Steer Loaders	2025	65	0.14	1.87	3.25	0.01	0.00	0.06	0.06	0.00	0.05	0.05	0.05	472.63	0.15	0.02	0.17
Air Compressors	2022	751	1000	47.338	0.269	3.378	1.117	0.005	0.075	0.075	568.3	0.024	Surfacing Equipment	2025	263	0.13	1.33	1.17	0.01	0.00	0.05	0.05	0.00	0.05	0.05	0.05	470.28	0.15	0.02	0.15
Air Compressors	2023	6	15	1.82	0.698	4.359	3.508	0.008	0.194	0.194	568.299	0.063	Sweepers/Scrubbers	2025	64	0.30	2.82	3.66	0.01	0.00	0.16	0.16	0.00	0.15	0.15	0.15	474.12	0.15	0.02	0.36
Air Compressors	2023	16	25	3.798	0.728	4.447	2.407	0.007	0.186	0.186	568.299	0.065	Tractors/Loaders/Backhoes	2025	97	0.21	2.11	3.52	0.01	0.00	0.09	0.09	0.00	0.08	0.08	0.08	477.19	0.15	0.02	0.25
Air Compressors	2023	26	50	6.056	0.753	3.975	4.913	0.007	0.156	0.156	568.299	0.067	Trenchers	2025	78	0.46	4.28	3.73	0.01	0.00	0.29	0.29	0.00	0.26	0.26	0.26	475.90	0.15	0.02	0.54
Air Compressors	2023	51	120	6.568	0.387	2.631	3.657	0.006	0.143	0.143	568.299	0.034	Welders	2025	46	0.60	3.68	4.52	0.01	0.00	0.11	0.11	0.00	0.11	0.11	0.11	568.30	0.05	0.03	6.32
Air Compressors	2023	121	175	9.693	0.303	1.748	3.197	0.006	0.089	0.089	568.299	0.027	Aerial Lifts	2030	63	0.19	1.66	3.35	0.01	0.00	0.04	0.04	0.00	0.04	0.04	0.04	568.30	0.02	0.03	2.50
Air Compressors	2023	176	250	11.532	0.243	1.42	1.099	0.006	0.045	0.045	568.299	0.021	Air Compressors	2030	78	0.26	1.73	3.63	0.01	0.00	0.04	0.04	0.00	0.04	0.04	0.04	568.30	0.02	0.03	4.49
Air Compressors	2023	251	500	19.964	0.238	1.305	1.055	0.005	0.044	0.044	568.299	0.021	Bore/Drill Rigs	2030	221	0.13	0.27	1.04	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	568.30	0.01	0.03	6.36
Air Compressors	2023	501	750	30.933	0.239	1.331	1.055	0.005	0.044	0.044	568.299	0.021	Cement and Mortar Mixers	2030	9	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	0.16	568.30	0.06	0.03	1.08
Air Compressors	2023	751	1000	44.985	0.256	3.221	1.102	0.005	0.068	0.068	568.299	0.023	Concrete/Industrial Saws	2030	81	0.22	1.67	3.48	0.01	0.00	0.04	0.04	0.00	0.04	0.04	0.04	568.30	0.02	0.03	2.23
Air Compressors	2024	6	15	1.799	0.69	4.316	3.499	0.008	0.188	0.188	568.3	0.062	Cranes	2030	231	0.22	0.75	1.15	0.01	0.00	0.02	0.02	0.00	0.02	0.02	0.02	568.30	0.02	0.03	2.84
Air Compressors	2024	16	25	3.746	0.718	4.426	2.39	0.007	0.181	0.181	568.3	0.064	Crawler Tractors	2030	212	0.26	1.10	1.21	0.01	0.00	0.04	0.04	0.00	0.04	0.04	0.04	568.30	0.02	0.03	4.02
Air Compressors	2024	26	50	5.647	0.702	3.864	4.88	0.007	0.135	0.135	568.299	0.063	Crushing/Proc. Equipment	2030	85	0.27	1.71	3.67	0.01	0.00	0.04	0.04	0.00	0.04	0.04	0.04	568.30	0.02	0.03	1.35
Air Compressors	2024	51	120	6.194	0.365	2.461	3.655	0.006	0.123	0.123	568.299	0.032	Dumpers/Tenders	2030	16	0.69	4.33	2.34	0.01	0.00	0.16	0.16	0.00	0.16	0.16	0.16	568.30	0.06	0.03	0.82
Air Compressors	2024	121	175	9.143	0.286	1.561	3.202	0.006	0.077	0.077	568.299	0.025	Excavators	2030	158	0.21	0.53	3.36	0.01	0.00	0.02	0.02	0.00	0.02	0.02	0.02	568.30	0.02	0.03	3.91
Air Compressors	2024	176	250	10.986	0.232	1.247	1.096	0.006	0.039	0.039	568.299	0.02	Forklifts	2030	89	0.28	1.56	3.80	0.01	0.00	0.02	0.02	0.00	0.02	0.02	0.02	568.30	0.03	0.03	1.48
Air Compressors	2024	251	500	19.07	0.228	1.148	1.053	0.005	0.038	0.038	568.299	0.02	Generator Sets	2030	84	0.18	1.65	3.32	0.01	0.00	0.03	0.03	0.00	0.03	0.03	0.03	568.30	0.02	0.03	3.62
Air Compressors	2024	501	750	29.542	0.228	1.171	1.053	0.005	0.038	0.038	568.299	0.02	Graders	2030	187	0.22	0.68	1.15	0.01	0.00	0.02	0.02	0.00	0.02	0.02	0.02	568.30	0.02	0.03	3.11
Air Compressors	2024	751	1000	42.762	0.243	3.082	1.09	0.005	0.061	0.061	568.299	0.021	Off-Highway Tractors	2030	124	0.37	1.92	3.44	0.01	0.00	0.10	0.10	0.00	0.10	0.10	0.10	568.30	0.03	0.03	1.69
Air Compressors	2025	6	15	1.781	0.683	4.278	3.491	0.008	0.183	0.183	568.3	0.061	Off-Highway Trucks	2030	402	0.22	0.46	1.10	0.01	0.00	0.02	0.02	0.00	0.02	0.02	0.02	568.30	0.02	0.03	1.52
Air Compressors	2025	16	25	3.701	0.709	4.407	2.376	0.007	0.177	0.177	568.299	0.064	Other Construction Equipment	2030	172	0.16	0.46	3.13	0.01	0.00	0.02	0.02	0.00	0.02	0.02	0.02	568.30	0.01	0.03	5.06
Air Compressors	2025	26	50	5.297	0.659	3.755	4.851	0.007	0.116	0.116	568.299	0.059	Other General Industrial Equipment	2030	88	0.31	1.77	3.80	0.01	0.00	0.04	0.04	0.00	0.04	0.04	0.04	568.30	0.03	0.03	7.09
Air Compressors	2025	51	120	5.855	0.345	2.313	3.653	0.006	0.104	0.104	568.299	0.031	Other Material Handling Equipment	2030	168	0.22	0.64	3.34	0.01	0.00	0.03	0.03	0.00	0.03	0.03	0.03	568.30	0.02	0.03	2.29
Air Compressors	2025	121	175	8.602	0.269	1.383	3.205	0.006	0.065	0.065	568.299	0.024	Pavers	2030	130	0.30	1.43	3.33	0.01	0.00	0.07	0.07	0.00	0.07	0.07	0.07	568.30	0.03	0.03	5.58
Air Compressors	2025	176	250	10.451	0.22	1.086	1.094	0.006	0.033	0.033	568.299	0.019	Paving Equipment	2030	132	0.29	1.36	3.31	0.01	0.00	0.07	0.07	0.00	0.07	0.07	0.07	568.30	0.03	0.03	5.53
Air Compressors	2025	251	500	18.188	0.217	1.001	1.051	0.005	0.032	0.032	568.299	0.019	Plate Compactors	2030	8	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	0.16	568.30	0.06	0.03	0.79
Air Compressors	2025	501	750	28.169	0.217	1.021	1.051	0.005	0.032	0.032	568.299	0.019	Pressure Washers	2030	13	0.59	4.16	3.47	0.01	0.00	0.17	0.17	0.00	0.17	0.17	0.17	568.30	0.05	0.03	1.63
Air Compressors	2025	751	1000	40.592	0.231	2.954	1.079	0.005	0.055	0.055	568.299	0.02	Pumps	2030	84	0.19	1.66	3.37	0.01	0.00	0.04	0.04	0.00	0.04	0.04	0.04	568.30	0.02	0.03	4.42
Air Compressors	2030	6	15	1.73	0.663	4.164	3.47	0.008	0.166	0.166	568.299	0.059	Rollers	2030	80	0.30	1.95	3.64	0.01	0.00	0.07	0.07	0.00	0.07	0.07	0.07	568.30	0.03	0.03	6.53
Air Compressors	2030	16	25	3.582	0.687	4.347	2.34	0.007	0.165	0.165	568.299	0.061	Rough Terrain Forklifts	2030	100	0.28	1.67	3.73	0.01	0.00	0.03	0.03	0.00	0.03	0.03	0.03	568.30	0.03	0.03	1.32
Air Compressors	2030	26	50	4.073	0.506	3.34	4.712	0.007	0.046	0.046	568.299	0.045	Rubber Tired Dozers	2030	247	0.34	1.83	1.32	0.01	0.00	0.07	0.07	0.00	0.07	0.07	0.07	568.30	0.03	0.03	1.56</

Bore/Drill Rigs	2005	176	250	19.806	0.395	5.8	1.094	0.057	0.145	0.145	568.299	0.035
Bore/Drill Rigs	2005	251	500	27.527	0.332	5.051	1.068	0.05	0.133	0.133	568.299	0.029
Bore/Drill Rigs	2005	501	750	58.103	0.354	5.347	1.068	0.052	0.138	0.138	568.299	0.032
Bore/Drill Rigs	2005	751	1000	132.307	0.535	6.8	1.427	0.052	0.183	0.183	568.299	0.048
Bore/Drill Rigs	2010	6	15	1.052412	0.884	5.42137	4.58435	0.006	0.406	0.374	604.3903	0.176
Bore/Drill Rigs	2010	16	25	1.052412	0.884	5.42137	4.58435	0.006	0.406	0.374	604.3903	0.176
Bore/Drill Rigs	2010	26	50	1.052412	0.884	5.42137	4.58435	0.006	0.406	0.374	604.3903	0.176
Bore/Drill Rigs	2010	51	120	0.45108	0.379	4.84273	3.31487	0.005	0.313	0.288	505.1218	0.147
Bore/Drill Rigs	2010	121	175	0.420915	0.354	4.77962	3.03422	0.005	0.231	0.213	533.3654	0.155
Bore/Drill Rigs	2010	176	250	0.301395	0.253	4.60173	1.2308	0.005	0.139	0.128	525.165	0.153
Bore/Drill Rigs	2010	251	500	0.270831	0.228	3.90774	1.39755	0.005	0.131	0.12	517.3193	0.151
Bore/Drill Rigs	2010	501	750	0.19905	0.167	3.03556	1.08296	0.005	0.108	0.099	533.5969	0.155
Bore/Drill Rigs	2010	751	1000	0.189693	0.159	4.32965	0.96001	0.005	0.099	0.091	524.3394	0.153
Bore/Drill Rigs	2011	6	15	1.019273	0.856	5.41672	4.60411	0.006	0.4	0.368	602.9382	0.176
Bore/Drill Rigs	2011	16	25	1.019273	0.856	5.41672	4.60411	0.006	0.4	0.368	602.9382	0.176
Bore/Drill Rigs	2011	26	50	1.019273	0.856	5.41672	4.60411	0.006	0.4	0.368	602.9382	0.176
Bore/Drill Rigs	2011	51	120	0.435142	0.366	4.72727	3.32121	0.005	0.303	0.279	504.2171	0.147
Bore/Drill Rigs	2011	121	175	0.404145	0.34	4.59259	3.03462	0.005	0.219	0.202	531.8097	0.155
Bore/Drill Rigs	2011	176	250	0.289986	0.244	4.34748	1.21102	0.005	0.132	0.122	522.3643	0.152
Bore/Drill Rigs	2011	251	500	0.264468	0.222	3.72448	1.36917	0.005	0.125	0.115	512.0559	0.149
Bore/Drill Rigs	2011	501	750	0.195451	0.164	2.89424	1.06361	0.005	0.098	0.09	532.4717	0.155
Bore/Drill Rigs	2011	751	1000	0.200744	0.169	4.35634	0.96855	0.005	0.101	0.093	523.0129	0.153
Bore/Drill Rigs	2012	6	15	1.043679	0.877	5.45218	4.70758	0.006	0.406	0.374	601.7336	0.176
Bore/Drill Rigs	2012	16	25	1.043679	0.877	5.45218	4.70758	0.006	0.406	0.374	601.7336	0.176
Bore/Drill Rigs	2012	26	50	1.043679	0.877	5.45218	4.70758	0.006	0.406	0.374	601.7336	0.176
Bore/Drill Rigs	2012	51	120	0.439737	0.37	4.70854	3.34211	0.005	0.302	0.278	503.4212	0.147
Bore/Drill Rigs	2012	121	175	0.401496	0.337	4.52801	3.05178	0.005	0.215	0.198	531.6414	0.156
Bore/Drill Rigs	2012	176	250	0.299105	0.251	4.31574	1.23628	0.005	0.134	0.123	520.9621	0.152
Bore/Drill Rigs	2012	251	500	0.271498	0.228	3.71268	1.3973	0.005	0.124	0.115	511.0099	0.149
Bore/Drill Rigs	2012	501	750	0.195855	0.165	2.78397	1.06675	0.005	0.094	0.086	530.0759	0.155
Bore/Drill Rigs	2012	751	1000	0.210392	0.177	4.3794	0.976	0.005	0.103	0.094	521.6821	0.153
Bore/Drill Rigs	2013	6	15	1.019153	0.856	5.44353	4.71588	0.006	0.398	0.366	598.6307	0.176
Bore/Drill Rigs	2013	16	25	1.019153	0.856	5.44353	4.71588	0.006	0.398	0.366	598.6307	0.176
Bore/Drill Rigs	2013	26	50	1.019153	0.856	5.44353	4.71588	0.006	0.398	0.366	598.6307	0.176
Bore/Drill Rigs	2013	51	120	0.417421	0.351	4.52552	3.33685	0.005	0.279	0.257	501.3795	0.147
Bore/Drill Rigs	2013	121	175	0.380511	0.32	4.3027	3.04123	0.005	0.199	0.183	527.5089	0.155
Bore/Drill Rigs	2013	176	250	0.286183	0.24	4.0183	1.21872	0.005	0.124	0.114	517.8225	0.152
Bore/Drill Rigs	2013	251	500	0.260559	0.219	3.49492	1.35236	0.005	0.115	0.106	507.7707	0.149
Bore/Drill Rigs	2013	501	750	0.192576	0.162	2.57636	1.07935	0.005	0.088	0.081	527.7286	0.155
Bore/Drill Rigs	2013	751	1000	0.160352	0.135	3.46658	0.96188	0.005	0.082	0.075	519.8525	0.153
Bore/Drill Rigs	2014	6	15	0.992547	0.834	5.33236	4.69064	0.006	0.382	0.351	591.4418	0.175
Bore/Drill Rigs	2014	16	25	0.992547	0.834	5.33236	4.69064	0.006	0.382	0.351	591.4418	0.175
Bore/Drill Rigs	2014	26	50	0.992547	0.834	5.33236	4.69064	0.006	0.382	0.351	591.4418	0.175
Bore/Drill Rigs	2014	51	120	0.379477	0.319	4.19515	3.32686	0.005	0.249	0.229	501.365	0.148
Bore/Drill Rigs	2014	121	175	0.366384	0.308	4.06571	3.04026	0.005	0.186	0.171	524.0522	0.155
Bore/Drill Rigs	2014	176	250	0.258607	0.217	3.52453	1.17442	0.005	0.105	0.097	512.3362	0.151
Bore/Drill Rigs	2014	251	500	0.240166	0.202	3.18617	1.239	0.005	0.101	0.093	506.1536	0.15
Bore/Drill Rigs	2014	501	750	0.186731	0.157	2.37324	1.08678	0.005	0.08	0.074	525.2397	0.155
Bore/Drill Rigs	2014	751	1000	0.12496	0.105	2.98435	0.95104	0.005	0.058	0.054	516.5998	0.153
Bore/Drill Rigs	2015	6	15	1.007942	0.847	5.30345	4.73461	0.006	0.379	0.349	585.1707	0.175
Bore/Drill Rigs	2015	16	25	1.007942	0.847	5.30345	4.73461	0.006	0.379	0.349	585.1707	0.175
Bore/Drill Rigs	2015	26	50	1.007942	0.847	5.30345	4.73461	0.006	0.379	0.349	585.1707	0.175
Bore/Drill Rigs	2015	51	120	0.378573	0.318	4.02775	3.3349	0.005	0.239	0.22	496.9494	0.148
Bore/Drill Rigs	2015	121	175	0.359562	0.302	3.90422	3.03526	0.005	0.176	0.162	517.2068	0.154
Bore/Drill Rigs	2015	176	250	0.253803	0.213	3.3245	1.17834	0.005	0.1	0.092	506.5047	0.151
Bore/Drill Rigs	2015	251	500	0.237097	0.199	3.00307	1.25564	0.005	0.096	0.088	499.9023	0.149
Bore/Drill Rigs	2015	501	750	0.19253	0.162	2.37558	1.10541	0.005	0.081	0.074	520.4733	0.155
Bore/Drill Rigs	2015	751	1000	0.130029	0.109	2.99386	0.95583	0.005	0.059	0.054	511.2533	0.153
Bore/Drill Rigs	2016	6	15	1.034535	0.869	5.29821	4.79659	0.006	0.383	0.352	579.3262	0.175
Bore/Drill Rigs	2016	16	25	1.034535	0.869	5.29821	4.79659	0.006	0.383	0.352	579.3262	0.175
Bore/Drill Rigs	2016	26	50	1.034535	0.869	5.29821	4.79659	0.006	0.383	0.352	579.3262	0.175
Bore/Drill Rigs	2016	51	120	0.365397	0.307	3.82088	3.32648	0.005	0.221	0.204	491.6548	0.148
Bore/Drill Rigs	2016	121	175	0.33987	0.286	3.61582	3.02337	0.005	0.162	0.149	511.4327	0.154
Bore/Drill Rigs	2016	176	250	0.229144	0.193	2.9021	1.13299	0.005	0.085	0.078	502.128	0.151
Bore/Drill Rigs	2016	251	500	0.203588	0.171	2.50955	1.13338	0.005	0.077	0.071	494.7606	0.149
Bore/Drill Rigs	2016	501	750	0.182018	0.153	2.16636	1.11952	0.005	0.072	0.066	514.8829	0.155
Bore/Drill Rigs	2016	751	1000	0.137307	0.115	3.00833	0.96409	0.005	0.059	0.055	505.9997	0.153
Bore/Drill Rigs	2017	6	15	0.957137	0.804	5.06335	4.65158	0.006	0.351	0.323	563.9173	0.173
Bore/Drill Rigs	2017	16	25	0.957137	0.804	5.06335	4.65158	0.006	0.351	0.323	563.9173	0.173
Bore/Drill Rigs	2017	26	50	0.957137	0.804	5.06335	4.65158	0.006	0.351	0.323	563.9173	0.173
Bore/Drill Rigs	2017	51	120	0.354597	0.298	3.68536	3.33142	0.005	0.211	0.194	485.322	0.149
Bore/Drill Rigs	2017	121	175	0.290928	0.244	2.98245	3.0013	0.005	0.131	0.121	503.7704	0.154
Bore/Drill Rigs	2017	176	250	0.20647	0.173	2.5215	1.1021	0.005	0.072	0.067	494.1381	0.151
Bore/Drill Rigs	2017	251	500	0.197407	0.166	2.36747	1.11891	0.005	0.072	0.067	489.4612	0.15
Bore/Drill Rigs	2017	501	750	0.184153	0.155	2.15656	1.13653	0.005	0.071	0.066	505.1248	0.155
Bore/Drill Rigs	2017	751	1000	0.143503	0.121	3.02051	0.97127	0.005	0.06	0.055	498.1225	0.153
Bore/Drill Rigs	2018	6	15	0.9127	0.767	4.86917	4.56857	0.005	0.329	0.303	554.2038	0.173
Bore/Drill Rigs	2018	16	25	0.9127	0.767	4.86917	4.56857	0.005	0.329	0.303	554.2038	0.173
Bore/Drill Rigs	2018	26	50	0.9127	0.767	4.86917	4.56857	0.005	0.329	0.303	554.2038	0.173
Bore/Drill Rigs	2018	51	120	0.320098	0.269	3.39962	3.32325	0.005	0.184	0.17	479.6719	0.149
Bore/Drill Rigs	2018	121	175	0.241793	0.203	2.35662	2.96107	0.005	0.103	0.095	495.0734	0.154
Bore/Drill Rigs	2018	176	250	0.183927	0.155	2.15308	1.07328	0.005	0.061	0.056	484.5605	0.151
Bore/Drill Rigs	2018	251	500	0.160513	0.135	1.74562	1.03203	0.005	0.052	0.048	485.6893	0.151
Bore/Drill Rigs	2018	501	750	0.14994	0.126	1.67873	1.00559	0.005	0.054	0.05	489.7301	0.152
Bore/Drill Rigs	2018	751	1000	0.149052	0.125	3.03153	0.97772	0.005	0.06	0.056	490.2427	0.153
Bore/Drill Rigs	2019	6	15	0.858717	0.722	4.71795	4.49723	0.005	0.303	0.278	545.293	0.173
Bore/Drill Rigs	2019	16	25	0.858717	0.722	4.71795	4.49723	0.005	0.303	0.278	545.293	0.173
Bore/Drill Rigs	2019	26	50	0.858717	0.722	4.71795	4.49723	0.005	0.303	0.278	545.293	0.173

Bore/Drill Rigs	2019	121	175	0.215784	0.181	2.01775	2.95563	0.005	0.088	0.081	487.3552	0.154
Bore/Drill Rigs	2019	176	250	0.170614	0.143	1.8943	1.06058	0.005	0.054	0.049	475.7896	0.151
Bore/Drill Rigs	2019	251	500	0.153732	0.129	1.55098	1.03449	0.005	0.048	0.044	477.0462	0.151
Bore/Drill Rigs	2019	501	750	0.138617	0.116	1.44865	0.97074	0.005	0.048	0.044	481.8363	0.152
Bore/Drill Rigs	2019	751	1000	0.153944	0.129	3.04139	0.98342	0.005	0.061	0.056	482.3593	0.153
Bore/Drill Rigs	2020	6	15	0.851825	0.716	4.6451	4.51013	0.006	0.294	0.271	535.2948	0.173
Bore/Drill Rigs	2020	16	25	0.851825	0.716	4.6451	4.51013	0.006	0.294	0.271	535.2948	0.173
Bore/Drill Rigs	2020	26	50	0.851825	0.716	4.6451	4.51013	0.006	0.294	0.271	535.2948	0.173
Bore/Drill Rigs	2020	51	120	0.292949	0.246	3.06601	3.32347	0.005	0.159	0.146	463.5827	0.15
Bore/Drill Rigs	2020	121	175	0.207426	0.174	1.87149	2.96948	0.005	0.082	0.076	477.722	0.155
Bore/Drill Rigs	2020	176	250	0.169462	0.142	1.80732	1.06766	0.005	0.052	0.048	466.8342	0.151
Bore/Drill Rigs	2020	251	500	0.148188	0.125	1.40938	1.01263	0.005	0.045	0.041	466.8219	0.151
Bore/Drill Rigs	2020	501	750	0.129293	0.109	1.23085	0.97413	0.005	0.041	0.038	473.6679	0.153
Bore/Drill Rigs	2020	751	1000	0.158163	0.133	3.05008	0.98839	0.005	0.061	0.056	471.8492	0.153
Bore/Drill Rigs	2021	6	15	0.845639	0.711	4.63432	4.54836	0.006	0.291	0.268	535.3782	0.173
Bore/Drill Rigs	2021	16	25	0.845639	0.711	4.63432	4.54836	0.006	0.291	0.268	535.3782	0.173
Bore/Drill Rigs	2021	26	50	0.845639	0.711	4.63432	4.54836	0.006	0.291	0.268	535.3782	0.173
Bore/Drill Rigs	2021	51	120	0.258162	0.217	2.73675	3.30573	0.005	0.131	0.12	464.9725	0.15
Bore/Drill Rigs	2021	121	175	0.183454	0.154	1.5983	2.9614	0.005	0.07	0.064	477.0482	0.154
Bore/Drill Rigs	2021	176	250	0.157647	0.132	1.55102	1.06418	0.005	0.047	0.043	467.9916	0.151
Bore/Drill Rigs	2021	251	500	0.139268	0.117	1.22069	1.01479	0.005	0.041	0.038	469.8158	0.152
Bore/Drill Rigs	2021	501	750	0.116134	0.098	0.95517	0.97176	0.005	0.033	0.031	474.079	0.153
Bore/Drill Rigs	2021	751	1000	0.161679	0.136	3.05759	0.99261	0.005	0.061	0.057	471.8158	0.153
Bore/Drill Rigs	2022	6	15	0.751445	0.631	4.28474	4.33356	0.005	0.241	0.221	529.8703	0.171
Bore/Drill Rigs	2022	16	25	0.751445	0.631	4.28474	4.33356	0.005	0.241	0.221	529.8703	0.171
Bore/Drill Rigs	2022	26	50	0.751445	0.631	4.28474	4.33356	0.005	0.241	0.221	529.8703	0.171
Bore/Drill Rigs	2022	51	120	0.227425	0.191	2.42459	3.25974	0.005	0.107	0.099	462.2674	0.15
Bore/Drill Rigs	2022	121	175	0.162807	0.137	1.28831	2.95431	0.005	0.057	0.052	477.3719	0.154
Bore/Drill Rigs	2022	176	250	0.136848	0.115	1.16293	1.04734	0.005	0.037	0.034	468.7604	0.152
Bore/Drill Rigs	2022	251	500	0.12801	0.108	1.03525	1.00212	0.005	0.035	0.032	467.1923	0.151
Bore/Drill Rigs	2022	501	750	0.10809	0.091	0.77309	0.97519	0.005	0.028	0.026	477.141	0.154
Bore/Drill Rigs	2022	751	1000	0.067607	0.057	2.27813	0.9452	0.005	0.018	0.017	472.9214	0.153
Bore/Drill Rigs	2023	6	15	0.721105	0.606	4.20831	4.31077	0.005	0.226	0.208	531.9856	0.172
Bore/Drill Rigs	2023	16	25	0.721105	0.606	4.20831	4.31077	0.005	0.226	0.208	531.9856	0.172
Bore/Drill Rigs	2023	26	50	0.721105	0.606	4.20831	4.31077	0.005	0.226	0.208	531.9856	0.172
Bore/Drill Rigs	2023	51	120	0.222828	0.187	2.35656	3.25754	0.005	0.102	0.093	461.214	0.149
Bore/Drill Rigs	2023	121	175	0.149078	0.125	1.07773	2.9693	0.005	0.048	0.044	479.6465	0.155
Bore/Drill Rigs	2023	176	250	0.131367	0.11	1.04653	1.04309	0.005	0.034	0.031	469.7058	0.152
Bore/Drill Rigs	2023	251	500	0.120261	0.101	0.89764	0.98883	0.005	0.03	0.028	464.0407	0.15
Bore/Drill Rigs	2023	501	750	0.108039	0.091	0.71664	0.98235	0.005	0.026	0.024	479.2199	0.155
Bore/Drill Rigs	2023	751	1000	0.062646	0.053	2.26246	0.93615	0.005	0.018	0.016	472.0201	0.153
Bore/Drill Rigs	2024	6	15	0.724524	0.609	4.15902	4.33098	0.005	0.219	0.202	529.8661	0.171
Bore/Drill Rigs	2024	16	25	0.724524	0.609	4.15902	4.33098	0.005	0.219	0.202	529.8661	0.171
Bore/Drill Rigs	2024	26	50	0.724524	0.609	4.15902	4.33098	0.005	0.219	0.202	529.8661	0.171
Bore/Drill Rigs	2024	51	120	0.211018	0.177	2.21634	3.25123	0.005	0.09	0.083	461.2076	0.149
Bore/Drill Rigs	2024	121	175	0.148172	0.125	1.02855	2.97803	0.005	0.046	0.043	478.9441	0.155
Bore/Drill Rigs	2024	176	250	0.128551	0.108	0.97542	1.04591	0.005	0.032	0.03	470.7115	0.152
Bore/Drill Rigs	2024	251	500	0.122153	0.103	0.86053	0.99426	0.005	0.029	0.027	464.4796	0.15
Bore/Drill Rigs	2024	501	750	0.10623	0.089	0.67139	0.98491	0.005	0.026	0.024	480.2246	0.155
Bore/Drill Rigs	2024	751	1000	0.067347	0.057	2.27306	0.94304	0.005	0.018	0.017	471.9261	0.153
Bore/Drill Rigs	2025	6	15	0.703036	0.591	3.97786	4.2728	0.005	0.193	0.178	532.8212	0.172
Bore/Drill Rigs	2025	16	25	0.703036	0.591	3.97786	4.2728	0.005	0.193	0.178	532.8212	0.172
Bore/Drill Rigs	2025	26	50	0.703036	0.591	3.97786	4.2728	0.005	0.193	0.178	532.8212	0.172
Bore/Drill Rigs	2025	51	120	0.183914	0.155	1.96363	3.21758	0.005	0.067	0.062	459.8291	0.149
Bore/Drill Rigs	2025	121	175	0.135422	0.114	0.88787	2.9736	0.005	0.039	0.036	478.2657	0.155
Bore/Drill Rigs	2025	176	250	0.127813	0.107	0.95717	1.04484	0.005	0.031	0.029	470.6535	0.152
Bore/Drill Rigs	2025	251	500	0.120956	0.102	0.82299	0.99738	0.005	0.028	0.026	467.2892	0.151
Bore/Drill Rigs	2025	501	750	0.100521	0.084	0.59628	0.98349	0.005	0.023	0.021	481.2495	0.156
Bore/Drill Rigs	2025	751	1000	0.07426	0.062	2.28923	0.95339	0.005	0.019	0.017	471.9168	0.153
Bore/Drill Rigs	2030	6	15	1.821	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Bore/Drill Rigs	2030	16	25	2.917	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Bore/Drill Rigs	2030	26	50	2.88	0.348	3.02	4.029	0.007	0.013	0.013	568.299	0.031
Bore/Drill Rigs	2030	51	120	3.773	0.183	1.415	3.434	0.006	0.012	0.012	568.299	0.016
Bore/Drill Rigs	2030	121	175	4.786	0.127	0.279	3.038	0.006	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2030	176	250	6.363	0.127	0.274	1.035	0.006	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2030	251	500	10.531	0.127	0.274	1.006	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2030	501	750	20.808	0.127	0.274	1.006	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2030	751	1000	31.441	0.127	2.372	1.006	0.005	0.021	0.021	568.299	0.011
Bore/Drill Rigs	2035	6	15	1.821	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Bore/Drill Rigs	2035	16	25	2.917	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Bore/Drill Rigs	2035	26	50	2.881	0.348	3.019	4.03	0.007	0.013	0.013	568.299	0.031
Bore/Drill Rigs	2035	51	120	3.768	0.183	1.411	3.434	0.006	0.012	0.012	568.3	0.016
Bore/Drill Rigs	2035	121	175	4.767	0.126	0.272	3.039	0.006	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2035	176	250	6.357	0.126	0.272	1.035	0.006	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2035	251	500	10.52	0.126	0.272	1.006	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2035	501	750	20.787	0.126	0.272	1.006	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2035	751	1000	31.372	0.126	2.372	1.006	0.005	0.021	0.021	568.299	0.011
Bore/Drill Rigs	2040	6	15	1.821	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Bore/Drill Rigs	2040	16	25	2.917	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Bore/Drill Rigs	2040	26	50	2.883	0.348	3.019	4.032	0.007	0.013	0.013	568.3	0.031
Bore/Drill Rigs	2040	51	120	3.77	0.183	1.411	3.435	0.006	0.012	0.012	568.299	0.016
Bore/Drill Rigs	2040	121	175	4.77	0.127	0.272	3.039	0.006	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2040	176	250	6.36	0.127	0.272	1.035	0.006	0.01	0.01	568.3	0.011
Bore/Drill Rigs	2040	251	500	10.526	0.127	0.272	1.006	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2040	501	750	20.799	0.127	0.272	1.006	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2040	751	1000	31.389	0.127	2.372	1.006	0.005	0.021	0.021	568.299	0.011
Cement and Mortar Mixer:	1990	6	15	2.932	1.804	9.999	4.999	1.049	0.975	0.975	568.299	0.162
Cement and Mortar Mixer:	1990	16	25	9.992	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Cement and Mortar Mixer:	2000	6	15	2.702	1.662	8.911	4.78	0.079	0.745	0.745	568.299	0.15

Cement and Mortar Mixer:	2000	16	25	9.397	2.081	6.401	4.757	0.065	0.569	0.569	568.299	0.187
Cement and Mortar Mixer:	2005	6	15	1.628	1.001	6.3	3.791	0.079	0.465	0.465	568.299	0.09
Cement and Mortar Mixer:	2005	16	25	6.992	1.548	5.963	3.786	0.065	0.471	0.471	568.299	0.139
Cement and Mortar Mixer:	2010	6	15	1.153	0.709	4.545	3.492	0.008	0.26	0.26	568.299	0.064
Cement and Mortar Mixer:	2010	16	25	5.056	1.119	5.286	3.049	0.007	0.346	0.346	568.299	0.101
Cement and Mortar Mixer:	2011	6	15	1.114	0.685	4.351	3.479	0.008	0.231	0.231	568.299	0.061
Cement and Mortar Mixer:	2011	16	25	4.656	1.031	5.144	2.897	0.007	0.319	0.319	568.299	0.093
Cement and Mortar Mixer:	2012	6	15	1.096	0.674	4.272	3.472	0.008	0.209	0.209	568.299	0.06
Cement and Mortar Mixer:	2012	16	25	4.288	0.949	5.012	2.757	0.007	0.293	0.293	568.299	0.085
Cement and Mortar Mixer:	2013	6	15	1.087	0.669	4.223	3.469	0.008	0.191	0.191	568.299	0.06
Cement and Mortar Mixer:	2013	16	25	3.952	0.875	4.887	2.63	0.007	0.269	0.269	568.299	0.078
Cement and Mortar Mixer:	2014	6	15	1.082	0.666	4.191	3.469	0.008	0.177	0.177	568.299	0.06
Cement and Mortar Mixer:	2014	16	25	3.783	0.837	4.793	2.57	0.007	0.253	0.253	568.299	0.075
Cement and Mortar Mixer:	2015	6	15	1.079	0.663	4.168	3.469	0.008	0.171	0.171	568.3	0.059
Cement and Mortar Mixer:	2015	16	25	3.664	0.811	4.712	2.531	0.007	0.24	0.24	568.299	0.073
Cement and Mortar Mixer:	2016	6	15	1.076	0.662	4.153	3.469	0.008	0.167	0.167	568.3	0.059
Cement and Mortar Mixer:	2016	16	25	3.558	0.788	4.636	2.496	0.007	0.227	0.227	568.299	0.071
Cement and Mortar Mixer:	2017	6	15	1.075	0.661	4.145	3.469	0.008	0.165	0.165	568.299	0.059
Cement and Mortar Mixer:	2017	16	25	3.466	0.767	4.567	2.466	0.007	0.216	0.216	568.299	0.069
Cement and Mortar Mixer:	2018	6	15	1.075	0.661	4.142	3.469	0.008	0.163	0.163	568.299	0.059
Cement and Mortar Mixer:	2018	16	25	3.384	0.749	4.504	2.44	0.007	0.205	0.205	568.299	0.067
Cement and Mortar Mixer:	2019	6	15	1.075	0.661	4.142	3.469	0.008	0.162	0.162	568.299	0.059
Cement and Mortar Mixer:	2019	16	25	3.321	0.735	4.469	2.417	0.007	0.196	0.196	568.299	0.066
Cement and Mortar Mixer:	2020	6	15	1.075	0.661	4.142	3.47	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2020	16	25	3.265	0.723	4.442	2.397	0.007	0.187	0.187	568.299	0.065
Cement and Mortar Mixer:	2021	6	15	1.075	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2021	16	25	3.219	0.712	4.419	2.381	0.007	0.18	0.18	568.299	0.064
Cement and Mortar Mixer:	2022	6	15	1.075	0.661	4.142	3.47	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2022	16	25	3.182	0.704	4.399	2.367	0.007	0.175	0.175	568.299	0.063
Cement and Mortar Mixer:	2023	6	15	1.075	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2023	16	25	3.151	0.697	4.382	2.356	0.007	0.172	0.172	568.299	0.062
Cement and Mortar Mixer:	2024	6	15	1.075	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2024	16	25	3.129	0.693	4.369	2.349	0.007	0.17	0.17	568.299	0.062
Cement and Mortar Mixer:	2025	6	15	1.075	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2025	16	25	3.113	0.689	4.357	2.344	0.007	0.168	0.168	568.299	0.062
Cement and Mortar Mixer:	2030	6	15	1.075	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2030	16	25	3.095	0.685	4.333	2.339	0.007	0.162	0.162	568.299	0.061
Cement and Mortar Mixer:	2035	6	15	1.075	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2035	16	25	3.095	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Cement and Mortar Mixer:	2040	6	15	1.075	0.661	4.142	3.47	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2040	16	25	3.095	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	1990	16	25	4.947	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Concrete/Industrial Saws	1990	26	50	20.26	4.943	8.008	9.962	0.871	1.297	1.297	568.299	0.446
Concrete/Industrial Saws	1990	51	120	24.821	2.467	15.608	5.934	0.791	1.385	1.385	568.299	0.222
Concrete/Industrial Saws	1990	121	175	45.581	2.097	15.952	5.376	0.758	1.172	1.172	568.3	0.189
Concrete/Industrial Saws	2000	16	25	4.266	1.908	6.326	4.438	0.065	0.555	0.555	568.299	0.172
Concrete/Industrial Saws	2000	26	50	14.64	3.572	6.784	7.547	0.066	0.789	0.789	568.299	0.322
Concrete/Industrial Saws	2000	51	120	16.713	1.661	9.903	4.354	0.06	0.77	0.77	568.299	0.149
Concrete/Industrial Saws	2000	121	175	24.252	1.115	9.017	3.531	0.057	0.452	0.452	568.3	0.1
Concrete/Industrial Saws	2005	16	25	1.899	0.849	5.321	2.519	0.065	0.333	0.333	568.299	0.076
Concrete/Industrial Saws	2005	26	50	13.023	3.177	6.32	6.994	0.066	0.732	0.732	568.299	0.286
Concrete/Industrial Saws	2005	51	120	14.366	1.428	8.401	4.05	0.06	0.714	0.714	568.299	0.128
Concrete/Industrial Saws	2005	121	175	20.277	0.932	7.685	3.223	0.057	0.393	0.393	568.299	0.084
Concrete/Industrial Saws	2010	16	25	1.545	0.691	4.411	2.339	0.007	0.216	0.216	568.299	0.062
Concrete/Industrial Saws	2010	26	50	9.492	2.316	5.774	6.039	0.007	0.565	0.565	568.299	0.208
Concrete/Industrial Saws	2010	51	120	10.348	1.028	6.592	3.813	0.006	0.551	0.551	568.299	0.092
Concrete/Industrial Saws	2010	121	175	14.859	0.683	5.838	3.116	0.006	0.306	0.306	568.299	0.061
Concrete/Industrial Saws	2011	16	25	1.539	0.688	4.372	2.339	0.007	0.193	0.193	568.299	0.062
Concrete/Industrial Saws	2011	26	50	8.781	2.142	5.68	5.854	0.007	0.534	0.534	568.299	0.193
Concrete/Industrial Saws	2011	51	120	9.617	0.955	6.222	3.775	0.006	0.524	0.524	568.299	0.086
Concrete/Industrial Saws	2011	121	175	13.917	0.64	5.491	3.104	0.006	0.293	0.293	568.299	0.057
Concrete/Industrial Saws	2012	16	25	1.535	0.686	4.348	2.339	0.007	0.173	0.173	568.299	0.061
Concrete/Industrial Saws	2012	26	50	8.071	1.969	5.59	5.671	0.007	0.503	0.503	568.299	0.177
Concrete/Industrial Saws	2012	51	120	8.902	0.884	5.844	3.74	0.006	0.489	0.489	568.299	0.079
Concrete/Industrial Saws	2012	121	175	12.992	0.597	5.146	3.094	0.006	0.272	0.272	568.299	0.053
Concrete/Industrial Saws	2013	16	25	1.533	0.685	4.335	2.339	0.007	0.168	0.168	568.299	0.061
Concrete/Industrial Saws	2013	26	50	7.362	1.796	5.377	5.489	0.007	0.463	0.463	568.299	0.162
Concrete/Industrial Saws	2013	51	120	8.209	0.816	5.483	3.706	0.006	0.451	0.451	568.299	0.073
Concrete/Industrial Saws	2013	121	175	12.096	0.556	4.829	3.086	0.006	0.25	0.25	568.299	0.05
Concrete/Industrial Saws	2014	16	25	1.532	0.685	4.332	2.339	0.007	0.164	0.164	568.299	0.061
Concrete/Industrial Saws	2014	26	50	6.665	1.626	5.172	5.313	0.007	0.424	0.424	568.299	0.146
Concrete/Industrial Saws	2014	51	120	7.539	0.749	5.16	3.675	0.006	0.412	0.412	568.299	0.067
Concrete/Industrial Saws	2014	121	175	11.238	0.517	4.531	3.08	0.006	0.228	0.228	568.299	0.046
Concrete/Industrial Saws	2015	16	25	1.532	0.685	4.332	2.339	0.007	0.162	0.162	568.299	0.061
Concrete/Industrial Saws	2015	26	50	6.027	1.47	4.989	5.165	0.007	0.386	0.386	568.299	0.132
Concrete/Industrial Saws	2015	51	120	6.878	0.683	4.789	3.647	0.006	0.372	0.372	568.3	0.061
Concrete/Industrial Saws	2015	121	175	10.333	0.475	4.112	3.077	0.006	0.207	0.207	568.299	0.042
Concrete/Industrial Saws	2016	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2016	26	50	5.419	1.322	4.818	5.029	0.007	0.35	0.35	568.3	0.119
Concrete/Industrial Saws	2016	51	120	6.237	0.62	4.432	3.62	0.006	0.333	0.333	568.3	0.055
Concrete/Industrial Saws	2016	121	175	9.455	0.435	3.708	3.074	0.006	0.186	0.186	568.299	0.039
Concrete/Industrial Saws	2017	16	25	1.532	0.685	4.332	2.34	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2017	26	50	4.816	1.175	4.652	4.894	0.007	0.313	0.313	568.299	0.106
Concrete/Industrial Saws	2017	51	120	5.61	0.557	4.086	3.595	0.006	0.294	0.294	568.299	0.05
Concrete/Industrial Saws	2017	121	175	8.602	0.395	3.316	3.073	0.006	0.165	0.165	568.299	0.035
Concrete/Industrial Saws	2018	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2018	26	50	4.233	1.032	4.492	4.766	0.007	0.277	0.277	568.299	0.093
Concrete/Industrial Saws	2018	51	120	5.014	0.498	3.754	3.571	0.006	0.256	0.256	568.299	0.044
Concrete/Industrial Saws	2018	121	175	7.805	0.359	2.945	3.072	0.006	0.145	0.145	568.299	0.032

Concrete/Industrial Saws	2019	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2019	26	50	3.686	0.899	4.338	4.645	0.007	0.242	0.242	568.299	0.081
Concrete/Industrial Saws	2019	51	120	4.463	0.443	3.441	3.55	0.006	0.22	0.22	568.3	0.04
Concrete/Industrial Saws	2019	121	175	7.177	0.33	2.618	3.072	0.006	0.128	0.128	568.299	0.029
Concrete/Industrial Saws	2020	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2020	26	50	3.271	0.798	4.196	4.552	0.007	0.212	0.212	568.299	0.072
Concrete/Industrial Saws	2020	51	120	4.042	0.401	3.163	3.535	0.006	0.19	0.19	568.299	0.036
Concrete/Industrial Saws	2020	121	175	6.669	0.306	2.324	3.072	0.006	0.114	0.114	568.299	0.027
Concrete/Industrial Saws	2021	16	25	1.532	0.685	4.332	2.34	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2021	26	50	2.959	0.722	4.063	4.481	0.007	0.184	0.184	568.3	0.065
Concrete/Industrial Saws	2021	51	120	3.721	0.369	2.913	3.523	0.006	0.166	0.166	568.299	0.033
Concrete/Industrial Saws	2021	121	175	6.227	0.286	2.055	3.072	0.006	0.101	0.101	568.299	0.025
Concrete/Industrial Saws	2022	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2022	26	50	2.705	0.66	3.936	4.422	0.007	0.158	0.158	568.3	0.059
Concrete/Industrial Saws	2022	51	120	3.457	0.343	2.686	3.514	0.006	0.144	0.144	568.299	0.031
Concrete/Industrial Saws	2022	121	175	5.819	0.267	1.806	3.072	0.006	0.089	0.089	568.3	0.024
Concrete/Industrial Saws	2023	16	25	1.532	0.685	4.332	2.34	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2023	26	50	2.484	0.606	3.815	4.372	0.007	0.134	0.134	568.299	0.054
Concrete/Industrial Saws	2023	51	120	3.223	0.32	2.478	3.507	0.006	0.123	0.123	568.3	0.028
Concrete/Industrial Saws	2023	121	175	5.453	0.25	1.599	3.072	0.006	0.077	0.077	568.299	0.022
Concrete/Industrial Saws	2024	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2024	26	50	2.303	0.561	3.701	4.33	0.007	0.115	0.115	568.3	0.05
Concrete/Industrial Saws	2024	51	120	3.023	0.3	2.315	3.5	0.006	0.106	0.106	568.299	0.027
Concrete/Industrial Saws	2024	121	175	5.117	0.235	1.418	3.072	0.006	0.067	0.067	568.299	0.021
Concrete/Industrial Saws	2025	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2025	26	50	2.153	0.525	3.592	4.297	0.007	0.099	0.099	568.299	0.047
Concrete/Industrial Saws	2025	51	120	2.849	0.283	2.176	3.495	0.006	0.089	0.089	568.3	0.025
Concrete/Industrial Saws	2025	121	175	4.8	0.22	1.249	3.073	0.006	0.056	0.056	568.3	0.019
Concrete/Industrial Saws	2030	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2030	26	50	1.679	0.409	3.222	4.199	0.007	0.041	0.041	568.299	0.036
Concrete/Industrial Saws	2030	51	120	2.226	0.221	1.667	3.48	0.006	0.036	0.036	568.299	0.019
Concrete/Industrial Saws	2030	121	175	3.551	0.163	0.59	3.074	0.006	0.025	0.025	568.299	0.014
Concrete/Industrial Saws	2035	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2035	26	50	1.54	0.375	3.107	4.174	0.007	0.021	0.021	568.3	0.033
Concrete/Industrial Saws	2035	51	120	2.015	0.2	1.491	3.476	0.006	0.018	0.018	568.299	0.018
Concrete/Industrial Saws	2035	121	175	3.121	0.143	0.374	3.075	0.006	0.014	0.014	568.299	0.012
Concrete/Industrial Saws	2040	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2040	26	50	1.532	0.373	3.058	4.175	0.007	0.014	0.014	568.299	0.033
Concrete/Industrial Saws	2040	51	120	1.968	0.195	1.434	3.477	0.006	0.013	0.013	568.299	0.017
Concrete/Industrial Saws	2040	121	175	2.965	0.136	0.297	3.076	0.006	0.011	0.011	568.3	0.012
Cranes	1990	26	50	13.537	5.179	8.093	10.396	0.871	1.345	1.345	568.299	0.467
Cranes	1990	51	120	14.178	2.508	15.674	5.983	0.791	1.427	1.427	568.299	0.226
Cranes	1990	121	175	18.412	2.033	15.601	5.387	0.758	1.142	1.142	568.299	0.183
Cranes	1990	176	250	25.703	2.033	15.601	5.387	0.758	1.142	1.142	568.299	0.183
Cranes	1990	251	500	36.191	1.782	14.718	12.529	0.662	0.968	0.968	568.299	0.16
Cranes	1990	501	750	60.897	1.782	14.718	12.529	1.018	0.986	0.986	568.299	0.16
Cranes	1990	1001	9999	194.538	1.778	14.718	12.529	1.018	0.98	0.98	568.299	0.16
Cranes	2000	26	50	12.119	4.636	7.163	9.507	0.666	0.958	0.958	568.3	0.418
Cranes	2000	51	120	10.887	1.926	10.905	4.81	0.06	0.93	0.93	568.299	0.173
Cranes	2000	121	175	11.77	1.299	9.929	3.932	0.057	0.552	0.552	568.299	0.117
Cranes	2000	176	250	14.291	1.13	9.635	3.285	0.057	0.47	0.47	568.299	0.101
Cranes	2000	251	500	20.704	1.019	9.139	5.545	0.05	0.411	0.411	568.299	0.092
Cranes	2000	501	750	34.838	1.019	9.139	5.545	0.052	0.411	0.411	568.299	0.092
Cranes	2000	1001	9999	116.509	1.064	9.643	6.045	0.052	0.394	0.394	568.299	0.096
Cranes	2005	26	50	10.96	4.193	6.736	8.893	0.666	0.898	0.898	568.3	0.378
Cranes	2005	51	120	9.53	1.686	9.357	4.493	0.06	0.875	0.875	568.299	0.152
Cranes	2005	121	175	10.036	1.108	8.542	3.6	0.057	0.487	0.487	568.299	0.099
Cranes	2005	176	250	10.718	0.847	8.163	2.367	0.057	0.343	0.343	568.299	0.076
Cranes	2005	251	500	15.234	0.75	7.448	3.287	0.05	0.303	0.303	568.299	0.067
Cranes	2005	501	750	25.971	0.76	7.598	3.283	0.052	0.305	0.305	568.299	0.068
Cranes	2005	1001	9999	91.74	0.838	8.503	3.718	0.052	0.293	0.293	568.299	0.075
Cranes	2010	26	50	2.786882	2.342	6.30432	7.37084	0.005	0.665	0.612	575.653	0.168
Cranes	2010	51	120	1.626435	1.367	11.2099	5.06328	0.005	0.834	0.767	522.2692	0.152
Cranes	2010	121	175	0.999512	0.84	9.06236	3.96843	0.005	0.483	0.445	527.7153	0.154
Cranes	2010	176	250	0.826087	0.694	8.39974	2.85637	0.005	0.383	0.353	525.6477	0.153
Cranes	2010	251	500	0.629842	0.529	7.05496	4.77692	0.005	0.292	0.268	524.2494	0.153
Cranes	2010	501	750	0.3105	0.261	4.49648	1.59747	0.005	0.149	0.137	523.8164	0.152
Cranes	2010	1001	9999	0.387608	0.326	6.39903	1.00751	0.005	0.151	0.139	524.505	0.153
Cranes	2011	26	50	2.66715	2.241	6.2271	7.21121	0.005	0.641	0.59	574.2181	0.168
Cranes	2011	51	120	1.579127	1.327	10.9169	5.02442	0.005	0.81	0.745	521.0055	0.152
Cranes	2011	121	175	0.990868	0.833	8.96629	3.9727	0.005	0.48	0.441	526.3466	0.154
Cranes	2011	176	250	0.818849	0.688	8.29972	2.82731	0.005	0.379	0.349	524.3412	0.153
Cranes	2011	251	500	0.613791	0.516	6.85019	4.61471	0.005	0.283	0.26	523.002	0.153
Cranes	2011	501	750	0.317708	0.267	4.47987	1.60931	0.005	0.151	0.139	522.4977	0.152
Cranes	2011	1001	9999	0.392668	0.33	6.442	1.01544	0.005	0.153	0.141	523.1938	0.153
Cranes	2012	26	50	2.575229	2.164	6.16881	7.10245	0.005	0.622	0.573	572.7834	0.168
Cranes	2012	51	120	1.549708	1.302	10.7338	4.99918	0.005	0.795	0.732	519.357	0.152
Cranes	2012	121	175	0.992021	0.834	8.9416	3.98552	0.005	0.481	0.442	525.0081	0.154
Cranes	2012	176	250	0.82388	0.692	8.30152	2.83394	0.005	0.381	0.35	522.9802	0.153
Cranes	2012	251	500	0.612564	0.515	6.7893	4.5553	0.005	0.281	0.259	521.6408	0.153
Cranes	2012	501	750	0.324471	0.273	4.45619	1.62066	0.005	0.152	0.14	521.1061	0.152
Cranes	2012	1001	9999	0.397633	0.334	6.48415	1.02322	0.005	0.156	0.144	521.8825	0.153
Cranes	2013	26	50	2.54578	2.139	6.10837	7.11869	0.005	0.61	0.561	569.9097	0.168
Cranes	2013	51	120	1.506211	1.266	10.4655	4.95084	0.005	0.775	0.713	516.6909	0.152
Cranes	2013	121	175	0.982629	0.826	8.83222	3.98019	0.005	0.476	0.438	522.3332	0.154
Cranes	2013	176	250	0.813083	0.683	8.15558	2.80099	0.005	0.375	0.345	520.3446	0.153
Cranes	2013	251	500	0.59291	0.498	6.51563	4.36265	0.005	0.27	0.248	519.0961	0.153
Cranes	2013	501	750	0.327629	0.275	4.36739	1.62896	0.005	0.15	0.138	518.355	0.152
Cranes	2013	1001	9999	0.402502	0.338	6.5255	1.03085	0.005	0.159	0.146	519.26	0.153

Cranes	2014	26	50	2.516704	2.115	6.09324	7.12566	0.005	0.607	0.559	567.0058	0.168
Cranes	2014	51	120	1.481452	1.245	10.3017	4.92305	0.005	0.765	0.704	514.0286	0.152
Cranes	2014	121	175	0.944168	0.793	8.47052	3.93186	0.005	0.457	0.42	519.5114	0.154
Cranes	2014	176	250	0.786323	0.661	7.86026	2.72625	0.005	0.36	0.331	517.6833	0.153
Cranes	2014	251	500	0.574656	0.483	6.26415	4.17708	0.005	0.26	0.239	516.5784	0.153
Cranes	2014	501	750	0.333096	0.28	4.32737	1.63547	0.005	0.151	0.139	515.6071	0.152
Cranes	2014	1001	9999	0.143297	0.12	2.28075	0.94782	0.005	0.054	0.05	516.6375	0.153
Cranes	2015	26	50	2.483294	2.087	6.07491	7.12517	0.005	0.601	0.552	561.2236	0.168
Cranes	2015	51	120	1.444394	1.214	10.0604	4.88366	0.005	0.747	0.687	508.8366	0.152
Cranes	2015	121	175	0.930749	0.782	8.3254	3.91821	0.005	0.45	0.414	514.2598	0.154
Cranes	2015	176	250	0.764242	0.642	7.62156	2.65334	0.005	0.348	0.32	512.4484	0.153
Cranes	2015	251	500	0.565318	0.475	6.12404	4.10962	0.005	0.253	0.233	511.1972	0.153
Cranes	2015	501	750	0.340293	0.286	4.31183	1.64279	0.005	0.152	0.14	510.3342	0.152
Cranes	2015	1001	9999	0.156078	0.131	2.29477	0.95679	0.005	0.055	0.051	511.3924	0.153
Cranes	2016	26	50	2.535089	2.13	6.11027	7.2684	0.005	0.61	0.561	555.4414	0.168
Cranes	2016	51	120	1.373103	1.154	9.60772	4.79702	0.005	0.709	0.653	503.5992	0.152
Cranes	2016	121	175	0.884915	0.744	7.88718	3.86156	0.005	0.427	0.393	508.9515	0.154
Cranes	2016	176	250	0.741297	0.623	7.38068	2.5822	0.005	0.335	0.308	507.1552	0.153
Cranes	2016	251	500	0.527153	0.443	5.64865	3.83445	0.005	0.233	0.215	506.0882	0.153
Cranes	2016	501	750	0.347738	0.292	4.31387	1.65024	0.005	0.153	0.141	505.0695	0.152
Cranes	2016	1001	9999	0.168646	0.142	2.30856	0.96562	0.005	0.056	0.052	506.1474	0.153
Cranes	2017	26	50	2.585562	2.173	6.14479	7.40804	0.005	0.62	0.57	546.7815	0.168
Cranes	2017	51	120	1.304913	1.096	9.15389	4.71022	0.005	0.678	0.624	495.7534	0.152
Cranes	2017	121	175	0.828528	0.696	7.36009	3.78744	0.005	0.397	0.366	501.093	0.154
Cranes	2017	176	250	0.667136	0.561	6.65526	2.38452	0.005	0.297	0.273	499.3721	0.153
Cranes	2017	251	500	0.488095	0.41	5.23184	3.54746	0.005	0.212	0.195	498.439	0.153
Cranes	2017	501	750	0.34114	0.287	4.1579	1.63305	0.005	0.147	0.135	497.1865	0.152
Cranes	2017	1001	9999	0.181003	0.152	2.32212	0.97429	0.005	0.057	0.053	498.2798	0.153
Cranes	2018	26	50	2.466121	2.072	6.00385	7.24744	0.005	0.624	0.574	538.1219	0.168
Cranes	2018	51	120	1.108698	0.932	7.93075	4.45237	0.005	0.583	0.536	488.1172	0.152
Cranes	2018	121	175	0.739223	0.621	6.5572	3.66571	0.005	0.351	0.323	493.0451	0.153
Cranes	2018	176	250	0.574877	0.483	5.77298	2.13445	0.005	0.25	0.23	491.4069	0.153
Cranes	2018	251	500	0.440014	0.37	4.63433	3.1871	0.005	0.187	0.172	490.8912	0.153
Cranes	2018	501	750	0.322048	0.271	3.7688	1.61304	0.005	0.137	0.126	489.0536	0.152
Cranes	2018	1001	9999	0.193147	0.162	2.33544	0.98282	0.005	0.058	0.054	490.4122	0.153
Cranes	2019	26	50	2.434147	2.045	5.95197	7.24465	0.005	0.615	0.566	529.4626	0.168
Cranes	2019	51	120	0.955908	0.803	6.95786	4.26491	0.005	0.5	0.46	480.3251	0.152
Cranes	2019	121	175	0.675554	0.568	5.94857	3.5982	0.005	0.318	0.292	485.1817	0.154
Cranes	2019	176	250	0.50769	0.427	5.0842	1.94079	0.005	0.216	0.198	483.4616	0.153
Cranes	2019	251	500	0.415431	0.349	4.29654	2.96893	0.005	0.173	0.159	483.1422	0.153
Cranes	2019	501	750	0.299943	0.252	3.42803	1.44568	0.005	0.124	0.114	481.1192	0.152
Cranes	2019	1001	9999	0.205078	0.172	2.34854	0.9912	0.005	0.059	0.055	482.5446	0.153
Cranes	2020	26	50	2.47956	2.084	5.98471	7.37625	0.005	0.624	0.574	517.9263	0.168
Cranes	2020	51	120	0.871016	0.732	6.38117	4.17141	0.005	0.453	0.417	469.8821	0.152
Cranes	2020	121	175	0.638941	0.537	5.5697	3.56232	0.005	0.298	0.274	474.5939	0.153
Cranes	2020	176	250	0.45669	0.384	4.56329	1.7904	0.005	0.188	0.173	472.9488	0.153
Cranes	2020	251	500	0.381547	0.321	3.86243	2.66037	0.005	0.155	0.142	472.5579	0.153
Cranes	2020	501	750	0.287724	0.242	3.10471	1.44353	0.005	0.116	0.107	470.4254	0.152
Cranes	2020	1001	9999	0.216797	0.182	2.3614	0.99943	0.005	0.06	0.056	472.0545	0.153
Cranes	2021	26	50	2.516467	2.115	6.01375	7.48883	0.005	0.631	0.581	517.8995	0.167
Cranes	2021	51	120	0.77522	0.651	5.73085	4.06507	0.005	0.398	0.366	469.8867	0.152
Cranes	2021	121	175	0.593174	0.498	5.1125	3.51648	0.005	0.273	0.251	474.5458	0.153
Cranes	2021	176	250	0.415905	0.349	4.10439	1.67824	0.005	0.167	0.153	472.9057	0.153
Cranes	2021	251	500	0.351498	0.295	3.44253	2.44833	0.005	0.139	0.127	472.4553	0.153
Cranes	2021	501	750	0.271141	0.228	2.72739	1.43956	0.005	0.107	0.098	470.5495	0.152
Cranes	2021	1001	9999	0.228304	0.192	2.37402	1.00751	0.005	0.061	0.056	472.0545	0.153
Cranes	2022	26	50	2.41359	2.028	5.8991	7.36828	0.005	0.603	0.555	517.8722	0.167
Cranes	2022	51	120	0.687651	0.578	5.14893	3.97198	0.005	0.346	0.318	469.9929	0.152
Cranes	2022	121	175	0.543527	0.457	4.6169	3.4753	0.005	0.246	0.227	474.5887	0.153
Cranes	2022	176	250	0.375691	0.316	3.54149	1.60164	0.005	0.147	0.135	472.9832	0.153
Cranes	2022	251	500	0.31051	0.261	2.89369	2.21201	0.005	0.117	0.108	472.1806	0.153
Cranes	2022	501	750	0.238348	0.2	2.25087	1.28309	0.005	0.089	0.082	470.4755	0.152
Cranes	2022	1001	9999	0.239599	0.201	2.38641	1.01544	0.005	0.062	0.057	472.0545	0.153
Cranes	2023	26	50	2.435567	2.047	5.9225	7.45254	0.005	0.608	0.559	517.8722	0.167
Cranes	2023	51	120	0.656595	0.552	4.87461	3.9444	0.005	0.323	0.297	469.8891	0.152
Cranes	2023	121	175	0.503663	0.423	4.22184	3.44284	0.005	0.224	0.206	474.595	0.153
Cranes	2023	176	250	0.353966	0.297	3.22938	1.55262	0.005	0.135	0.124	472.9738	0.153
Cranes	2023	251	500	0.281202	0.236	2.5105	2.01	0.005	0.102	0.093	472.294	0.153
Cranes	2023	501	750	0.23207	0.195	2.07257	1.28213	0.005	0.084	0.077	470.2508	0.152
Cranes	2023	1001	9999	0.250681	0.211	2.39857	1.02322	0.005	0.063	0.058	472.0545	0.153
Cranes	2024	26	50	2.304795	1.937	5.78796	7.26852	0.005	0.577	0.531	517.8722	0.167
Cranes	2024	51	120	0.623876	0.524	4.61888	3.90649	0.005	0.301	0.277	469.9032	0.152
Cranes	2024	121	175	0.453764	0.381	3.7029	3.3893	0.005	0.196	0.18	474.6358	0.154
Cranes	2024	176	250	0.334159	0.281	2.96596	1.50208	0.005	0.123	0.114	472.9638	0.153
Cranes	2024	251	500	0.274315	0.231	2.38291	1.93263	0.005	0.096	0.089	472.0664	0.153
Cranes	2024	501	750	0.227031	0.191	1.89979	1.28334	0.005	0.08	0.073	470.3306	0.152
Cranes	2024	1001	9999	0.261551	0.22	2.4105	1.03085	0.005	0.064	0.059	472.0545	0.153
Cranes	2025	26	50	2.155227	1.811	5.63562	7.07168	0.005	0.543	0.499	517.8722	0.167
Cranes	2025	51	120	0.551396	0.463	4.13532	3.83081	0.005	0.26	0.24	469.5332	0.152
Cranes	2025	121	175	0.397698	0.334	3.16038	3.33544	0.005	0.166	0.153	474.7477	0.154
Cranes	2025	176	250	0.31508	0.265	2.68128	1.4697	0.005	0.114	0.105	472.9798	0.153
Cranes	2025	251	500	0.259914	0.218	2.15424	1.83363	0.005	0.088	0.081	471.9671	0.153
Cranes	2025	501	750	0.204336	0.172	1.63763	1.27366	0.005	0.068	0.062	470.2756	0.152
Cranes	2025	1001	9999	0.272209	0.229	2.42219	1.03833	0.005	0.065	0.06	472.0545	0.153
Cranes	2030	26	50	1.788	0.684	3.598	5.366	0.007	0.075	0.075	568.299	0.061
Cranes	2030	51	120	1.941	0.343	1.987	3.812	0.006	0.067	0.067	568.299	0.03
Cranes	2030	121	175	2.293	0.253	0.916	3.356	0.006	0.042	0.042	568.299	0.022
Cranes	2030	176	250	2.835	0.224	0.748	1.147	0.006	0.024	0.024	568.299	0.02
Cranes	2030	251	500	4.512	0.222	0.697	1.09	0.005	0.023	0.023	568.299	0.02

Cranes	2030	501	750	7.602	0.222	0.709	1.09	0.005	0.024	0.024	568.3	0.02
Cranes	2030	1001	9999	26.83	0.245	2.8	1.108	0.005	0.043	0.043	568.299	0.022
Cranes	2035	26	50	1.568	0.6	3.401	5.292	0.007	0.039	0.039	568.299	0.054
Cranes	2035	51	120	1.696	0.3	1.676	3.801	0.006	0.036	0.036	568.3	0.027
Cranes	2035	121	175	1.923	0.212	0.519	3.357	0.006	0.024	0.024	568.299	0.019
Cranes	2035	176	250	2.568	0.203	0.463	1.143	0.006	0.016	0.016	568.299	0.018
Cranes	2035	251	500	4.111	0.202	0.441	1.087	0.005	0.016	0.016	568.299	0.018
Cranes	2035	501	750	6.923	0.202	0.446	1.087	0.005	0.016	0.016	568.299	0.018
Cranes	2035	1001	9999	22.949	0.209	2.618	1.089	0.005	0.031	0.031	568.299	0.018
Cranes	2040	26	50	1.483	0.567	3.324	5.268	0.007	0.024	0.024	568.299	0.051
Cranes	2040	51	120	1.598	0.282	1.552	3.797	0.006	0.021	0.021	568.299	0.025
Cranes	2040	121	175	1.79	0.197	0.371	3.358	0.006	0.016	0.016	568.299	0.017
Cranes	2040	176	250	2.465	0.195	0.344	1.144	0.006	0.013	0.013	568.299	0.017
Cranes	2040	251	500	3.958	0.195	0.34	1.087	0.005	0.013	0.013	568.299	0.017
Cranes	2040	501	750	6.661	0.195	0.341	1.087	0.005	0.013	0.013	568.299	0.017
Cranes	2040	1001	9999	21.703	0.198	2.534	1.087	0.005	0.027	0.027	568.299	0.017
Crawler Tractors	1990	26	50	11.254	4.903	7.983	9.907	0.871	1.291	1.291	568.299	0.442
Crawler Tractors	1990	51	120	14.413	2.374	14.967	5.73	0.791	1.353	1.353	568.299	0.214
Crawler Tractors	1990	121	175	19.335	1.729	13.979	5.079	0.758	0.962	0.962	568.299	0.156
Crawler Tractors	1990	176	250	26.505	1.729	13.979	5.079	0.758	0.962	0.962	568.299	0.156
Crawler Tractors	1990	251	500	36.545	1.528	13.238	11.319	0.662	0.822	0.822	568.3	0.137
Crawler Tractors	1990	501	750	65.509	1.528	13.238	11.319	1.018	0.837	0.837	568.299	0.137
Crawler Tractors	1990	751	1000	92.189	1.518	13.238	11.319	1.018	0.826	0.826	568.299	0.137
Crawler Tractors	2000	26	50	10.858	4.73	7.197	9.675	0.666	0.973	0.973	568.299	0.426
Crawler Tractors	2000	51	120	11.94	1.966	11.097	4.886	0.06	0.949	0.949	568.299	0.177
Crawler Tractors	2000	121	175	14.976	1.339	10.157	4.018	0.057	0.57	0.57	568.3	0.12
Crawler Tractors	2000	176	250	17.901	1.168	9.863	3.367	0.057	0.486	0.486	568.299	0.105
Crawler Tractors	2000	251	500	25.11	1.049	9.341	5.849	0.05	0.424	0.424	568.299	0.094
Crawler Tractors	2000	501	750	45.011	1.049	9.341	5.849	0.052	0.424	0.424	568.299	0.094
Crawler Tractors	2000	751	1000	66.528	1.095	9.844	6.349	0.052	0.407	0.407	568.299	0.098
Crawler Tractors	2005	26	50	9.923	4.323	6.809	9.124	0.066	0.919	0.919	568.299	0.39
Crawler Tractors	2005	51	120	10.68	1.759	9.75	4.63	0.06	0.903	0.903	568.299	0.158
Crawler Tractors	2005	121	175	13.006	1.163	8.886	3.749	0.057	0.513	0.513	568.299	0.104
Crawler Tractors	2005	176	250	13.95	0.91	8.523	2.557	0.057	0.371	0.371	568.299	0.082
Crawler Tractors	2005	251	500	19.249	0.804	7.791	3.945	0.05	0.326	0.326	568.299	0.072
Crawler Tractors	2005	501	750	34.852	0.813	7.93	3.938	0.052	0.328	0.328	568.299	0.073
Crawler Tractors	2005	751	1000	54.011	0.889	8.804	4.359	0.052	0.319	0.319	568.3	0.08
Crawler Tractors	2010	26	50	3.193884	2.684	6.54779	8.18872	0.005	0.785	0.722	572.972	0.167
Crawler Tractors	2010	51	120	1.069208	0.898	7.76656	4.10668	0.005	0.628	0.578	530.0152	0.154
Crawler Tractors	2010	121	175	0.755513	0.635	7.15822	3.40812	0.005	0.378	0.348	524.4997	0.153
Crawler Tractors	2010	176	250	0.540569	0.454	6.46768	1.89919	0.005	0.249	0.229	526.1431	0.153
Crawler Tractors	2010	251	500	0.491926	0.413	5.96739	3.0665	0.005	0.227	0.209	528.681	0.154
Crawler Tractors	2010	501	750	0.418044	0.351	5.31967	1.75694	0.005	0.189	0.174	525.9395	0.153
Crawler Tractors	2010	751	1000	0.545095	0.458	7.25547	2.04187	0.005	0.21	0.193	527.6019	0.154
Crawler Tractors	2011	26	50	3.090465	2.597	6.48764	8.06059	0.005	0.762	0.701	571.2544	0.167
Crawler Tractors	2011	51	120	1.055307	0.887	7.65924	4.11149	0.005	0.624	0.574	528.5468	0.154
Crawler Tractors	2011	121	175	0.753531	0.633	7.0937	3.422	0.005	0.378	0.347	523.1105	0.153
Crawler Tractors	2011	176	250	0.541549	0.455	6.42306	1.8844	0.005	0.248	0.228	524.8932	0.153
Crawler Tractors	2011	251	500	0.494702	0.416	5.91443	3.04503	0.005	0.226	0.208	527.4003	0.154
Crawler Tractors	2011	501	750	0.416615	0.35	5.23606	1.70832	0.005	0.186	0.171	524.9577	0.153
Crawler Tractors	2011	751	1000	0.550612	0.463	7.30105	2.05264	0.005	0.212	0.195	526.3508	0.154
Crawler Tractors	2012	26	50	3.127964	2.628	6.51312	8.16399	0.005	0.77	0.708	569.8895	0.167
Crawler Tractors	2012	51	120	1.066067	0.896	7.67928	4.14375	0.005	0.633	0.582	527.2248	0.154
Crawler Tractors	2012	121	175	0.762695	0.641	7.11308	3.4484	0.005	0.382	0.351	521.7707	0.153
Crawler Tractors	2012	176	250	0.549863	0.462	6.43904	1.8924	0.005	0.25	0.23	523.5287	0.153
Crawler Tractors	2012	251	500	0.502104	0.422	5.9107	3.05662	0.005	0.227	0.209	526.0223	0.154
Crawler Tractors	2012	501	750	0.425611	0.358	5.25574	1.71661	0.005	0.189	0.173	523.7088	0.153
Crawler Tractors	2012	751	1000	0.555874	0.467	7.34463	2.06265	0.005	0.214	0.197	525.1067	0.154
Crawler Tractors	2013	26	50	3.060938	2.572	6.42928	8.10275	0.005	0.753	0.692	567.3537	0.167
Crawler Tractors	2013	51	120	1.067402	0.897	7.64718	4.16448	0.005	0.636	0.585	524.5941	0.154
Crawler Tractors	2013	121	175	0.758762	0.638	7.02367	3.4566	0.005	0.38	0.349	519.0712	0.153
Crawler Tractors	2013	176	250	0.548046	0.461	6.36771	1.8715	0.005	0.247	0.227	520.7236	0.153
Crawler Tractors	2013	251	500	0.501212	0.421	5.82738	2.99715	0.005	0.225	0.207	523.5592	0.154
Crawler Tractors	2013	501	750	0.418079	0.351	5.09878	1.67885	0.005	0.183	0.168	520.5693	0.153
Crawler Tractors	2013	751	1000	0.560878	0.471	7.3862	2.07187	0.005	0.216	0.199	522.5513	0.154
Crawler Tractors	2014	26	50	3.000333	2.521	6.39578	8.04733	0.005	0.743	0.684	564.5641	0.167
Crawler Tractors	2014	51	120	1.051605	0.884	7.52434	4.16815	0.005	0.628	0.578	522.1187	0.154
Crawler Tractors	2014	121	175	0.748303	0.629	6.87548	3.45911	0.005	0.374	0.344	516.4039	0.153
Crawler Tractors	2014	176	250	0.54035	0.454	6.23751	1.83765	0.005	0.241	0.222	518.0363	0.153
Crawler Tractors	2014	251	500	0.490461	0.412	5.61601	2.91108	0.005	0.217	0.2	520.5153	0.154
Crawler Tractors	2014	501	750	0.412689	0.347	4.89468	1.67523	0.005	0.179	0.164	517.8612	0.153
Crawler Tractors	2014	751	1000	0.565619	0.475	7.42576	2.08028	0.005	0.218	0.201	520.0052	0.154
Crawler Tractors	2015	26	50	2.990271	2.513	6.37736	8.07628	0.005	0.741	0.682	558.8878	0.167
Crawler Tractors	2015	51	120	1.05262	0.884	7.4938	4.18907	0.005	0.63	0.58	516.8433	0.154
Crawler Tractors	2015	121	175	0.751623	0.632	6.84937	3.47922	0.005	0.376	0.346	511.3059	0.153
Crawler Tractors	2015	176	250	0.536796	0.451	6.14312	1.81586	0.005	0.237	0.218	512.8973	0.153
Crawler Tractors	2015	251	500	0.485596	0.408	5.48324	2.84505	0.005	0.212	0.195	515.3725	0.154
Crawler Tractors	2015	501	750	0.41802	0.351	4.88301	1.66415	0.005	0.179	0.165	512.5402	0.153
Crawler Tractors	2015	751	1000	0.570092	0.479	7.46329	2.08783	0.005	0.22	0.202	514.83	0.154
Crawler Tractors	2016	26	50	2.99791	2.519	6.31718	8.10441	0.005	0.733	0.674	553.214	0.167
Crawler Tractors	2016	51	120	1.034441	0.869	7.34589	4.18548	0.005	0.619	0.57	511.268	0.154
Crawler Tractors	2016	121	175	0.743125	0.624	6.7205	3.48211	0.005	0.371	0.341	506.0335	0.153
Crawler Tractors	2016	176	250	0.534039	0.449	6.04745	1.80295	0.005	0.233	0.215	507.355	0.153
Crawler Tractors	2016	251	500	0.473782	0.398	5.27907	2.74397	0.005	0.205	0.188	510.3385	0.154
Crawler Tractors	2016	501	750	0.41158	0.346	4.7238	1.6206	0.005	0.174	0.16	507.2527	0.153
Crawler Tractors	2016	751	1000	0.57429	0.483	7.4988	2.09448	0.005	0.222	0.204	509.6671	0.154
Crawler Tractors	2017	26	50	2.926516	2.459	6.20834	8.00596	0.005	0.712	0.655	544.6762	0.167
Crawler Tractors	2017	51	120	1.010844	0.849	7.141	4.17611	0.005	0.604	0.555	503.2791	0.154
Crawler Tractors	2017	121	175	0.731209	0.614	6.55188	3.48322	0.005	0.364	0.335	498.1245	0.153



Crawler Tractors	2017	176	250	0.511144	0.43	5.75969	1.7418	0.005	0.22	0.202	499.832	0.153
Crawler Tractors	2017	251	500	0.458057	0.385	5.02932	2.6349	0.005	0.195	0.179	502.422	0.154
Crawler Tractors	2017	501	750	0.386074	0.324	4.36108	1.5221	0.005	0.16	0.147	499.1046	0.153
Crawler Tractors	2017	751	1000	0.578206	0.486	7.53226	2.10018	0.005	0.223	0.205	501.8777	0.154
Crawler Tractors	2018	26	50	2.910335	2.445	6.16323	8.0094	0.005	0.704	0.647	536.1409	0.167
Crawler Tractors	2018	51	120	0.949614	0.798	6.72257	4.1231	0.005	0.566	0.52	494.9217	0.154
Crawler Tractors	2018	121	175	0.660412	0.555	5.8588	3.42131	0.005	0.325	0.299	490.0002	0.153
Crawler Tractors	2018	176	250	0.473989	0.398	5.28959	1.65354	0.005	0.2	0.184	491.606	0.153
Crawler Tractors	2018	251	500	0.409351	0.344	4.37324	2.38218	0.005	0.169	0.156	493.5104	0.154
Crawler Tractors	2018	501	750	0.351876	0.296	3.8336	1.4447	0.005	0.141	0.13	491.2659	0.153
Crawler Tractors	2018	751	1000	0.581827	0.489	7.56366	2.10483	0.005	0.225	0.207	494.1052	0.154
Crawler Tractors	2019	26	50	2.648469	2.225	5.85476	7.58896	0.005	0.64	0.589	525.9767	0.166
Crawler Tractors	2019	51	120	0.901167	0.757	6.39347	4.08842	0.005	0.535	0.492	486.9909	0.154
Crawler Tractors	2019	121	175	0.615173	0.517	5.38191	3.37886	0.005	0.3	0.276	481.6222	0.152
Crawler Tractors	2019	176	250	0.45175	0.38	4.9721	1.60445	0.005	0.187	0.172	483.4489	0.153
Crawler Tractors	2019	251	500	0.37933	0.319	3.93412	2.21938	0.005	0.153	0.141	485.8645	0.154
Crawler Tractors	2019	501	750	0.316919	0.266	3.34253	1.35585	0.005	0.123	0.113	483.3879	0.153
Crawler Tractors	2019	751	1000	0.547243	0.46	7.21215	2.02037	0.005	0.211	0.194	486.2545	0.154
Crawler Tractors	2020	26	50	2.443056	2.053	5.64276	7.3	0.005	0.591	0.544	515.679	0.167
Crawler Tractors	2020	51	120	0.850709	0.715	6.00933	4.04412	0.005	0.5	0.46	476.3284	0.154
Crawler Tractors	2020	121	175	0.566576	0.476	4.87226	3.33989	0.005	0.272	0.25	471.015	0.152
Crawler Tractors	2020	176	250	0.428471	0.36	4.63225	1.55491	0.005	0.175	0.161	472.941	0.153
Crawler Tractors	2020	251	500	0.358593	0.301	3.62175	2.0875	0.005	0.141	0.13	475.2338	0.154
Crawler Tractors	2020	501	750	0.304872	0.256	3.13716	1.31018	0.005	0.115	0.106	473.3119	0.153
Crawler Tractors	2020	751	1000	0.551035	0.463	7.23682	2.02764	0.005	0.212	0.195	475.6525	0.154
Crawler Tractors	2021	26	50	2.456387	2.064	5.61511	7.34869	0.005	0.591	0.543	516.1077	0.167
Crawler Tractors	2021	51	120	0.800723	0.673	5.65746	4.00549	0.005	0.466	0.428	476.437	0.154
Crawler Tractors	2021	121	175	0.518367	0.436	4.3947	3.30982	0.005	0.245	0.225	471.421	0.152
Crawler Tractors	2021	176	250	0.407794	0.343	4.33394	1.51456	0.005	0.163	0.15	472.9246	0.153
Crawler Tractors	2021	251	500	0.337066	0.283	3.27633	2.02434	0.005	0.129	0.119	474.4843	0.153
Crawler Tractors	2021	501	750	0.284829	0.239	2.82478	1.26985	0.005	0.104	0.095	473.0941	0.153
Crawler Tractors	2021	751	1000	0.475256	0.399	6.3992	1.89563	0.005	0.182	0.167	471.8224	0.153
Crawler Tractors	2022	26	50	2.25944	1.899	5.37962	7.04118	0.005	0.539	0.496	516.1476	0.167
Crawler Tractors	2022	51	120	0.714244	0.6	5.10103	3.92498	0.005	0.408	0.375	476.0219	0.154
Crawler Tractors	2022	121	175	0.463094	0.389	3.82659	3.26382	0.005	0.214	0.197	471.5674	0.153
Crawler Tractors	2022	176	250	0.364117	0.306	3.73672	1.43975	0.005	0.141	0.13	472.0975	0.153
Crawler Tractors	2022	251	500	0.30258	0.254	2.74435	1.91628	0.005	0.111	0.102	474.4115	0.153
Crawler Tractors	2022	501	750	0.235465	0.198	2.12552	1.18638	0.005	0.079	0.073	472.876	0.153
Crawler Tractors	2022	751	1000	0.424397	0.357	5.92299	1.73227	0.005	0.162	0.149	470.7007	0.152
Crawler Tractors	2023	26	50	2.228685	1.873	5.32514	7.02687	0.005	0.526	0.484	516.1587	0.167
Crawler Tractors	2023	51	120	0.663952	0.558	4.76208	3.88936	0.005	0.373	0.343	476.1575	0.154
Crawler Tractors	2023	121	175	0.41309	0.347	3.33004	3.23526	0.005	0.185	0.17	471.7805	0.153
Crawler Tractors	2023	176	250	0.328767	0.276	3.18735	1.39549	0.005	0.124	0.114	471.6244	0.153
Crawler Tractors	2023	251	500	0.286276	0.241	2.47635	1.85216	0.005	0.102	0.094	474.6128	0.153
Crawler Tractors	2023	501	750	0.218505	0.184	1.86667	1.15892	0.005	0.069	0.064	472.5297	0.153
Crawler Tractors	2023	751	1000	0.319268	0.268	4.76968	1.6104	0.005	0.118	0.109	473.6655	0.153
Crawler Tractors	2024	26	50	2.089827	1.756	4.97522	6.68497	0.005	0.466	0.429	515.4658	0.167
Crawler Tractors	2024	51	120	0.610839	0.513	4.40892	3.85173	0.005	0.335	0.309	476.2342	0.154
Crawler Tractors	2024	121	175	0.387606	0.326	3.04107	3.22706	0.005	0.17	0.157	471.8291	0.153
Crawler Tractors	2024	176	250	0.313897	0.264	2.95319	1.36992	0.005	0.115	0.105	471.8603	0.153
Crawler Tractors	2024	251	500	0.271114	0.228	2.2441	1.77984	0.005	0.093	0.085	474.025	0.153
Crawler Tractors	2024	501	750	0.215283	0.181	1.76658	1.15921	0.005	0.066	0.061	472.2827	0.153
Crawler Tractors	2024	751	1000	0.313081	0.263	4.68945	1.58774	0.005	0.115	0.106	474.6448	0.154
Crawler Tractors	2025	26	50	2.075042	1.744	4.93567	6.68642	0.005	0.456	0.42	516.1279	0.167
Crawler Tractors	2025	51	120	0.540303	0.454	3.96126	3.78839	0.005	0.285	0.262	476.1336	0.154
Crawler Tractors	2025	121	175	0.354345	0.298	2.68768	3.20909	0.005	0.15	0.138	471.5923	0.153
Crawler Tractors	2025	176	250	0.276616	0.232	2.46158	1.30849	0.005	0.096	0.088	471.6224	0.153
Crawler Tractors	2025	251	500	0.247477	0.208	1.92007	1.71697	0.005	0.081	0.074	474.0072	0.153
Crawler Tractors	2025	501	750	0.198724	0.167	1.54452	1.12199	0.005	0.057	0.052	472.4081	0.153
Crawler Tractors	2025	751	1000	0.308836	0.26	4.59799	1.59298	0.005	0.111	0.103	475.4901	0.154
Crawler Tractors	2030	26	50	1.912	0.833	3.808	5.605	0.007	0.116	0.116	568.299	0.075
Crawler Tractors	2030	51	120	2.461	0.405	2.341	3.871	0.006	0.105	0.105	568.299	0.036
Crawler Tractors	2030	121	175	3.315	0.296	1.266	3.397	0.006	0.065	0.065	568.299	0.026
Crawler Tractors	2030	176	250	4.019	0.262	1.104	1.207	0.006	0.04	0.04	568.299	0.023
Crawler Tractors	2030	251	500	6.146	0.257	1.016	1.2	0.005	0.038	0.038	568.299	0.023
Crawler Tractors	2030	501	750	11.033	0.257	1.033	1.2	0.005	0.038	0.038	568.299	0.023
Crawler Tractors	2030	751	1000	16.147	0.265	3.094	1.225	0.005	0.056	0.056	568.3	0.023
Crawler Tractors	2035	26	50	1.626	0.708	3.558	5.493	0.007	0.066	0.066	568.299	0.063
Crawler Tractors	2035	51	120	2.099	0.345	1.922	3.85	0.006	0.06	0.06	568.299	0.031
Crawler Tractors	2035	121	175	2.772	0.247	0.794	3.391	0.006	0.038	0.038	568.299	0.022
Crawler Tractors	2035	176	250	3.521	0.229	0.695	1.182	0.006	0.026	0.026	568.299	0.02
Crawler Tractors	2035	251	500	5.432	0.227	0.657	1.145	0.005	0.025	0.025	568.299	0.02
Crawler Tractors	2035	501	750	9.744	0.227	0.664	1.145	0.005	0.025	0.025	568.299	0.02
Crawler Tractors	2035	751	1000	14.073	0.231	2.792	1.159	0.005	0.041	0.041	568.299	0.02
Crawler Tractors	2040	26	50	1.499	0.653	3.42	5.443	0.007	0.042	0.042	568.299	0.058
Crawler Tractors	2040	51	120	1.924	0.316	1.709	3.839	0.006	0.039	0.039	568.299	0.028
Crawler Tractors	2040	121	175	2.48	0.221	0.539	3.388	0.006	0.025	0.025	568.299	0.02
Crawler Tractors	2040	176	250	3.247	0.211	0.491	1.167	0.006	0.018	0.018	568.299	0.019
Crawler Tractors	2040	251	500	5.035	0.21	0.47	1.113	0.005	0.018	0.018	568.299	0.018
Crawler Tractors	2040	501	750	9.03	0.21	0.475	1.113	0.005	0.018	0.018	568.299	0.019
Crawler Tractors	2040	751	1000	12.945	0.213	2.652	1.122	0.005	0.032	0.032	568.299	0.019
Crushing/Proc. Equipment	1990	26	50	11.643	4.43	7.809	9.044	0.871	1.194	1.194	568.299	0.399
Crushing/Proc. Equipment	1990	51	120	11.193	2.255	14.555	5.547	0.791	1.258	1.258	568.299	0.203
Crushing/Proc. Equipment	1990	121	175	15.383	1.54	13.086	4.913	0.758	0.834	0.834	568.299	0.138
Crushing/Proc. Equipment	1990	176	250	22.49	1.54	13.086	4.913	0.758	0.834	0.834	568.299	0.138
Crushing/Proc. Equipment	1990	251	500	30.672	1.374	12.492	10.176	0.662	0.724	0.724	568.299	0.124
Crushing/Proc. Equipment	1990	501	750	48.337	1.374	12.492	10.175	1.018	0.737	0.737	568.299	0.124
Crushing/Proc. Equipment	1990	1001	9999	106.942	1.369	12.492	10.175	1.018	0.731	0.731	568.299	0.123
Crushing/Proc. Equipment	2000	26	50	10.827	4.12	6.954	8.551	0.066	0.876	0.876	568.299	0.371

Crushing/Proc. Equipment	2000	51	120	8.945	1.802	10.363	4.594	0.06	0.857	0.857	568.299	0.162
Crushing/Proc. Equipment	2000	121	175	12.05	1.206	9.416	3.737	0.057	0.506	0.506	568.299	0.108
Crushing/Proc. Equipment	2000	176	250	14.723	1.008	9.058	2.963	0.057	0.414	0.414	568.299	0.09
Crushing/Proc. Equipment	2000	251	500	20.487	0.918	8.658	5.011	0.05	0.366	0.366	568.299	0.082
Crushing/Proc. Equipment	2000	501	750	30.946	0.88	8.459	4.658	0.052	0.348	0.348	568.299	0.079
Crushing/Proc. Equipment	2000	1001	9999	77.281	0.989	9.138	5.329	0.052	0.37	0.37	568.299	0.089
Crushing/Proc. Equipment	2005	26	50	9.624	3.662	6.477	7.904	0.066	0.812	0.812	568.3	0.33
Crushing/Proc. Equipment	2005	51	120	7.644	1.54	8.68	4.24	0.06	0.794	0.794	568.299	0.138
Crushing/Proc. Equipment	2005	121	175	10.064	1.007	7.941	3.372	0.057	0.438	0.438	568.299	0.09
Crushing/Proc. Equipment	2005	176	250	10.399	0.712	7.484	1.97	0.057	0.282	0.282	568.299	0.064
Crushing/Proc. Equipment	2005	251	500	14.029	0.628	6.846	2.549	0.05	0.252	0.252	568.299	0.056
Crushing/Proc. Equipment	2005	501	750	22.225	0.632	6.974	2.431	0.052	0.249	0.249	568.299	0.057
Crushing/Proc. Equipment	2005	1001	9999	60.257	0.771	8.054	3.042	0.052	0.268	0.268	568.299	0.069
Crushing/Proc. Equipment	2010	26	50	7.704	2.931	6.068	7.22	0.007	0.671	0.671	568.299	0.264
Crushing/Proc. Equipment	2010	51	120	5.971	1.203	7.096	4.071	0.006	0.656	0.656	568.299	0.108
Crushing/Proc. Equipment	2010	121	175	8.033	0.804	6.322	3.307	0.006	0.362	0.362	568.299	0.072
Crushing/Proc. Equipment	2010	176	250	7.61	0.521	5.918	1.446	0.006	0.195	0.195	568.299	0.047
Crushing/Proc. Equipment	2010	251	500	10.487	0.47	5.248	1.603	0.005	0.18	0.18	568.299	0.042
Crushing/Proc. Equipment	2010	501	750	16.814	0.478	5.449	1.568	0.005	0.183	0.183	568.299	0.043
Crushing/Proc. Equipment	2010	1001	9999	46.933	0.601	6.987	2.091	0.005	0.209	0.209	568.299	0.054
Crushing/Proc. Equipment	2011	26	50	7.155	2.722	5.972	6.995	0.007	0.636	0.636	568.299	0.245
Crushing/Proc. Equipment	2011	51	120	5.588	1.125	6.704	4.03	0.006	0.625	0.625	568.3	0.101
Crushing/Proc. Equipment	2011	121	175	7.581	0.759	5.953	3.294	0.006	0.347	0.347	568.299	0.068
Crushing/Proc. Equipment	2011	176	250	7.059	0.483	5.498	1.356	0.006	0.175	0.175	568.299	0.043
Crushing/Proc. Equipment	2011	251	500	9.796	0.439	4.858	1.462	0.005	0.162	0.162	568.299	0.039
Crushing/Proc. Equipment	2011	501	750	15.681	0.446	5.054	1.435	0.005	0.165	0.165	568.299	0.04
Crushing/Proc. Equipment	2011	1001	9999	44.108	0.564	6.609	1.923	0.005	0.196	0.196	568.299	0.05
Crushing/Proc. Equipment	2012	26	50	6.538	2.488	5.867	6.733	0.007	0.596	0.596	568.299	0.224
Crushing/Proc. Equipment	2012	51	120	5.173	1.042	6.269	3.984	0.006	0.582	0.582	568.299	0.094
Crushing/Proc. Equipment	2012	121	175	7.084	0.709	5.553	3.28	0.006	0.321	0.321	568.299	0.064
Crushing/Proc. Equipment	2012	176	250	6.627	0.453	5.088	1.299	0.006	0.158	0.158	568.299	0.04
Crushing/Proc. Equipment	2012	251	500	9.273	0.415	4.48	1.362	0.005	0.147	0.147	568.3	0.037
Crushing/Proc. Equipment	2012	501	750	14.786	0.42	4.662	1.341	0.005	0.15	0.15	568.299	0.037
Crushing/Proc. Equipment	2012	1001	9999	41.105	0.526	6.197	1.755	0.005	0.182	0.182	568.299	0.047
Crushing/Proc. Equipment	2013	26	50	5.908	2.248	5.628	6.467	0.007	0.545	0.545	568.299	0.202
Crushing/Proc. Equipment	2013	51	120	4.758	0.958	5.845	3.94	0.006	0.532	0.532	568.299	0.086
Crushing/Proc. Equipment	2013	121	175	6.588	0.659	5.177	3.267	0.006	0.293	0.293	568.299	0.059
Crushing/Proc. Equipment	2013	176	250	6.27	0.429	4.695	1.26	0.006	0.144	0.144	568.299	0.038
Crushing/Proc. Equipment	2013	251	500	8.85	0.396	4.121	1.289	0.005	0.134	0.134	568.299	0.035
Crushing/Proc. Equipment	2013	501	750	14.055	0.399	4.285	1.273	0.005	0.136	0.136	568.299	0.036
Crushing/Proc. Equipment	2013	1001	9999	38.235	0.489	5.785	1.599	0.005	0.168	0.168	568.299	0.044
Crushing/Proc. Equipment	2014	26	50	5.288	2.012	5.399	6.212	0.007	0.494	0.494	568.299	0.181
Crushing/Proc. Equipment	2014	51	120	4.356	0.877	5.468	3.898	0.006	0.481	0.481	568.299	0.079
Crushing/Proc. Equipment	2014	121	175	6.112	0.612	4.823	3.256	0.006	0.265	0.265	568.299	0.055
Crushing/Proc. Equipment	2014	176	250	5.916	0.405	4.239	1.228	0.006	0.13	0.13	568.299	0.036
Crushing/Proc. Equipment	2014	251	500	8.415	0.377	3.702	1.23	0.005	0.121	0.121	568.299	0.034
Crushing/Proc. Equipment	2014	501	750	13.314	0.378	3.844	1.218	0.005	0.123	0.123	568.299	0.034
Crushing/Proc. Equipment	2014	1001	9999	35.652	0.456	5.391	1.46	0.005	0.155	0.155	568.299	0.041
Crushing/Proc. Equipment	2015	26	50	4.722	1.796	5.195	5.996	0.007	0.446	0.446	568.299	0.162
Crushing/Proc. Equipment	2015	51	120	3.959	0.797	5.04	3.859	0.006	0.43	0.43	568.299	0.071
Crushing/Proc. Equipment	2015	121	175	5.614	0.562	4.343	3.247	0.006	0.237	0.237	568.299	0.05
Crushing/Proc. Equipment	2015	176	250	5.585	0.382	3.801	1.201	0.006	0.117	0.117	568.299	0.034
Crushing/Proc. Equipment	2015	251	500	8	0.358	3.304	1.184	0.005	0.109	0.109	568.299	0.032
Crushing/Proc. Equipment	2015	501	750	12.614	0.358	3.422	1.176	0.005	0.111	0.111	568.299	0.032
Crushing/Proc. Equipment	2015	1001	9999	32.981	0.422	5.019	1.343	0.005	0.14	0.14	568.299	0.038
Crushing/Proc. Equipment	2016	26	50	4.186	1.593	5.006	5.801	0.007	0.399	0.399	568.299	0.143
Crushing/Proc. Equipment	2016	51	120	3.576	0.72	4.631	3.823	0.006	0.379	0.379	568.299	0.065
Crushing/Proc. Equipment	2016	121	175	5.132	0.513	3.883	3.241	0.006	0.21	0.21	568.299	0.046
Crushing/Proc. Equipment	2016	176	250	5.267	0.36	3.381	1.178	0.006	0.105	0.105	568.299	0.032
Crushing/Proc. Equipment	2016	251	500	7.601	0.34	2.928	1.146	0.005	0.098	0.098	568.299	0.03
Crushing/Proc. Equipment	2016	501	750	11.944	0.339	3.021	1.14	0.005	0.099	0.099	568.299	0.03
Crushing/Proc. Equipment	2016	1001	9999	31.036	0.397	4.7	1.274	0.005	0.127	0.127	568.299	0.035
Crushing/Proc. Equipment	2017	26	50	3.684	1.402	4.827	5.623	0.007	0.354	0.354	568.299	0.126
Crushing/Proc. Equipment	2017	51	120	3.216	0.647	4.244	3.791	0.006	0.33	0.33	568.299	0.058
Crushing/Proc. Equipment	2017	121	175	4.681	0.468	3.45	3.236	0.006	0.185	0.185	568.299	0.042
Crushing/Proc. Equipment	2017	176	250	4.974	0.34	2.987	1.16	0.006	0.094	0.094	568.299	0.03
Crushing/Proc. Equipment	2017	251	500	7.242	0.324	2.602	1.118	0.005	0.088	0.088	568.299	0.029
Crushing/Proc. Equipment	2017	501	750	11.359	0.323	2.664	1.114	0.005	0.088	0.088	568.299	0.029
Crushing/Proc. Equipment	2017	1001	9999	29.544	0.378	4.423	1.231	0.005	0.117	0.117	568.299	0.034
Crushing/Proc. Equipment	2018	26	50	3.219	1.225	4.657	5.461	0.007	0.31	0.31	568.299	0.11
Crushing/Proc. Equipment	2018	51	120	2.881	0.58	3.881	3.763	0.006	0.284	0.284	568.299	0.052
Crushing/Proc. Equipment	2018	121	175	4.267	0.427	3.049	3.234	0.006	0.161	0.161	568.299	0.038
Crushing/Proc. Equipment	2018	176	250	4.701	0.322	2.622	1.146	0.006	0.083	0.083	568.299	0.029
Crushing/Proc. Equipment	2018	251	500	6.912	0.309	2.312	1.099	0.005	0.079	0.079	568.299	0.027
Crushing/Proc. Equipment	2018	501	750	10.84	0.308	2.358	1.097	0.005	0.079	0.079	568.299	0.027
Crushing/Proc. Equipment	2018	1001	9999	28.23	0.361	4.168	1.198	0.005	0.107	0.107	568.299	0.032
Crushing/Proc. Equipment	2019	26	50	2.798	1.064	4.495	5.316	0.007	0.269	0.269	568.299	0.096
Crushing/Proc. Equipment	2019	51	120	2.577	0.519	3.544	3.739	0.006	0.241	0.241	568.299	0.046
Crushing/Proc. Equipment	2019	121	175	3.938	0.394	2.7	3.233	0.006	0.141	0.141	568.299	0.035
Crushing/Proc. Equipment	2019	176	250	4.451	0.304	2.3	1.134	0.006	0.074	0.074	568.299	0.027
Crushing/Proc. Equipment	2019	251	500	6.592	0.295	2.046	1.087	0.005	0.071	0.071	568.299	0.026
Crushing/Proc. Equipment	2019	501	750	10.352	0.294	2.085	1.085	0.005	0.071	0.071	568.299	0.026
Crushing/Proc. Equipment	2019	1001	9999	26.978	0.345	3.927	1.173	0.005	0.098	0.098	568.299	0.031
Crushing/Proc. Equipment	2020	26	50	2.489	0.947	4.347	5.211	0.007	0.233	0.233	568.299	0.085
Crushing/Proc. Equipment	2020	51	120	2.348	0.473	3.249	3.722	0.006	0.206	0.206	568.299	0.042
Crushing/Proc. Equipment	2020	121	175	3.673	0.367	2.392	3.234	0.006	0.124	0.124	568.299	0.033
Crushing/Proc. Equipment	2020	176	250	4.222	0.289	2.014	1.125	0.006	0.065	0.065	568.299	0.026
Crushing/Proc. Equipment	2020	251	500	6.283	0.281	1.799	1.078	0.005	0.063	0.063	568.299	0.025
Crushing/Proc. Equipment	2020	501	750	9.884	0.281	1.835	1.077	0.005	0.063	0.063	568.299	0.025

Crushing/Proc. Equipment	2020	1001	9999	25.755	0.329	3.699	1.153	0.005	0.089	0.089	568.299	0.029
Crushing/Proc. Equipment	2021	26	50	2.265	0.862	4.211	5.136	0.007	0.201	0.201	568.299	0.077
Crushing/Proc. Equipment	2021	51	120	2.176	0.438	2.989	3.711	0.006	0.178	0.178	568.299	0.039
Crushing/Proc. Equipment	2021	121	175	3.442	0.344	2.114	3.235	0.006	0.109	0.109	568.299	0.031
Crushing/Proc. Equipment	2021	176	250	4.009	0.274	1.756	1.119	0.006	0.057	0.057	568.299	0.024
Crushing/Proc. Equipment	2021	251	500	5.988	0.268	1.574	1.072	0.005	0.055	0.055	568.3	0.024
Crushing/Proc. Equipment	2021	501	750	9.434	0.268	1.606	1.072	0.005	0.055	0.055	568.299	0.024
Crushing/Proc. Equipment	2021	1001	9999	24.586	0.314	3.487	1.136	0.005	0.08	0.08	568.299	0.028
Crushing/Proc. Equipment	2022	26	50	2.09	0.795	4.083	5.081	0.007	0.172	0.172	568.299	0.071
Crushing/Proc. Equipment	2022	51	120	2.036	0.41	2.758	3.704	0.006	0.154	0.154	568.299	0.037
Crushing/Proc. Equipment	2022	121	175	3.231	0.323	1.861	3.237	0.006	0.095	0.095	568.299	0.029
Crushing/Proc. Equipment	2022	176	250	3.808	0.26	1.521	1.114	0.006	0.05	0.05	568.299	0.023
Crushing/Proc. Equipment	2022	251	500	5.706	0.255	1.389	1.067	0.005	0.048	0.048	568.299	0.023
Crushing/Proc. Equipment	2022	501	750	9.002	0.256	1.416	1.067	0.005	0.048	0.048	568.299	0.023
Crushing/Proc. Equipment	2022	1001	9999	23.492	0.3	3.31	1.121	0.005	0.073	0.073	568.299	0.027
Crushing/Proc. Equipment	2023	26	50	1.944	0.739	3.962	5.039	0.007	0.146	0.146	568.299	0.066
Crushing/Proc. Equipment	2023	51	120	1.914	0.385	2.552	3.7	0.006	0.132	0.132	568.299	0.034
Crushing/Proc. Equipment	2023	121	175	3.042	0.304	1.654	3.24	0.006	0.083	0.083	568.299	0.027
Crushing/Proc. Equipment	2023	176	250	3.623	0.248	1.33	1.111	0.006	0.043	0.043	568.299	0.022
Crushing/Proc. Equipment	2023	251	500	5.444	0.244	1.227	1.064	0.005	0.042	0.042	568.299	0.022
Crushing/Proc. Equipment	2023	501	750	8.598	0.244	1.251	1.065	0.005	0.042	0.042	568.3	0.022
Crushing/Proc. Equipment	2023	1001	9999	22.463	0.287	3.16	1.107	0.005	0.066	0.066	568.299	0.025
Crushing/Proc. Equipment	2024	26	50	1.825	0.694	3.85	5.008	0.007	0.125	0.125	568.299	0.062
Crushing/Proc. Equipment	2024	51	120	1.81	0.364	2.389	3.697	0.006	0.112	0.112	568.299	0.032
Crushing/Proc. Equipment	2024	121	175	2.866	0.287	1.472	3.243	0.006	0.071	0.071	568.299	0.025
Crushing/Proc. Equipment	2024	176	250	3.448	0.236	1.165	1.109	0.006	0.036	0.036	568.299	0.021
Crushing/Proc. Equipment	2024	251	500	5.193	0.232	1.077	1.062	0.005	0.035	0.035	568.299	0.021
Crushing/Proc. Equipment	2024	501	750	8.207	0.233	1.098	1.063	0.005	0.036	0.036	568.299	0.021
Crushing/Proc. Equipment	2024	1001	9999	21.454	0.274	3.029	1.096	0.005	0.059	0.059	568.299	0.024
Crushing/Proc. Equipment	2025	26	50	1.724	0.656	3.742	4.982	0.007	0.107	0.107	568.299	0.059
Crushing/Proc. Equipment	2025	51	120	1.716	0.345	2.248	3.694	0.006	0.095	0.095	568.299	0.031
Crushing/Proc. Equipment	2025	121	175	2.696	0.27	1.301	3.246	0.006	0.06	0.06	568.299	0.024
Crushing/Proc. Equipment	2025	176	250	3.279	0.224	1.012	1.108	0.006	0.031	0.031	568.299	0.02
Crushing/Proc. Equipment	2025	251	500	4.95	0.221	0.937	1.061	0.005	0.03	0.03	568.299	0.02
Crushing/Proc. Equipment	2025	501	750	7.826	0.222	0.955	1.061	0.005	0.03	0.03	568.299	0.02
Crushing/Proc. Equipment	2025	1001	9999	20.429	0.261	2.91	1.087	0.005	0.053	0.053	568.299	0.023
Crushing/Proc. Equipment	2030	26	50	1.381	0.525	3.351	4.857	0.007	0.043	0.043	568.299	0.047
Crushing/Proc. Equipment	2030	51	120	1.35	0.272	1.708	3.673	0.006	0.038	0.038	568.299	0.024
Crushing/Proc. Equipment	2030	121	175	1.976	0.197	0.6	3.244	0.006	0.025	0.025	568.299	0.017
Crushing/Proc. Equipment	2030	176	250	2.701	0.185	0.502	1.105	0.006	0.017	0.017	568.299	0.016
Crushing/Proc. Equipment	2030	251	500	4.113	0.184	0.476	1.058	0.005	0.017	0.017	568.299	0.016
Crushing/Proc. Equipment	2030	501	750	6.473	0.184	0.478	1.058	0.005	0.017	0.017	568.299	0.016
Crushing/Proc. Equipment	2030	1001	9999	15.345	0.196	2.59	1.059	0.005	0.032	0.032	568.299	0.017
Crushing/Proc. Equipment	2035	26	50	1.282	0.487	3.237	4.819	0.007	0.023	0.023	568.299	0.044
Crushing/Proc. Equipment	2035	51	120	1.236	0.249	1.531	3.665	0.006	0.02	0.02	568.299	0.022
Crushing/Proc. Equipment	2035	121	175	1.76	0.176	0.382	3.242	0.006	0.015	0.015	568.299	0.015
Crushing/Proc. Equipment	2035	176	250	2.521	0.172	0.342	1.104	0.006	0.012	0.012	568.3	0.015
Crushing/Proc. Equipment	2035	251	500	3.852	0.172	0.338	1.058	0.005	0.012	0.012	568.299	0.015
Crushing/Proc. Equipment	2035	501	750	6.064	0.172	0.338	1.058	0.005	0.012	0.012	568.299	0.015
Crushing/Proc. Equipment	2035	1001	9999	13.865	0.177	2.482	1.058	0.005	0.026	0.026	568.299	0.016
Crushing/Proc. Equipment	2040	26	50	1.284	0.488	3.194	4.833	0.007	0.017	0.017	568.299	0.044
Crushing/Proc. Equipment	2040	51	120	1.219	0.245	1.477	3.67	0.006	0.015	0.015	568.299	0.022
Crushing/Proc. Equipment	2040	121	175	1.698	0.17	0.306	3.246	0.006	0.012	0.012	568.299	0.015
Crushing/Proc. Equipment	2040	176	250	2.464	0.168	0.292	1.106	0.006	0.011	0.011	568.299	0.015
Crushing/Proc. Equipment	2040	251	500	3.766	0.168	0.292	1.059	0.005	0.011	0.011	568.299	0.015
Crushing/Proc. Equipment	2040	501	750	5.941	0.169	0.292	1.059	0.005	0.011	0.011	568.299	0.015
Crushing/Proc. Equipment	2040	1001	9999	13.333	0.17	2.457	1.059	0.005	0.024	0.024	568.299	0.015
Dumpers/Tenders	1990	16	25	2.645	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Dumpers/Tenders	2000	16	25	2.444	2.045	6.397	4.69	0.065	0.571	0.571	568.299	0.184
Dumpers/Tenders	2005	16	25	1.554	1.3	5.74	3.337	0.065	0.426	0.426	568.299	0.117
Dumpers/Tenders	2010	16	25	0.963	0.806	4.804	2.507	0.007	0.271	0.271	568.299	0.072
Dumpers/Tenders	2011	16	25	0.921	0.771	4.686	2.456	0.007	0.251	0.251	568.299	0.069
Dumpers/Tenders	2012	16	25	0.887	0.742	4.576	2.416	0.007	0.232	0.232	568.299	0.066
Dumpers/Tenders	2013	16	25	0.86	0.719	4.477	2.385	0.007	0.216	0.216	568.3	0.064
Dumpers/Tenders	2014	16	25	0.842	0.705	4.433	2.364	0.007	0.2	0.2	568.3	0.063
Dumpers/Tenders	2015	16	25	0.831	0.696	4.402	2.35	0.007	0.187	0.187	568.299	0.062
Dumpers/Tenders	2016	16	25	0.825	0.69	4.378	2.342	0.007	0.175	0.175	568.299	0.062
Dumpers/Tenders	2017	16	25	0.821	0.687	4.362	2.34	0.007	0.171	0.171	568.299	0.062
Dumpers/Tenders	2018	16	25	0.82	0.686	4.35	2.339	0.007	0.169	0.169	568.299	0.061
Dumpers/Tenders	2019	16	25	0.82	0.686	4.341	2.339	0.007	0.167	0.167	568.299	0.061
Dumpers/Tenders	2020	16	25	0.819	0.685	4.336	2.339	0.007	0.165	0.165	568.299	0.061
Dumpers/Tenders	2021	16	25	0.819	0.685	4.333	2.339	0.007	0.163	0.163	568.299	0.061
Dumpers/Tenders	2022	16	25	0.819	0.685	4.332	2.339	0.007	0.162	0.162	568.299	0.061
Dumpers/Tenders	2023	16	25	0.819	0.685	4.332	2.339	0.007	0.162	0.162	568.299	0.061
Dumpers/Tenders	2024	16	25	0.819	0.685	4.332	2.34	0.007	0.161	0.161	568.299	0.061
Dumpers/Tenders	2025	16	25	0.819	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Dumpers/Tenders	2030	16	25	0.819	0.685	4.332	2.34	0.007	0.161	0.161	568.299	0.061
Dumpers/Tenders	2035	16	25	0.819	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Dumpers/Tenders	2040	16	25	0.819	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Excavators	1990	16	25	5.933	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Excavators	1990	26	50	21.032	5.155	8.08	10.359	0.871	1.341	1.341	568.299	0.465
Excavators	1990	51	120	29.647	2.469	15.421	5.901	0.791	1.413	1.413	568.299	0.222
Excavators	1990	121	175	35.634	1.947	15.075	5.271	0.758	1.096	1.096	568.299	0.175
Excavators	1990	176	250	50.388	1.947	15.075	5.271	0.758	1.096	1.096	568.299	0.175
Excavators	1990	251	500	65.206	1.71	14.225	12.155	0.662	0.93	0.93	568.3	0.154
Excavators	1990	501	750	108.079	1.71	14.225	12.155	1.018	0.947	0.947	568.299	0.154
Excavators	2000	16	25	4.937	1.841	6.281	4.315	0.065	0.543	0.543	568.299	0.166
Excavators	2000	26	50	18.836	4.616	7.102	9.494	0.066	0.958	0.958	568.299	0.416
Excavators	2000	51	120	21.925	1.826	10.156	4.602	0.06	0.913	0.913	568.299	0.164

Excavators	2000	121	175	22.624	1.236	9.345	3.672	0.057	0.525	0.525	568.299	0.111
Excavators	2000	176	250	25.927	1.001	8.952	2.794	0.057	0.409	0.409	568.299	0.09
Excavators	2000	251	500	34.719	0.91	8.491	3.974	0.05	0.362	0.362	568.299	0.082
Excavators	2000	501	750	57.546	0.91	8.491	3.974	0.052	0.362	0.362	568.299	0.082
Excavators	2005	16	25	2.091	0.779	5.219	2.397	0.065	0.319	0.319	568.299	0.07
Excavators	2005	26	50	16.217	3.974	6.562	8.597	0.066	0.871	0.871	568.299	0.358
Excavators	2005	51	120	19.001	1.582	8.632	4.354	0.06	0.853	0.853	568.299	0.142
Excavators	2005	121	175	18.9	1.032	7.905	3.452	0.057	0.461	0.461	568.299	0.093
Excavators	2005	176	250	18.379	0.71	7.456	1.892	0.057	0.276	0.276	568.299	0.064
Excavators	2005	251	500	24.005	0.629	6.685	2.194	0.05	0.248	0.248	568.299	0.056
Excavators	2005	501	750	40.443	0.64	6.888	2.192	0.052	0.251	0.251	568.299	0.057
Excavators	2010	16	25	0.993664	0.835	5.19123	4.56926	0.005	0.413	0.38	584.0737	0.17
Excavators	2010	26	50	0.993664	0.835	5.19123	4.56926	0.005	0.413	0.38	584.0737	0.17
Excavators	2010	51	120	0.73275	0.616	6.10169	3.69337	0.005	0.469	0.432	518.9941	0.151
Excavators	2010	121	175	0.572846	0.481	5.82964	3.1674	0.005	0.299	0.275	525.0484	0.153
Excavators	2010	176	250	0.422004	0.355	5.78636	1.45526	0.005	0.182	0.167	525.2427	0.153
Excavators	2010	251	500	0.315965	0.265	4.38582	1.44794	0.005	0.143	0.132	522.2909	0.152
Excavators	2010	501	750	0.327987	0.276	4.52996	1.53784	0.005	0.149	0.137	520.4269	0.151
Excavators	2011	16	25	0.999474	0.84	5.21824	4.67202	0.005	0.413	0.38	582.8586	0.17
Excavators	2011	26	50	0.999474	0.84	5.21824	4.67202	0.005	0.413	0.38	582.8586	0.17
Excavators	2011	51	120	0.675188	0.567	5.70006	3.65807	0.005	0.436	0.401	517.4139	0.151
Excavators	2011	121	175	0.533269	0.448	5.44943	3.15702	0.005	0.278	0.255	523.5178	0.153
Excavators	2011	176	250	0.400356	0.336	5.41822	1.41809	0.005	0.171	0.157	523.6886	0.153
Excavators	2011	251	500	0.303301	0.255	4.1131	1.41288	0.005	0.133	0.123	521.2972	0.152
Excavators	2011	501	750	0.326107	0.274	4.42127	1.47034	0.005	0.146	0.134	519.1221	0.151
Excavators	2012	16	25	1.018057	0.855	5.19511	4.79179	0.005	0.412	0.379	581.4648	0.17
Excavators	2012	26	50	1.018057	0.855	5.19511	4.79179	0.005	0.412	0.379	581.4648	0.17
Excavators	2012	51	120	0.67458	0.567	5.63138	3.68099	0.005	0.434	0.399	516.083	0.151
Excavators	2012	121	175	0.534632	0.449	5.38897	3.17839	0.005	0.275	0.253	522.0959	0.153
Excavators	2012	176	250	0.402641	0.338	5.32577	1.42562	0.005	0.169	0.155	522.4958	0.153
Excavators	2012	251	500	0.308496	0.259	4.05714	1.4255	0.005	0.131	0.121	520.034	0.152
Excavators	2012	501	750	0.334165	0.281	4.3898	1.47962	0.005	0.145	0.134	517.8167	0.151
Excavators	2013	16	25	0.995402	0.836	5.0526	4.80774	0.005	0.393	0.362	578.236	0.17
Excavators	2013	26	50	0.995402	0.836	5.0526	4.80774	0.005	0.393	0.362	578.236	0.17
Excavators	2013	51	120	0.639011	0.537	5.3703	3.66866	0.005	0.404	0.372	513.7321	0.151
Excavators	2013	121	175	0.503929	0.423	5.08991	3.16966	0.005	0.253	0.233	519.496	0.153
Excavators	2013	176	250	0.383779	0.322	4.93756	1.40068	0.005	0.157	0.145	519.8753	0.153
Excavators	2013	251	500	0.295491	0.248	3.73509	1.38754	0.005	0.121	0.111	517.7809	0.152
Excavators	2013	501	750	0.301827	0.254	3.92892	1.36166	0.005	0.126	0.116	514.1872	0.151
Excavators	2014	16	25	0.981904	0.825	4.96504	4.84434	0.005	0.38	0.35	575.2674	0.17
Excavators	2014	26	50	0.981904	0.825	4.96504	4.84434	0.005	0.38	0.35	575.2674	0.17
Excavators	2014	51	120	0.610505	0.513	5.13137	3.66313	0.005	0.382	0.352	511.3057	0.151
Excavators	2014	121	175	0.464169	0.39	4.65701	3.15438	0.005	0.229	0.211	516.9066	0.153
Excavators	2014	176	250	0.350137	0.294	4.37384	1.34557	0.005	0.139	0.128	517.3234	0.153
Excavators	2014	251	500	0.276896	0.233	3.35284	1.32721	0.005	0.108	0.099	515.2151	0.152
Excavators	2014	501	750	0.284069	0.239	3.54089	1.34745	0.005	0.114	0.105	511.9453	0.151
Excavators	2015	16	25	0.991068	0.833	4.91817	4.92488	0.005	0.375	0.345	569.5116	0.17
Excavators	2015	26	50	0.991068	0.833	4.91817	4.92488	0.005	0.375	0.345	569.5116	0.17
Excavators	2015	51	120	0.60346	0.507	5.01907	3.67943	0.005	0.373	0.344	506.1727	0.151
Excavators	2015	121	175	0.456597	0.384	4.4807	3.16762	0.005	0.221	0.203	511.6869	0.153
Excavators	2015	176	250	0.343545	0.289	4.18222	1.33148	0.005	0.133	0.122	512.0555	0.153
Excavators	2015	251	500	0.276143	0.232	3.21395	1.31662	0.005	0.104	0.096	509.8675	0.152
Excavators	2015	501	750	0.28808	0.242	3.47287	1.35372	0.005	0.113	0.104	506.6816	0.151
Excavators	2016	16	25	0.970016	0.815	4.82432	4.94198	0.005	0.359	0.33	563.8026	0.17
Excavators	2016	26	50	0.970016	0.815	4.82432	4.94198	0.005	0.359	0.33	563.8026	0.17
Excavators	2016	51	120	0.566011	0.476	4.70806	3.66066	0.005	0.344	0.317	500.9659	0.151
Excavators	2016	121	175	0.425494	0.358	4.08095	3.15771	0.005	0.201	0.185	506.495	0.153
Excavators	2016	176	250	0.312033	0.262	3.66736	1.27749	0.005	0.116	0.107	506.544	0.153
Excavators	2016	251	500	0.253752	0.213	2.81451	1.23344	0.005	0.091	0.083	504.2899	0.152
Excavators	2016	501	750	0.287698	0.242	3.35762	1.34881	0.005	0.11	0.101	501.6596	0.151
Excavators	2017	16	25	0.91741	0.771	4.67818	4.88904	0.005	0.332	0.305	554.9101	0.17
Excavators	2017	26	50	0.91741	0.771	4.67818	4.88904	0.005	0.332	0.305	554.9101	0.17
Excavators	2017	51	120	0.523542	0.44	4.37952	3.63939	0.005	0.31	0.285	493.409	0.151
Excavators	2017	121	175	0.397029	0.334	3.69967	3.15091	0.005	0.182	0.167	498.5222	0.153
Excavators	2017	176	250	0.293543	0.247	3.31872	1.24911	0.005	0.105	0.097	498.4364	0.153
Excavators	2017	251	500	0.237788	0.2	2.50715	1.19852	0.005	0.081	0.075	496.8098	0.152
Excavators	2017	501	750	0.249769	0.21	2.71934	1.22803	0.005	0.09	0.083	494.5496	0.152
Excavators	2018	16	25	0.818091	0.687	4.39518	4.70022	0.005	0.284	0.261	545.3468	0.17
Excavators	2018	26	50	0.818091	0.687	4.39518	4.70022	0.005	0.284	0.261	545.3468	0.17
Excavators	2018	51	120	0.438055	0.368	3.76366	3.56214	0.005	0.25	0.23	486.056	0.151
Excavators	2018	121	175	0.324959	0.273	2.92361	3.09338	0.005	0.142	0.13	490.6725	0.153
Excavators	2018	176	250	0.240329	0.202	2.59377	1.15209	0.005	0.079	0.073	490.2569	0.153
Excavators	2018	251	500	0.207823	0.175	2.05045	1.13951	0.005	0.066	0.061	489.1025	0.152
Excavators	2018	501	750	0.22476	0.189	2.26567	1.22359	0.005	0.076	0.07	487.6528	0.152
Excavators	2019	16	25	0.75855	0.637	4.19867	4.59698	0.005	0.25	0.23	536.9132	0.17
Excavators	2019	26	50	0.75855	0.637	4.19867	4.59698	0.005	0.25	0.23	536.9132	0.17
Excavators	2019	51	120	0.386598	0.325	3.36874	3.52421	0.005	0.211	0.194	478.2452	0.151
Excavators	2019	121	175	0.293021	0.246	2.53264	3.08163	0.005	0.122	0.112	482.6838	0.153
Excavators	2019	176	250	0.220917	0.186	2.24187	1.12671	0.005	0.068	0.063	482.2503	0.153
Excavators	2019	251	500	0.192898	0.162	1.77986	1.1135	0.005	0.058	0.053	481.2361	0.152
Excavators	2019	501	750	0.209677	0.176	1.98661	1.17289	0.005	0.067	0.062	479.2876	0.152
Excavators	2020	16	25	0.705964	0.593	4.03131	4.50032	0.005	0.222	0.204	525.3675	0.17
Excavators	2020	26	50	0.705964	0.593	4.03131	4.50032	0.005	0.222	0.204	525.3675	0.17
Excavators	2020	51	120	0.356064	0.299	3.08964	3.50495	0.005	0.185	0.17	468.0546	0.151
Excavators	2020	121	175	0.275327	0.231	2.27838	3.08597	0.005	0.11	0.102	472.2891	0.153
Excavators	2020	176	250	0.211076	0.177	2.02738	1.11778	0.005	0.061	0.056	471.8828	0.153
Excavators	2020	251	500	0.182542	0.153	1.57199	1.1016	0.005	0.052	0.048	470.2956	0.152
Excavators	2020	501	750	0.202011	0.17	1.79718	1.14543	0.005	0.061	0.056	468.8706	0.152
Excavators	2021	16	25	0.669315	0.562	3.91866	4.46094	0.005	0.202	0.186	525.3774	0.17

Excavators	2021	26	50	0.669315	0.562	3.91866	4.46094	0.005	0.202	0.186	525.3774	0.17
Excavators	2021	51	120	0.327314	0.275	2.84891	3.49196	0.005	0.161	0.148	467.7906	0.151
Excavators	2021	121	175	0.257574	0.216	2.03357	3.08975	0.005	0.099	0.091	472.3586	0.153
Excavators	2021	176	250	0.193738	0.163	1.70572	1.10324	0.005	0.052	0.048	471.7931	0.153
Excavators	2021	251	500	0.170127	0.143	1.33174	1.08777	0.005	0.045	0.041	469.6156	0.152
Excavators	2021	501	750	0.196683	0.165	1.61856	1.14978	0.005	0.056	0.052	469.547	0.152
Excavators	2022	16	25	0.568779	0.478	3.70039	4.27341	0.005	0.16	0.147	525.4468	0.17
Excavators	2022	26	50	0.568779	0.478	3.70039	4.27341	0.005	0.16	0.147	525.4468	0.17
Excavators	2022	51	120	0.299503	0.252	2.60649	3.47329	0.005	0.138	0.127	467.6256	0.151
Excavators	2022	121	175	0.22749	0.191	1.6781	3.074	0.005	0.081	0.075	472.1917	0.153
Excavators	2022	176	250	0.176606	0.148	1.38616	1.09157	0.005	0.044	0.04	472.0412	0.153
Excavators	2022	251	500	0.152263	0.128	1.03988	1.06126	0.005	0.035	0.032	469.7105	0.152
Excavators	2022	501	750	0.178436	0.15	1.2865	1.144	0.005	0.047	0.043	469.2892	0.152
Excavators	2023	16	25	0.535724	0.45	3.59356	4.23393	0.005	0.139	0.128	525.4286	0.17
Excavators	2023	26	50	0.535724	0.45	3.59356	4.23393	0.005	0.139	0.128	525.4286	0.17
Excavators	2023	51	120	0.273823	0.23	2.38066	3.45367	0.005	0.116	0.107	467.1573	0.151
Excavators	2023	121	175	0.212046	0.178	1.46245	3.07648	0.005	0.072	0.066	472.277	0.153
Excavators	2023	176	250	0.168964	0.142	1.20943	1.08965	0.005	0.039	0.036	472.2131	0.153
Excavators	2023	251	500	0.145171	0.122	0.89311	1.05093	0.005	0.03	0.028	469.8892	0.152
Excavators	2023	501	750	0.171247	0.144	1.15865	1.13199	0.005	0.043	0.04	468.6826	0.152
Excavators	2024	16	25	0.495634	0.416	3.50816	4.20529	0.005	0.12	0.11	525.979	0.17
Excavators	2024	26	50	0.495634	0.416	3.50816	4.20529	0.005	0.12	0.11	525.979	0.17
Excavators	2024	51	120	0.258544	0.217	2.24781	3.45322	0.005	0.102	0.094	467.3843	0.151
Excavators	2024	121	175	0.202572	0.17	1.32479	3.08336	0.005	0.065	0.06	472.4279	0.153
Excavators	2024	176	250	0.165297	0.139	1.10808	1.0899	0.005	0.036	0.033	472.4415	0.153
Excavators	2024	251	500	0.144133	0.121	0.83129	1.05369	0.005	0.029	0.026	469.7108	0.152
Excavators	2024	501	750	0.169017	0.142	1.10467	1.13421	0.005	0.041	0.037	468.652	0.152
Excavators	2025	16	25	0.47994	0.403	3.45298	4.21941	0.005	0.107	0.099	525.7772	0.17
Excavators	2025	26	50	0.47994	0.403	3.45298	4.21941	0.005	0.107	0.099	525.7772	0.17
Excavators	2025	51	120	0.23878	0.201	2.08246	3.43876	0.005	0.085	0.078	466.7376	0.151
Excavators	2025	121	175	0.187811	0.158	1.15367	3.078	0.005	0.057	0.052	472.4964	0.153
Excavators	2025	176	250	0.155588	0.131	0.96211	1.08136	0.005	0.032	0.029	472.5599	0.153
Excavators	2025	251	500	0.137039	0.115	0.72641	1.05072	0.005	0.026	0.024	470.2915	0.152
Excavators	2025	501	750	0.165305	0.139	1.02571	1.13484	0.005	0.038	0.035	468.5582	0.152
Excavators	2030	16	25	1.838	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Excavators	2030	26	50	2.458	0.602	3.393	5.309	0.007	0.038	0.038	568.299	0.054
Excavators	2030	51	120	3.618	0.301	1.676	3.806	0.006	0.034	0.034	568.299	0.027
Excavators	2030	121	175	3.914	0.213	0.525	3.362	0.006	0.023	0.023	568.299	0.019
Excavators	2030	176	250	5.258	0.203	0.452	1.145	0.006	0.016	0.016	568.299	0.018
Excavators	2030	251	500	7.722	0.202	0.433	1.088	0.005	0.016	0.016	568.299	0.018
Excavators	2030	501	750	12.807	0.202	0.437	1.088	0.005	0.016	0.016	568.299	0.018
Excavators	2035	16	25	1.838	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Excavators	2035	26	50	2.333	0.572	3.323	5.287	0.007	0.024	0.024	568.299	0.051
Excavators	2035	51	120	3.411	0.284	1.551	3.802	0.006	0.021	0.021	568.299	0.025
Excavators	2035	121	175	3.622	0.197	0.365	3.363	0.006	0.015	0.015	568.299	0.017
Excavators	2035	176	250	5.059	0.195	0.342	1.145	0.006	0.013	0.013	568.3	0.017
Excavators	2035	251	500	7.45	0.195	0.337	1.089	0.005	0.013	0.013	568.299	0.017
Excavators	2035	501	750	12.348	0.195	0.338	1.088	0.005	0.013	0.013	568.299	0.017
Excavators	2040	16	25	1.838	0.685	4.332	2.339	0.007	0.161	0.161	568.3	0.061
Excavators	2040	26	50	2.314	0.567	3.29	5.283	0.007	0.019	0.019	568.299	0.051
Excavators	2040	51	120	3.36	0.279	1.507	3.802	0.006	0.017	0.017	568.299	0.025
Excavators	2040	121	175	3.532	0.193	0.311	3.363	0.006	0.013	0.013	568.299	0.017
Excavators	2040	176	250	4.971	0.192	0.3	1.145	0.006	0.011	0.011	568.299	0.017
Excavators	2040	251	500	7.322	0.192	0.3	1.089	0.005	0.011	0.011	568.299	0.017
Excavators	2040	501	750	12.137	0.192	0.3	1.089	0.005	0.011	0.011	568.299	0.017
Forklifts	1990	26	50	11.848	4.826	7.952	9.773	0.692	1.266	1.266	568.299	0.435
Forklifts	1990	51	120	12.154	2.326	14.699	5.638	0.628	1.32	1.32	568.3	0.209
Forklifts	1990	121	175	14.423	1.537	12.932	4.938	0.602	0.849	0.849	568.299	0.138
Forklifts	1990	176	250	19.845	1.537	12.932	4.938	0.602	0.849	0.849	568.299	0.138
Forklifts	1990	251	500	25.356	1.365	12.267	10.853	0.525	0.73	0.73	568.299	0.123
Forklifts	2000	26	50	10.952	4.461	7.035	9.216	0.065	0.934	0.934	568.3	0.402
Forklifts	2000	51	120	9.146	1.75	9.75	4.459	0.059	0.882	0.882	568.299	0.157
Forklifts	2000	121	175	11.149	1.188	9.001	3.519	0.057	0.502	0.502	568.299	0.107
Forklifts	2000	176	250	11.958	0.926	8.546	2.534	0.057	0.372	0.372	568.299	0.083
Forklifts	2000	251	500	15.747	0.848	8.126	3.255	0.049	0.333	0.333	568.299	0.076
Forklifts	2005	26	50	10.087	4.108	6.62	8.778	0.065	0.891	0.891	568.299	0.37
Forklifts	2005	51	120	8.425	1.612	8.602	4.35	0.059	0.876	0.876	568.299	0.145
Forklifts	2005	121	175	9.959	1.061	7.94	3.418	0.057	0.475	0.475	568.299	0.095
Forklifts	2005	176	250	8.606	0.666	7.367	1.693	0.057	0.253	0.253	568.299	0.06
Forklifts	2005	251	500	10.976	0.591	6.611	1.803	0.049	0.23	0.23	568.299	0.053
Forklifts	2010	26	50	2.846117	2.392	6.31187	7.62516	0.005	0.729	0.671	583.8704	0.17
Forklifts	2010	51	120	1.045472	0.878	7.63494	4.10764	0.005	0.625	0.575	523.9205	0.153
Forklifts	2010	121	175	0.764801	0.643	7.24303	3.54812	0.005	0.389	0.357	524.5625	0.153
Forklifts	2010	176	250	0.852639	0.716	8.49545	2.88991	0.005	0.398	0.366	525.9172	0.153
Forklifts	2010	251	500	0.814667	0.685	8.13812	5.79345	0.005	0.381	0.351	526.239	0.153
Forklifts	2011	26	50	2.771689	2.329	6.26642	7.5619	0.005	0.715	0.657	582.4107	0.17
Forklifts	2011	51	120	1.023636	0.86	7.45983	4.10232	0.005	0.617	0.568	522.6107	0.153
Forklifts	2011	121	175	0.759385	0.638	7.14122	3.55732	0.005	0.385	0.355	523.2511	0.153
Forklifts	2011	176	250	0.819463	0.689	8.17495	2.77115	0.005	0.381	0.35	524.6024	0.153
Forklifts	2011	251	500	0.787175	0.661	7.84	5.42187	0.005	0.368	0.338	524.9234	0.153
Forklifts	2012	26	50	2.800937	2.354	6.27736	7.68036	0.005	0.72	0.663	580.951	0.17
Forklifts	2012	51	120	1.026513	0.863	7.43066	4.13104	0.005	0.62	0.571	521.3009	0.153
Forklifts	2012	121	175	0.764904	0.643	7.11981	3.58413	0.005	0.387	0.356	521.9397	0.153
Forklifts	2012	176	250	0.82428	0.693	8.14199	2.77846	0.005	0.381	0.35	523.2876	0.153
Forklifts	2012	251	500	0.795085	0.668	7.85628	5.42806	0.005	0.369	0.34	523.6078	0.153
Forklifts	2013	26	50	2.655997	2.232	6.14743	7.4937	0.005	0.689	0.634	578.0317	0.17
Forklifts	2013	51	120	0.996839	0.838	7.21545	4.11855	0.005	0.603	0.555	518.6813	0.153
Forklifts	2013	121	175	0.743778	0.625	6.90229	3.57971	0.005	0.375	0.345	519.3169	0.153
Forklifts	2013	176	250	0.786493	0.661	7.77338	2.67477	0.005	0.36	0.332	520.658	0.153

Forklifts	2013	251	500	0.686735	0.577	6.91072	4.6871	0.005	0.314	0.289	520.9766	0.153
Forklifts	2014	26	50	2.515249	2.114	6.00609	7.32058	0.005	0.656	0.604	575.1123	0.17
Forklifts	2014	51	120	0.945485	0.794	6.84833	4.07936	0.005	0.574	0.528	516.0617	0.153
Forklifts	2014	121	175	0.688099	0.578	6.35205	3.52073	0.005	0.345	0.317	516.694	0.153
Forklifts	2014	176	250	0.731475	0.615	7.27612	2.50114	0.005	0.33	0.304	518.0284	0.153
Forklifts	2014	251	500	0.644228	0.541	6.35258	4.25186	0.005	0.289	0.266	518.3454	0.153
Forklifts	2015	26	50	2.466892	2.073	5.93143	7.29982	0.005	0.643	0.591	569.2736	0.17
Forklifts	2015	51	120	0.914509	0.768	6.60091	4.06346	0.005	0.555	0.51	510.8225	0.153
Forklifts	2015	121	175	0.673169	0.566	6.13482	3.51969	0.005	0.335	0.308	511.4484	0.153
Forklifts	2015	176	250	0.672054	0.565	6.69668	2.32501	0.005	0.298	0.274	512.7693	0.153
Forklifts	2015	251	500	0.539875	0.454	5.33227	3.29951	0.005	0.237	0.218	513.083	0.153
Forklifts	2016	26	50	2.217878	1.864	5.66211	6.93473	0.005	0.583	0.537	563.4349	0.17
Forklifts	2016	51	120	0.860278	0.723	6.22192	4.02311	0.005	0.52	0.479	505.5833	0.153
Forklifts	2016	121	175	0.630613	0.53	5.67466	3.47253	0.005	0.31	0.285	506.2028	0.153
Forklifts	2016	176	250	0.641979	0.539	6.35303	2.22626	0.005	0.28	0.257	507.5101	0.153
Forklifts	2016	251	500	0.419581	0.353	4.04212	2.57209	0.005	0.174	0.16	507.8206	0.153
Forklifts	2017	26	50	2.026819	1.703	5.45035	6.67251	0.005	0.536	0.493	554.6769	0.17
Forklifts	2017	51	120	0.799635	0.672	5.81772	3.97881	0.005	0.48	0.442	497.7245	0.153
Forklifts	2017	121	175	0.604568	0.508	5.36215	3.45188	0.005	0.294	0.27	498.3344	0.153
Forklifts	2017	176	250	0.589964	0.496	5.75116	2.0923	0.005	0.252	0.232	499.6213	0.153
Forklifts	2017	251	500	0.401897	0.338	3.7797	2.50803	0.005	0.161	0.148	499.927	0.153
Forklifts	2018	26	50	1.658295	1.393	5.05181	6.10276	0.005	0.447	0.411	545.9188	0.17
Forklifts	2018	51	120	0.675301	0.567	5.0153	3.85819	0.005	0.4	0.368	489.8657	0.153
Forklifts	2018	121	175	0.508414	0.427	4.42984	3.33646	0.005	0.241	0.222	490.4659	0.153
Forklifts	2018	176	250	0.506009	0.425	4.93757	1.83475	0.005	0.207	0.191	491.7326	0.153
Forklifts	2018	251	500	0.335655	0.282	3.01864	1.87814	0.005	0.125	0.115	492.0335	0.153
Forklifts	2019	26	50	1.480074	1.244	4.86189	5.88034	0.005	0.401	0.369	537.1608	0.17
Forklifts	2019	51	120	0.606336	0.509	4.54965	3.80391	0.005	0.352	0.324	482.0069	0.153
Forklifts	2019	121	175	0.454984	0.382	3.86458	3.28831	0.005	0.21	0.193	482.5975	0.153
Forklifts	2019	176	250	0.445406	0.374	4.2498	1.6773	0.005	0.175	0.161	483.8438	0.153
Forklifts	2019	251	500	0.318129	0.267	2.75148	1.814	0.005	0.112	0.103	484.1399	0.153
Forklifts	2020	26	50	1.337399	1.124	4.68572	5.70563	0.005	0.36	0.331	525.4833	0.17
Forklifts	2020	51	120	0.545921	0.459	4.13299	3.75954	0.005	0.308	0.283	471.5285	0.153
Forklifts	2020	121	175	0.402357	0.338	3.3196	3.24885	0.005	0.18	0.165	472.1062	0.153
Forklifts	2020	176	250	0.348476	0.293	3.24149	1.44178	0.005	0.126	0.116	473.3255	0.153
Forklifts	2020	251	500	0.299035	0.251	2.43991	1.47807	0.005	0.097	0.089	473.6151	0.153
Forklifts	2021	26	50	1.192536	1.002	4.5202	5.53477	0.005	0.318	0.292	525.4833	0.17
Forklifts	2021	51	120	0.490261	0.412	3.75592	3.72	0.005	0.267	0.245	471.5285	0.153
Forklifts	2021	121	175	0.366939	0.308	2.9207	3.23128	0.005	0.158	0.145	472.1062	0.153
Forklifts	2021	176	250	0.296154	0.249	2.58195	1.33672	0.005	0.099	0.091	473.3255	0.153
Forklifts	2021	251	500	0.301833	0.254	2.30266	1.48481	0.005	0.094	0.086	473.6151	0.153
Forklifts	2022	26	50	1.02259	0.859	4.31214	5.30418	0.005	0.27	0.248	525.4833	0.17
Forklifts	2022	51	120	0.430627	0.362	3.36021	3.67507	0.005	0.223	0.205	471.5285	0.153
Forklifts	2022	121	175	0.324265	0.272	2.47982	3.19749	0.005	0.132	0.122	472.1062	0.153
Forklifts	2022	176	250	0.280841	0.236	2.31941	1.3171	0.005	0.09	0.083	473.3255	0.153
Forklifts	2022	251	500	0.275829	0.232	1.99119	1.21922	0.005	0.077	0.071	473.6151	0.153
Forklifts	2023	26	50	0.911766	0.766	4.15219	5.16597	0.005	0.232	0.213	525.4833	0.17
Forklifts	2023	51	120	0.388709	0.327	3.0569	3.64655	0.005	0.189	0.174	471.5285	0.153
Forklifts	2023	121	175	0.289923	0.244	2.11214	3.1799	0.005	0.111	0.102	472.1062	0.153
Forklifts	2023	176	250	0.242474	0.204	1.80718	1.23515	0.005	0.069	0.063	473.3255	0.153
Forklifts	2023	251	500	0.261765	0.22	1.78772	1.21596	0.005	0.069	0.063	473.6151	0.153
Forklifts	2024	26	50	0.823848	0.692	4.03948	5.0885	0.005	0.203	0.187	525.4833	0.17
Forklifts	2024	51	120	0.357083	0.3	2.81432	3.62907	0.005	0.163	0.15	471.5285	0.153
Forklifts	2024	121	175	0.266701	0.224	1.86129	3.17389	0.005	0.096	0.088	472.1062	0.153
Forklifts	2024	176	250	0.232645	0.195	1.6253	1.21846	0.005	0.061	0.056	473.3255	0.153
Forklifts	2024	251	500	0.258844	0.218	1.72336	1.21901	0.005	0.065	0.06	473.6151	0.153
Forklifts	2025	26	50	0.757155	0.636	3.93206	5.02929	0.005	0.178	0.164	525.4833	0.17
Forklifts	2025	51	120	0.329382	0.277	2.60732	3.61138	0.005	0.14	0.128	471.5285	0.153
Forklifts	2025	121	175	0.248361	0.209	1.653	3.17013	0.005	0.084	0.078	472.1062	0.153
Forklifts	2025	176	250	0.226669	0.19	1.46623	1.2143	0.005	0.056	0.052	473.3255	0.153
Forklifts	2025	251	500	0.255656	0.215	1.65848	1.22207	0.005	0.062	0.057	473.6151	0.153
Forklifts	2030	26	50	1.388	0.565	3.33	5.272	0.007	0.023	0.023	568.299	0.051
Forklifts	2030	51	120	1.48	0.283	1.555	3.799	0.006	0.021	0.021	568.299	0.025
Forklifts	2030	121	175	1.875	0.199	0.391	3.36	0.006	0.015	0.015	568.299	0.018
Forklifts	2030	176	250	2.524	0.195	0.341	1.144	0.006	0.012	0.012	568.299	0.017
Forklifts	2030	251	500	3.633	0.195	0.341	1.088	0.005	0.012	0.012	568.299	0.017
Forklifts	2035	26	50	1.371	0.558	3.268	5.234	0.007	0.017	0.017	568.299	0.05
Forklifts	2035	51	120	1.438	0.275	1.495	3.787	0.006	0.016	0.016	568.299	0.024
Forklifts	2035	121	175	1.775	0.189	0.299	3.35	0.006	0.012	0.012	568.3	0.017
Forklifts	2035	176	250	2.433	0.188	0.29	1.141	0.006	0.011	0.011	568.3	0.017
Forklifts	2035	251	500	3.502	0.188	0.29	1.085	0.005	0.011	0.011	568.299	0.017
Forklifts	2040	26	50	1.38	0.562	3.272	5.256	0.007	0.017	0.017	568.299	0.05
Forklifts	2040	51	120	1.444	0.276	1.491	3.794	0.006	0.016	0.016	568.299	0.024
Forklifts	2040	121	175	1.777	0.189	0.288	3.356	0.006	0.012	0.012	568.299	0.017
Forklifts	2040	176	250	2.445	0.189	0.288	1.143	0.006	0.011	0.011	568.299	0.017
Forklifts	2040	251	500	3.518	0.189	0.288	1.087	0.005	0.011	0.011	568.299	0.017
Generator Sets	1990	6	15	4.791	1.804	10	4.999	1.018	0.974	0.974	568.299	0.162
Generator Sets	1990	16	25	10.151	2.213	6.919	4.999	0.83	0.74	0.74	568.299	0.199
Generator Sets	1990	26	50	24.936	3.13	7.325	6.681	0.846	0.928	0.928	568.299	0.282
Generator Sets	1990	51	120	38.362	1.891	13.19	4.97	0.768	0.985	0.985	568.299	0.17
Generator Sets	1990	121	175	47.754	1.292	11.864	4.395	0.736	0.653	0.653	568.3	0.116
Generator Sets	1990	176	250	71.475	1.292	11.864	4.395	0.736	0.653	0.653	568.299	0.116
Generator Sets	1990	251	500	104.891	1.196	11.613	6.53	0.642	0.596	0.596	568.299	0.107
Generator Sets	1990	501	750	169.323	1.196	11.612	6.53	0.658	0.596	0.596	568.299	0.107
Generator Sets	1990	1001	9999	326.002	1.195	11.612	6.53	0.658	0.594	0.594	568.299	0.107
Generator Sets	2000	6	15	4.033	1.518	8.846	4.875	0.079	0.613	0.613	568.299	0.137
Generator Sets	2000	16	25	7.648	1.667	6.405	4.783	0.065	0.51	0.51	568.299	0.15
Generator Sets	2000	26	50	23.582	2.96	6.55	6.415	0.066	0.692	0.692	568.299	0.267
Generator Sets	2000	51	120	31.137	1.535	9.468	4.158	0.06	0.686	0.686	568.299	0.138

Generator Sets	2000	121	175	38.027	1.029	8.612	3.381	0.057	0.404	0.404	568.299	0.092
Generator Sets	2000	176	250	46.981	0.849	8.277	2.656	0.057	0.325	0.325	568.299	0.076
Generator Sets	2000	251	500	70.308	0.802	8.102	3.7	0.05	0.301	0.301	568.299	0.072
Generator Sets	2000	501	750	113.5	0.802	8.102	3.7	0.051	0.301	0.301	568.3	0.072
Generator Sets	2000	1001	9999	251.503	0.921	8.686	4.274	0.051	0.344	0.344	568.299	0.083
Generator Sets	2005	6	15	3.219	1.212	7.615	4.38	0.079	0.505	0.505	568.299	0.109
Generator Sets	2005	16	25	5.748	1.253	6.014	3.922	0.065	0.432	0.432	568.299	0.113
Generator Sets	2005	26	50	20.78	2.608	6.099	5.919	0.066	0.64	0.64	568.3	0.235
Generator Sets	2005	51	120	26.634	1.313	7.987	3.853	0.06	0.634	0.634	568.299	0.118
Generator Sets	2005	121	175	31.579	0.854	7.306	3.067	0.057	0.35	0.35	568.299	0.077
Generator Sets	2005	176	250	33.443	0.604	6.892	1.801	0.057	0.229	0.229	568.299	0.054
Generator Sets	2005	251	500	47.834	0.545	6.465	2.206	0.05	0.211	0.211	568.299	0.049
Generator Sets	2005	501	750	79.444	0.561	6.609	2.206	0.051	0.214	0.214	568.3	0.05
Generator Sets	2005	1001	9999	195.712	0.717	7.582	2.719	0.051	0.255	0.255	568.299	0.064
Generator Sets	2010	6	15	2.532	0.953	6.387	4.027	0.008	0.38	0.38	568.299	0.086
Generator Sets	2010	16	25	4.408	0.961	5.477	3.309	0.007	0.342	0.342	568.299	0.086
Generator Sets	2010	26	50	16.299	2.045	5.68	5.353	0.007	0.522	0.522	568.299	0.184
Generator Sets	2010	51	120	20.399	1.005	6.573	3.677	0.006	0.516	0.516	568.299	0.09
Generator Sets	2010	121	175	24.447	0.661	5.87	2.986	0.006	0.286	0.286	568.299	0.059
Generator Sets	2010	176	250	23.668	0.428	5.501	1.333	0.006	0.163	0.163	568.299	0.038
Generator Sets	2010	251	500	33.685	0.384	5.015	1.482	0.005	0.153	0.153	568.299	0.034
Generator Sets	2010	501	750	56.116	0.396	5.147	1.482	0.005	0.155	0.155	568.299	0.035
Generator Sets	2010	1001	9999	147.466	0.54	6.544	1.93	0.005	0.193	0.193	568.299	0.048
Generator Sets	2011	6	15	2.413	0.908	6.134	3.952	0.008	0.358	0.358	568.299	0.081
Generator Sets	2011	16	25	4.22	0.92	5.36	3.179	0.007	0.325	0.325	568.299	0.083
Generator Sets	2011	26	50	15.152	1.901	5.585	5.2	0.007	0.495	0.495	568.3	0.171
Generator Sets	2011	51	120	19.003	0.937	6.226	3.64	0.006	0.493	0.493	568.299	0.084
Generator Sets	2011	121	175	22.889	0.619	5.544	2.974	0.006	0.274	0.274	568.299	0.055
Generator Sets	2011	176	250	21.62	0.391	5.125	1.249	0.006	0.147	0.147	568.299	0.035
Generator Sets	2011	251	500	30.74	0.35	4.654	1.36	0.005	0.138	0.138	568.299	0.031
Generator Sets	2011	501	750	51.271	0.362	4.784	1.36	0.005	0.14	0.14	568.299	0.032
Generator Sets	2011	1001	9999	137.042	0.502	6.202	1.784	0.005	0.18	0.18	568.299	0.045
Generator Sets	2012	6	15	2.298	0.865	5.874	3.874	0.008	0.338	0.338	568.299	0.078
Generator Sets	2012	16	25	4.059	0.884	5.239	3.043	0.007	0.307	0.307	568.299	0.079
Generator Sets	2012	26	50	13.912	1.746	5.485	5.03	0.007	0.466	0.466	568.299	0.157
Generator Sets	2012	51	120	17.544	0.865	5.848	3.603	0.006	0.46	0.46	568.299	0.078
Generator Sets	2012	121	175	21.243	0.575	5.198	2.963	0.006	0.254	0.254	568.299	0.051
Generator Sets	2012	176	250	19.998	0.361	4.77	1.196	0.006	0.133	0.133	568.3	0.032
Generator Sets	2012	251	500	28.44	0.324	4.315	1.275	0.005	0.125	0.125	568.299	0.029
Generator Sets	2012	501	750	47.464	0.335	4.441	1.275	0.005	0.127	0.127	568.299	0.03
Generator Sets	2012	1001	9999	126.39	0.463	5.849	1.639	0.005	0.166	0.166	568.3	0.041
Generator Sets	2013	6	15	2.187	0.823	5.616	3.796	0.008	0.318	0.318	568.299	0.074
Generator Sets	2013	16	25	3.907	0.851	5.117	2.907	0.007	0.289	0.289	568.299	0.076
Generator Sets	2013	26	50	12.634	1.585	5.263	4.854	0.007	0.428	0.428	568.299	0.143
Generator Sets	2013	51	120	16.078	0.792	5.478	3.567	0.006	0.424	0.424	568.299	0.071
Generator Sets	2013	121	175	19.587	0.53	4.873	2.953	0.006	0.233	0.233	568.299	0.047
Generator Sets	2013	176	250	18.602	0.336	4.428	1.16	0.006	0.122	0.122	568.299	0.03
Generator Sets	2013	251	500	26.484	0.302	3.989	1.211	0.005	0.114	0.114	568.299	0.027
Generator Sets	2013	501	750	44.22	0.312	4.113	1.211	0.005	0.116	0.116	568.299	0.028
Generator Sets	2013	1001	9999	115.946	0.425	5.494	1.502	0.005	0.152	0.152	568.299	0.038
Generator Sets	2014	6	15	2.081	0.783	5.369	3.723	0.008	0.298	0.298	568.299	0.07
Generator Sets	2014	16	25	3.767	0.821	5	2.78	0.007	0.272	0.272	568.299	0.074
Generator Sets	2014	26	50	11.368	1.427	5.048	4.683	0.007	0.389	0.389	568.299	0.128
Generator Sets	2014	51	120	14.638	0.721	5.147	3.532	0.006	0.385	0.385	568.299	0.065
Generator Sets	2014	121	175	17.974	0.486	4.565	2.945	0.006	0.212	0.212	568.299	0.043
Generator Sets	2014	176	250	17.205	0.311	4.025	1.13	0.006	0.111	0.111	568.3	0.028
Generator Sets	2014	251	500	24.516	0.279	3.603	1.157	0.005	0.104	0.104	568.299	0.025
Generator Sets	2014	501	750	40.956	0.289	3.724	1.157	0.005	0.106	0.106	568.299	0.026
Generator Sets	2014	1001	9999	106.127	0.389	5.15	1.377	0.005	0.138	0.138	568.299	0.035
Generator Sets	2015	6	15	1.984	0.747	5.141	3.658	0.008	0.28	0.28	568.299	0.067
Generator Sets	2015	16	25	3.639	0.793	4.89	2.666	0.007	0.256	0.256	568.299	0.071
Generator Sets	2015	26	50	10.213	1.281	4.858	4.538	0.007	0.353	0.353	568.299	0.115
Generator Sets	2015	51	120	13.208	0.651	4.769	3.499	0.006	0.347	0.347	568.299	0.058
Generator Sets	2015	121	175	16.277	0.44	4.138	2.938	0.006	0.191	0.191	568.299	0.039
Generator Sets	2015	176	250	15.884	0.287	3.633	1.104	0.006	0.1	0.1	568.3	0.025
Generator Sets	2015	251	500	22.677	0.258	3.231	1.114	0.005	0.094	0.094	568.299	0.023
Generator Sets	2015	501	750	37.88	0.267	3.347	1.114	0.005	0.096	0.096	568.299	0.024
Generator Sets	2015	1001	9999	95.984	0.351	4.822	1.269	0.005	0.124	0.124	568.299	0.031
Generator Sets	2016	6	15	1.914	0.72	4.978	3.622	0.008	0.264	0.264	568.299	0.065
Generator Sets	2016	16	25	3.548	0.773	4.803	2.604	0.007	0.244	0.244	568.299	0.069
Generator Sets	2016	26	50	9.132	1.146	4.685	4.41	0.007	0.318	0.318	568.299	0.103
Generator Sets	2016	51	120	11.84	0.583	4.41	3.469	0.006	0.309	0.309	568.299	0.052
Generator Sets	2016	121	175	14.658	0.396	3.731	2.934	0.006	0.17	0.17	568.299	0.035
Generator Sets	2016	176	250	14.652	0.265	3.259	1.081	0.006	0.09	0.09	568.299	0.023
Generator Sets	2016	251	500	21.002	0.239	2.882	1.077	0.005	0.084	0.084	568.299	0.021
Generator Sets	2016	501	750	35.041	0.247	2.989	1.077	0.005	0.086	0.086	568.3	0.022
Generator Sets	2016	1001	9999	88.441	0.324	4.542	1.204	0.005	0.113	0.113	568.299	0.029
Generator Sets	2017	6	15	1.857	0.699	4.847	3.599	0.008	0.25	0.25	568.299	0.063
Generator Sets	2017	16	25	3.476	0.757	4.729	2.564	0.007	0.233	0.233	568.299	0.068
Generator Sets	2017	26	50	8.107	1.017	4.522	4.292	0.007	0.285	0.285	568.299	0.091
Generator Sets	2017	51	120	10.557	0.52	4.072	3.442	0.006	0.274	0.274	568.299	0.046
Generator Sets	2017	121	175	13.162	0.356	3.347	2.931	0.006	0.151	0.151	568.299	0.032
Generator Sets	2017	176	250	13.548	0.245	2.91	1.063	0.006	0.081	0.081	568.299	0.022
Generator Sets	2017	251	500	19.649	0.224	2.579	1.048	0.005	0.076	0.076	568.299	0.02
Generator Sets	2017	501	750	32.544	0.23	2.66	1.048	0.005	0.077	0.077	568.299	0.02
Generator Sets	2017	1001	9999	82.27	0.301	4.293	1.161	0.005	0.104	0.104	568.299	0.027
Generator Sets	2018	6	15	1.805	0.679	4.728	3.58	0.008	0.237	0.237	568.299	0.061
Generator Sets	2018	16	25	3.412	0.744	4.661	2.531	0.007	0.224	0.224	568.299	0.067
Generator Sets	2018	26	50	7.133	0.895	4.366	4.182	0.007	0.253	0.253	568.299	0.08

Generator Sets	2018	51	120	9.356	0.461	3.752	3.418	0.006	0.239	0.239	568.299	0.041
Generator Sets	2018	121	175	11.794	0.319	2.989	2.93	0.006	0.133	0.133	568.299	0.028
Generator Sets	2018	176	250	12.549	0.226	2.582	1.048	0.006	0.072	0.072	568.299	0.02
Generator Sets	2018	251	500	18.523	0.211	2.31	1.028	0.005	0.069	0.069	568.299	0.019
Generator Sets	2018	501	750	30.476	0.215	2.37	1.028	0.005	0.07	0.07	568.299	0.019
Generator Sets	2018	1001	9999	76.62	0.28	4.058	1.128	0.005	0.095	0.095	568.299	0.025
Generator Sets	2019	6	15	1.758	0.662	4.617	3.562	0.008	0.224	0.224	568.299	0.059
Generator Sets	2019	16	25	3.356	0.731	4.596	2.501	0.007	0.214	0.214	568.299	0.066
Generator Sets	2019	26	50	6.208	0.779	4.215	4.076	0.007	0.222	0.222	568.299	0.07
Generator Sets	2019	51	120	8.233	0.405	3.446	3.396	0.006	0.206	0.206	568.299	0.036
Generator Sets	2019	121	175	10.727	0.29	2.669	2.929	0.006	0.118	0.118	568.299	0.026
Generator Sets	2019	176	250	11.695	0.211	2.285	1.036	0.006	0.064	0.064	568.299	0.019
Generator Sets	2019	251	500	17.492	0.199	2.056	1.015	0.005	0.062	0.062	568.299	0.018
Generator Sets	2019	501	750	28.675	0.202	2.104	1.015	0.005	0.062	0.062	568.299	0.018
Generator Sets	2019	1001	9999	71.228	0.261	3.829	1.103	0.005	0.087	0.087	568.299	0.023
Generator Sets	2020	6	15	1.715	0.646	4.516	3.546	0.008	0.212	0.212	568.299	0.058
Generator Sets	2020	16	25	3.307	0.721	4.538	2.473	0.007	0.205	0.205	568.299	0.065
Generator Sets	2020	26	50	5.508	0.691	4.075	3.995	0.007	0.194	0.194	568.299	0.062
Generator Sets	2020	51	120	7.383	0.364	3.173	3.38	0.006	0.179	0.179	568.299	0.032
Generator Sets	2020	121	175	9.884	0.267	2.38	2.93	0.006	0.105	0.105	568.299	0.024
Generator Sets	2020	176	250	10.963	0.198	2.016	1.026	0.006	0.057	0.057	568.299	0.017
Generator Sets	2020	251	500	16.528	0.188	1.816	1.005	0.005	0.055	0.055	568.299	0.017
Generator Sets	2020	501	750	27.045	0.191	1.858	1.005	0.005	0.056	0.056	568.299	0.017
Generator Sets	2020	1001	9999	66.08	0.242	3.608	1.082	0.005	0.079	0.079	568.3	0.021
Generator Sets	2021	6	15	1.683	0.634	4.441	3.531	0.008	0.201	0.201	568.299	0.057
Generator Sets	2021	16	25	3.268	0.712	4.497	2.446	0.007	0.196	0.196	568.299	0.064
Generator Sets	2021	26	50	4.884	0.613	3.916	3.905	0.007	0.165	0.165	568.299	0.055
Generator Sets	2021	51	120	6.62	0.326	2.888	3.361	0.006	0.153	0.153	568.299	0.029
Generator Sets	2021	121	175	8.995	0.243	2.068	2.925	0.006	0.091	0.091	568.299	0.021
Generator Sets	2021	176	250	10.146	0.183	1.73	1.016	0.006	0.049	0.049	568.299	0.016
Generator Sets	2021	251	500	15.395	0.175	1.562	0.996	0.005	0.048	0.048	568.299	0.015
Generator Sets	2021	501	750	25.135	0.177	1.596	0.996	0.005	0.048	0.048	568.299	0.016
Generator Sets	2021	1001	9999	60.247	0.22	3.372	1.06	0.005	0.07	0.07	568.3	0.019
Generator Sets	2022	6	15	1.662	0.626	4.39	3.519	0.008	0.193	0.193	568.299	0.056
Generator Sets	2022	16	25	3.242	0.706	4.47	2.426	0.007	0.188	0.188	568.299	0.063
Generator Sets	2022	26	50	4.466	0.56	3.796	3.858	0.007	0.143	0.143	568.299	0.05
Generator Sets	2022	51	120	6.113	0.301	2.671	3.353	0.006	0.134	0.134	568.299	0.027
Generator Sets	2022	121	175	8.363	0.226	1.83	2.926	0.006	0.081	0.081	568.299	0.02
Generator Sets	2022	176	250	9.575	0.173	1.508	1.01	0.006	0.043	0.043	568.299	0.015
Generator Sets	2022	251	500	14.616	0.166	1.384	0.99	0.005	0.042	0.042	568.299	0.015
Generator Sets	2022	501	750	23.822	0.168	1.412	0.99	0.005	0.043	0.043	568.299	0.015
Generator Sets	2022	1001	9999	56.346	0.206	3.202	1.045	0.005	0.063	0.063	568.299	0.018
Generator Sets	2023	6	15	1.643	0.618	4.345	3.508	0.008	0.186	0.186	568.299	0.055
Generator Sets	2023	16	25	3.219	0.701	4.447	2.407	0.007	0.182	0.182	568.299	0.063
Generator Sets	2023	26	50	4.102	0.514	3.685	3.819	0.007	0.124	0.124	568.299	0.046
Generator Sets	2023	51	120	5.671	0.279	2.477	3.347	0.006	0.117	0.117	568.299	0.025
Generator Sets	2023	121	175	7.812	0.211	1.635	2.927	0.006	0.071	0.071	568.299	0.019
Generator Sets	2023	176	250	9.077	0.164	1.328	1.006	0.006	0.038	0.038	568.299	0.014
Generator Sets	2023	251	500	13.922	0.158	1.228	0.986	0.005	0.037	0.037	568.299	0.014
Generator Sets	2023	501	750	22.664	0.16	1.253	0.986	0.005	0.037	0.037	568.299	0.014
Generator Sets	2023	1001	9999	53.06	0.194	3.058	1.031	0.005	0.058	0.058	568.299	0.017
Generator Sets	2024	6	15	1.627	0.612	4.305	3.499	0.008	0.181	0.181	568.299	0.055
Generator Sets	2024	16	25	3.2	0.697	4.426	2.39	0.007	0.178	0.178	568.299	0.062
Generator Sets	2024	26	50	3.789	0.475	3.582	3.787	0.007	0.107	0.107	568.299	0.042
Generator Sets	2024	51	120	5.287	0.26	2.321	3.342	0.006	0.101	0.101	568.299	0.023
Generator Sets	2024	121	175	7.312	0.197	1.462	2.929	0.006	0.062	0.062	568.299	0.017
Generator Sets	2024	176	250	8.611	0.155	1.169	1.003	0.006	0.033	0.033	568.299	0.014
Generator Sets	2024	251	500	13.26	0.151	1.082	0.983	0.005	0.032	0.032	568.3	0.013
Generator Sets	2024	501	750	21.567	0.152	1.104	0.983	0.005	0.032	0.032	568.299	0.013
Generator Sets	2024	1001	9999	50.108	0.183	2.929	1.018	0.005	0.052	0.052	568.3	0.016
Generator Sets	2025	6	15	1.613	0.607	4.269	3.491	0.008	0.178	0.178	568.299	0.054
Generator Sets	2025	16	25	3.185	0.694	4.407	2.376	0.007	0.175	0.175	568.299	0.062
Generator Sets	2025	26	50	3.511	0.44	3.481	3.758	0.007	0.093	0.093	568.3	0.039
Generator Sets	2025	51	120	4.942	0.243	2.185	3.338	0.006	0.087	0.087	568.299	0.021
Generator Sets	2025	121	175	6.832	0.184	1.297	2.93	0.006	0.053	0.053	568.299	0.016
Generator Sets	2025	176	250	8.168	0.147	1.02	1	0.006	0.028	0.028	568.299	0.013
Generator Sets	2025	251	500	12.627	0.144	0.945	0.981	0.005	0.027	0.027	568.3	0.013
Generator Sets	2025	501	750	20.518	0.145	0.964	0.981	0.005	0.027	0.027	568.299	0.013
Generator Sets	2025	1001	9999	47.32	0.173	2.812	1.008	0.005	0.047	0.047	568.299	0.015
Generator Sets	2030	6	15	1.573	0.592	4.164	3.47	0.008	0.166	0.166	568.299	0.053
Generator Sets	2030	16	25	3.15	0.686	4.347	2.34	0.007	0.165	0.165	568.299	0.061
Generator Sets	2030	26	50	2.512	0.315	3.107	3.64	0.007	0.038	0.038	568.299	0.028
Generator Sets	2030	51	120	3.616	0.178	1.645	3.316	0.006	0.034	0.034	568.299	0.016
Generator Sets	2030	121	175	4.837	0.13	0.601	2.929	0.006	0.023	0.023	568.299	0.011
Generator Sets	2030	176	250	6.637	0.12	0.504	0.998	0.006	0.016	0.016	568.299	0.01
Generator Sets	2030	251	500	10.441	0.119	0.476	0.978	0.005	0.015	0.015	568.299	0.01
Generator Sets	2030	501	750	16.888	0.119	0.482	0.978	0.005	0.015	0.015	568.299	0.01
Generator Sets	2030	1001	9999	35.17	0.128	2.483	0.979	0.005	0.029	0.029	568.299	0.011
Generator Sets	2035	6	15	1.565	0.589	4.143	3.47	0.008	0.162	0.162	568.299	0.053
Generator Sets	2035	16	25	3.144	0.685	4.332	2.34	0.007	0.162	0.162	568.299	0.061
Generator Sets	2035	26	50	2.206	0.276	2.991	3.607	0.007	0.018	0.018	568.299	0.024
Generator Sets	2035	51	120	3.176	0.156	1.458	3.31	0.006	0.016	0.016	568.299	0.014
Generator Sets	2035	121	175	4.187	0.113	0.373	2.929	0.006	0.013	0.013	568.299	0.01
Generator Sets	2035	176	250	6.1	0.11	0.331	0.998	0.006	0.011	0.011	568.299	0.009
Generator Sets	2035	251	500	9.666	0.11	0.328	0.978	0.005	0.011	0.011	568.299	0.009
Generator Sets	2035	501	750	15.606	0.11	0.328	0.978	0.005	0.011	0.011	568.299	0.009
Generator Sets	2035	1001	9999	31.223	0.114	2.362	0.978	0.005	0.022	0.022	568.299	0.01
Generator Sets	2040	6	15	1.565	0.589	4.142	3.469	0.008	0.161	0.161	568.299	0.053
Generator Sets	2040	16	25	3.144	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061



Generator Sets	2040	26	50	2.182	0.273	2.941	3.601	0.007	0.012	0.012	568.3	0.024
Generator Sets	2040	51	120	3.086	0.152	1.399	3.308	0.006	0.012	0.012	568.299	0.013
Generator Sets	2040	121	175	3.958	0.107	0.293	2.928	0.006	0.01	0.01	568.299	0.009
Generator Sets	2040	176	250	5.86	0.106	0.277	0.997	0.006	0.009	0.009	568.299	0.009
Generator Sets	2040	251	500	9.29	0.106	0.277	0.978	0.005	0.009	0.009	568.299	0.009
Generator Sets	2040	501	750	14.997	0.106	0.277	0.978	0.005	0.009	0.009	568.3	0.009
Generator Sets	2040	1001	9999	29.36	0.107	2.33	0.978	0.005	0.02	0.02	568.299	0.009
Graders	1990	26	50	10.997	4.776	7.935	9.678	0.871	1.265	1.265	568.3	0.431
Graders	1990	51	120	14.614	2.332	14.78	5.658	0.791	1.325	1.325	568.299	0.21
Graders	1990	121	175	17.684	1.707	13.838	5.007	0.758	0.946	0.946	568.299	0.154
Graders	1990	176	250	24.561	1.707	13.838	5.007	0.758	0.946	0.946	568.299	0.154
Graders	1990	251	500	29.01	1.512	13.128	10.95	0.662	0.811	0.811	568.299	0.136
Graders	1990	501	750	61.406	1.512	13.128	10.95	1.018	0.826	0.826	568.3	0.136
Graders	2000	26	50	10.331	4.487	7.082	9.239	0.066	0.935	0.935	568.299	0.404
Graders	2000	51	120	11.628	1.855	10.486	4.675	0.06	0.904	0.904	568.3	0.167
Graders	2000	121	175	13.017	1.256	9.601	3.786	0.057	0.531	0.531	568.299	0.113
Graders	2000	176	250	15.266	1.061	9.264	3.039	0.057	0.437	0.437	568.299	0.095
Graders	2000	251	500	18.455	0.961	8.805	4.848	0.05	0.384	0.384	568.3	0.086
Graders	2000	501	750	39.064	0.961	8.805	4.848	0.052	0.384	0.384	568.299	0.086
Graders	2005	26	50	9.193	3.993	6.612	8.559	0.066	0.868	0.868	568.299	0.36
Graders	2005	51	120	10.174	1.623	9.021	4.406	0.06	0.849	0.849	568.3	0.146
Graders	2005	121	175	11.01	1.062	8.238	3.522	0.057	0.469	0.469	568.299	0.095
Graders	2005	176	250	11.283	0.784	7.837	2.17	0.057	0.314	0.314	568.299	0.07
Graders	2005	251	500	13.286	0.692	7.117	2.913	0.05	0.279	0.279	568.299	0.062
Graders	2005	501	750	28.569	0.703	7.284	2.909	0.052	0.282	0.282	568.299	0.063
Graders	2010	26	50	3.618169	3.04	6.50487	8.828	0.005	0.852	0.783	547.2284	0.159
Graders	2010	51	120	1.572744	1.322	10.4805	4.95239	0.005	0.854	0.786	523.7684	0.152
Graders	2010	121	175	1.025452	0.862	8.98998	3.90428	0.005	0.496	0.456	536.7031	0.156
Graders	2010	176	250	0.425787	0.358	5.73143	1.43786	0.005	0.182	0.167	530.3343	0.154
Graders	2010	251	500	0.323814	0.272	3.80781	1.81115	0.005	0.142	0.13	525.6597	0.153
Graders	2010	501	750	21.764	0.535	5.386	1.861	0.005	0.202	0.202	568.299	0.048
Graders	2011	26	50	3.655035	3.071	6.52829	8.9223	0.005	0.86	0.791	545.8822	0.159
Graders	2011	51	120	1.554125	1.306	10.3495	4.9423	0.005	0.847	0.78	522.5082	0.152
Graders	2011	121	175	1.019798	0.857	8.91245	3.91881	0.005	0.494	0.455	535.2864	0.156
Graders	2011	176	250	0.436805	0.367	5.74733	1.44556	0.005	0.183	0.169	529.0473	0.154
Graders	2011	251	500	0.341103	0.287	3.81827	1.83104	0.005	0.144	0.132	524.3479	0.153
Graders	2011	501	750	20.697	0.509	4.992	1.744	0.005	0.184	0.184	568.299	0.045
Graders	2012	26	50	3.689945	3.101	6.55055	9.01183	0.005	0.867	0.798	544.5383	0.159
Graders	2012	51	120	1.550155	1.303	10.2881	4.94871	0.005	0.848	0.78	521.1967	0.152
Graders	2012	121	175	1.022941	0.86	8.89699	3.94251	0.005	0.496	0.456	533.878	0.156
Graders	2012	176	250	0.449323	0.378	5.777	1.45898	0.005	0.185	0.171	527.8224	0.154
Graders	2012	251	500	0.355329	0.299	3.8123	1.82432	0.005	0.145	0.133	522.8547	0.153
Graders	2012	501	750	19.697	0.485	4.624	1.642	0.005	0.168	0.168	568.299	0.043
Graders	2013	26	50	3.722893	3.128	6.57166	9.0966	0.005	0.874	0.804	541.8285	0.159
Graders	2013	51	120	1.548648	1.301	10.2424	4.95898	0.005	0.849	0.781	518.5552	0.152
Graders	2013	121	175	1.020021	0.857	8.8338	3.95423	0.005	0.495	0.455	530.9753	0.156
Graders	2013	176	250	0.455824	0.383	5.74577	1.45924	0.005	0.185	0.17	525.0407	0.154
Graders	2013	251	500	0.359627	0.302	3.71231	1.7965	0.005	0.141	0.13	520.0526	0.153
Graders	2013	501	750	18.765	0.462	4.281	1.556	0.005	0.152	0.152	568.299	0.041
Graders	2014	26	50	3.681797	3.094	6.54967	9.06534	0.005	0.867	0.798	539.1216	0.159
Graders	2014	51	120	1.510465	1.269	9.98567	4.91977	0.005	0.832	0.765	515.3819	0.152
Graders	2014	121	175	1.007876	0.847	8.70206	3.95083	0.005	0.488	0.449	527.8337	0.156
Graders	2014	176	250	0.463867	0.39	5.73998	1.46245	0.005	0.185	0.171	522.3298	0.154
Graders	2014	251	500	0.373775	0.314	3.71371	1.79096	0.005	0.143	0.131	517.3766	0.153
Graders	2014	501	750	17.784	0.437	3.876	1.483	0.005	0.138	0.138	568.299	0.039
Graders	2015	26	50	3.711306	3.119	6.56967	9.14399	0.005	0.874	0.804	533.6812	0.159
Graders	2015	51	120	1.474627	1.239	9.73775	4.88439	0.005	0.813	0.748	509.597	0.152
Graders	2015	121	175	1.004333	0.844	8.63742	3.95849	0.005	0.486	0.447	522.2182	0.156
Graders	2015	176	250	0.471304	0.396	5.72754	1.46577	0.005	0.186	0.171	517.1275	0.154
Graders	2015	251	500	0.388063	0.326	3.72122	1.79107	0.005	0.144	0.133	512.0975	0.153
Graders	2015	501	750	16.846	0.414	3.501	1.42	0.005	0.124	0.124	568.299	0.037
Graders	2016	26	50	3.670899	3.085	6.51973	9.10623	0.005	0.864	0.795	528.2444	0.159
Graders	2016	51	120	1.419659	1.193	9.41488	4.82948	0.005	0.78	0.718	503.1614	0.152
Graders	2016	121	175	0.963567	0.81	8.24966	3.91624	0.005	0.463	0.426	516.1305	0.156
Graders	2016	176	250	0.473996	0.398	5.6628	1.45911	0.005	0.184	0.169	511.6959	0.154
Graders	2016	251	500	0.397787	0.334	3.6858	1.77374	0.005	0.144	0.132	506.5064	0.153
Graders	2016	501	750	15.959	0.393	3.154	1.367	0.005	0.112	0.112	568.299	0.035
Graders	2017	26	50	3.5783	3.007	6.423	8.97826	0.005	0.843	0.776	520.0747	0.159
Graders	2017	51	120	1.385767	1.164	9.19125	4.81041	0.005	0.759	0.698	495.9186	0.152
Graders	2017	121	175	0.901	0.757	7.66265	3.84518	0.005	0.43	0.396	506.7478	0.155
Graders	2017	176	250	0.471391	0.396	5.52488	1.44905	0.005	0.18	0.166	503.8022	0.154
Graders	2017	251	500	0.397706	0.334	3.55709	1.70747	0.005	0.139	0.128	498.5996	0.153
Graders	2017	501	750	15.127	0.372	2.835	1.323	0.005	0.1	0.1	568.299	0.033
Graders	2018	26	50	3.342571	2.809	6.17962	8.62631	0.005	0.79	0.726	511.9098	0.159
Graders	2018	51	120	1.27956	1.075	8.51954	4.69711	0.005	0.697	0.641	487.6979	0.152
Graders	2018	121	175	0.78708	0.661	6.60465	3.70957	0.005	0.371	0.342	497.3767	0.155
Graders	2018	176	250	0.457376	0.384	5.27094	1.41595	0.005	0.171	0.158	495.431	0.154
Graders	2018	251	500	0.385909	0.324	3.44465	1.56446	0.005	0.129	0.119	490.5758	0.153
Graders	2018	501	750	14.353	0.353	2.543	1.286	0.005	0.09	0.09	568.299	0.031
Graders	2019	26	50	3.11378	2.616	5.94463	8.27912	0.005	0.737	0.678	503.7509	0.159
Graders	2019	51	120	1.228249	1.032	8.1592	4.6424	0.005	0.665	0.612	479.9011	0.152
Graders	2019	121	175	0.724541	0.609	6.01354	3.65586	0.005	0.337	0.31	489.0419	0.155
Graders	2019	176	250	0.428358	0.36	4.86575	1.35927	0.005	0.156	0.144	486.3288	0.154
Graders	2019	251	500	0.384059	0.323	3.21794	1.52849	0.005	0.124	0.114	482.5879	0.153
Graders	2019	501	750	13.635	0.335	2.276	1.255	0.005	0.08	0.08	568.299	0.03
Graders	2020	26	50	2.994737	2.516	5.82549	8.13394	0.005	0.709	0.652	492.8615	0.159
Graders	2020	51	120	1.161574	0.976	7.72513	4.56142	0.005	0.622	0.572	469.3371	0.152
Graders	2020	121	175	0.674427	0.567	5.53045	3.62102	0.005	0.309	0.284	478.0403	0.155
Graders	2020	176	250	0.41877	0.352	4.67787	1.34183	0.005	0.15	0.138	475.3037	0.154

Graders	2020	251	500	0.383198	0.322	3.10731	1.5256	0.005	0.121	0.111	471.9795	0.153
Graders	2020	501	750	12.961	0.319	2.031	1.229	0.005	0.072	0.072	568.299	0.028
Graders	2021	26	50	2.660206	2.235	5.48468	7.62621	0.005	0.631	0.581	492.9352	0.159
Graders	2021	51	120	1.072144	0.901	7.12535	4.45175	0.005	0.57	0.524	469.0701	0.152
Graders	2021	121	175	0.601372	0.505	4.83947	3.55896	0.005	0.27	0.248	478.5289	0.155
Graders	2021	176	250	0.398657	0.335	4.38134	1.30687	0.005	0.139	0.128	474.5386	0.153
Graders	2021	251	500	0.383194	0.322	3.01257	1.46044	0.005	0.117	0.108	471.8981	0.153
Graders	2021	501	750	12.333	0.303	1.808	1.207	0.005	0.064	0.064	568.299	0.027
Graders	2022	26	50	2.506375	2.106	5.33188	7.42848	0.005	0.595	0.547	493.0249	0.159
Graders	2022	51	120	0.947815	0.796	6.36004	4.32966	0.005	0.493	0.453	469.6301	0.152
Graders	2022	121	175	0.524016	0.44	4.12488	3.49283	0.005	0.229	0.211	478.5664	0.155
Graders	2022	176	250	0.365229	0.307	3.8881	1.27327	0.005	0.124	0.114	474.239	0.153
Graders	2022	251	500	0.370143	0.311	2.80191	1.38967	0.005	0.108	0.1	471.9278	0.153
Graders	2022	501	750	11.747	0.289	1.606	1.187	0.005	0.057	0.057	568.299	0.026
Graders	2023	26	50	2.316861	1.947	5.14799	7.19094	0.005	0.549	0.505	494.0202	0.16
Graders	2023	51	120	0.855685	0.719	5.74006	4.22811	0.005	0.436	0.401	469.2859	0.152
Graders	2023	121	175	0.463941	0.39	3.54785	3.45006	0.005	0.195	0.18	478.4629	0.155
Graders	2023	176	250	0.337478	0.284	3.44101	1.25173	0.005	0.111	0.103	473.9256	0.153
Graders	2023	251	500	0.367269	0.309	2.70451	1.38481	0.005	0.105	0.097	471.0306	0.152
Graders	2023	501	750	11.215	0.276	1.425	1.17	0.005	0.051	0.051	568.3	0.024
Graders	2024	26	50	2.201935	1.85	5.0278	7.05059	0.005	0.52	0.479	493.7913	0.16
Graders	2024	51	120	0.812369	0.683	5.43389	4.20033	0.005	0.408	0.375	469.8208	0.152
Graders	2024	121	175	0.433005	0.364	3.20219	3.43239	0.005	0.177	0.163	478.4966	0.155
Graders	2024	176	250	0.312074	0.262	3.07323	1.22497	0.005	0.1	0.092	473.6685	0.153
Graders	2024	251	500	0.348233	0.293	2.43171	1.35613	0.005	0.095	0.088	470.2664	0.152
Graders	2024	501	750	10.734	0.264	1.265	1.155	0.005	0.046	0.046	568.3	0.023
Graders	2025	26	50	2.21878	1.864	5.04301	7.12535	0.005	0.522	0.48	493.5322	0.16
Graders	2025	51	120	0.759044	0.638	5.07379	4.14911	0.005	0.371	0.342	468.3155	0.151
Graders	2025	121	175	0.391287	0.329	2.77396	3.41759	0.005	0.152	0.14	478.5084	0.155
Graders	2025	176	250	0.273788	0.23	2.55629	1.17888	0.005	0.082	0.076	473.4704	0.153
Graders	2025	251	500	0.332717	0.28	2.26485	1.31461	0.005	0.088	0.081	470.7533	0.152
Graders	2025	501	750	10.301	0.253	1.125	1.141	0.005	0.041	0.041	568.3	0.022
Graders	2030	26	50	1.493	0.648	3.53	5.239	0.007	0.065	0.065	568.299	0.058
Graders	2030	51	120	2.028	0.323	1.903	3.775	0.006	0.058	0.058	568.299	0.029
Graders	2030	121	175	2.458	0.237	0.815	3.326	0.006	0.038	0.038	568.3	0.021
Graders	2030	176	250	3.114	0.216	0.684	1.148	0.006	0.024	0.024	568.299	0.019
Graders	2030	251	500	4.115	0.214	0.647	1.097	0.005	0.023	0.023	568.299	0.019
Graders	2030	501	750	8.717	0.214	0.654	1.097	0.005	0.023	0.023	568.299	0.019
Graders	2035	26	50	1.367	0.593	3.356	5.189	0.007	0.037	0.037	568.299	0.053
Graders	2035	51	120	1.837	0.293	1.661	3.767	0.006	0.034	0.034	568.299	0.026
Graders	2035	121	175	2.136	0.206	0.506	3.326	0.006	0.022	0.022	568.3	0.018
Graders	2035	176	250	2.822	0.196	0.452	1.137	0.006	0.016	0.016	568.299	0.017
Graders	2035	251	500	3.746	0.195	0.434	1.083	0.005	0.016	0.016	568.299	0.017
Graders	2035	501	750	7.933	0.195	0.438	1.083	0.005	0.016	0.016	568.299	0.017
Graders	2040	26	50	1.297	0.563	3.298	5.161	0.007	0.026	0.026	568.3	0.05
Graders	2040	51	120	1.747	0.278	1.56	3.764	0.006	0.024	0.024	568.299	0.025
Graders	2040	121	175	2.002	0.193	0.38	3.326	0.006	0.017	0.017	568.299	0.017
Graders	2040	176	250	2.719	0.188	0.36	1.133	0.006	0.013	0.013	568.299	0.017
Graders	2040	251	500	3.619	0.188	0.351	1.079	0.005	0.013	0.013	568.299	0.017
Graders	2040	501	750	7.663	0.188	0.353	1.079	0.005	0.013	0.013	568.299	0.017
Off-Highway Tractors	1990	51	120	7.901	2.432	15.285	5.842	0.791	1.384	1.384	568.299	0.219
Off-Highway Tractors	1990	121	175	8.363	1.85	14.647	5.217	0.758	1.033	1.033	568.299	0.166
Off-Highway Tractors	1990	176	250	8.363	1.85	14.647	5.217	0.758	1.033	1.033	568.299	0.166
Off-Highway Tractors	1990	501	750	32.077	1.629	13.849	11.847	1.018	0.896	0.896	568.3	0.147
Off-Highway Tractors	1990	751	1000	45.779	1.622	13.849	11.847	1.018	0.888	0.888	568.3	0.146
Off-Highway Tractors	2000	51	120	6.648	2.047	11.606	5.046	0.06	0.972	0.972	568.299	0.184
Off-Highway Tractors	2000	121	175	6.386	1.413	10.675	4.213	0.057	0.602	0.602	568.299	0.127
Off-Highway Tractors	2000	176	250	5.736	1.269	10.426	3.665	0.057	0.532	0.532	568.299	0.114
Off-Highway Tractors	2000	501	750	22.339	1.134	9.864	6.836	0.052	0.461	0.461	568.299	0.102
Off-Highway Tractors	2000	751	1000	33.036	1.17	10.29	7.259	0.052	0.444	0.444	568.299	0.105
Off-Highway Tractors	2005	51	120	6.042	1.86	10.379	4.801	0.06	0.932	0.932	568.299	0.167
Off-Highway Tractors	2005	121	175	5.63	1.246	9.479	3.943	0.057	0.547	0.547	568.299	0.112
Off-Highway Tractors	2005	176	250	4.641	1.027	9.16	2.923	0.057	0.425	0.425	568.299	0.092
Off-Highway Tractors	2005	501	750	17.978	0.913	8.543	4.992	0.052	0.372	0.372	568.299	0.082
Off-Highway Tractors	2005	751	1000	27.525	0.975	9.293	5.369	0.052	0.359	0.359	568.299	0.088
Off-Highway Tractors	2010	51	120	1.004164	0.844	7.39576	4.06859	0.005	0.61	0.561	529.8898	0.154
Off-Highway Tractors	2010	121	175	0.623556	0.524	6.19445	3.25207	0.005	0.322	0.297	526.0485	0.153
Off-Highway Tractors	2010	176	250	0.540439	0.454	6.56823	1.80076	0.005	0.241	0.222	522.8212	0.152
Off-Highway Tractors	2010	501	750	0.353776	0.297	4.74911	1.65183	0.005	0.163	0.15	526.6401	0.153
Off-Highway Tractors	2010	751	1000	1.235451	1.038	12.2723	13.844	0.005	0.624	0.574	524.505	0.153
Off-Highway Tractors	2011	51	120	0.958318	0.805	7.12201	4.04749	0.005	0.588	0.541	528.6123	0.154
Off-Highway Tractors	2011	121	175	0.588696	0.495	5.88095	3.25718	0.005	0.307	0.282	524.5528	0.153
Off-Highway Tractors	2011	176	250	0.522937	0.439	6.3706	1.73271	0.005	0.23	0.212	521.5328	0.152
Off-Highway Tractors	2011	501	750	0.366196	0.308	4.77936	1.66137	0.005	0.166	0.153	525.3172	0.153
Off-Highway Tractors	2011	751	1000	1.235451	1.038	12.2723	13.844	0.005	0.624	0.574	523.1938	0.153
Off-Highway Tractors	2012	51	120	0.956826	0.804	7.07175	4.07302	0.005	0.588	0.541	527.1281	0.154
Off-Highway Tractors	2012	121	175	0.573556	0.482	5.70904	3.27598	0.005	0.299	0.276	523.1986	0.153
Off-Highway Tractors	2012	176	250	0.51645	0.434	6.26836	1.70131	0.005	0.225	0.207	520.2636	0.152
Off-Highway Tractors	2012	501	750	0.3785	0.318	4.80904	1.67078	0.005	0.169	0.155	523.9941	0.153
Off-Highway Tractors	2012	751	1000	1.235451	1.038	12.2723	13.844	0.005	0.624	0.574	521.8825	0.153
Off-Highway Tractors	2013	51	120	0.915141	0.769	6.79599	4.04714	0.005	0.564	0.519	524.1555	0.154
Off-Highway Tractors	2013	121	175	0.54434	0.457	5.42114	3.28016	0.005	0.281	0.258	520.6151	0.153
Off-Highway Tractors	2013	176	250	0.508791	0.428	6.11434	1.67153	0.005	0.219	0.201	517.5627	0.152
Off-Highway Tractors	2013	501	750	0.342496	0.288	4.32547	1.42496	0.005	0.149	0.137	519.6246	0.153
Off-Highway Tractors	2013	751	1000	1.235451	1.038	12.2723	13.844	0.005	0.624	0.574	519.26	0.153
Off-Highway Tractors	2014	51	120	0.830806	0.698	6.28073	3.97241	0.005	0.513	0.472	520.8244	0.154
Off-Highway Tractors	2014	121	175	0.504784	0.424	5.02525	3.26511	0.005	0.258	0.237	518.1639	0.153
Off-Highway Tractors	2014	176	250	0.481559	0.405	5.66092	1.62822	0.005	0.203	0.187	514.3699	0.152
Off-Highway Tractors	2014	501	750	0.317193	0.267	4.00651	1.33448	0.005	0.133	0.122	516.904	0.153

Off-Highway Tractors	2014	751	1000	0.100665	0.085	2.27938	0.94694	0.005	0.054	0.05	516.6375	0.153
Off-Highway Tractors	2015	51	120	0.802587	0.674	6.06726	3.96474	0.005	0.494	0.455	515.3203	0.154
Off-Highway Tractors	2015	121	175	0.478075	0.402	4.72365	3.26419	0.005	0.239	0.22	512.6079	0.153
Off-Highway Tractors	2015	176	250	0.476529	0.4	5.52773	1.60534	0.005	0.199	0.183	509.1896	0.152
Off-Highway Tractors	2015	501	750	0.312134	0.262	3.87437	1.17195	0.005	0.126	0.116	511.0814	0.153
Off-Highway Tractors	2015	751	1000	0.114305	0.096	2.29983	0.96003	0.005	0.056	0.051	511.3924	0.153
Off-Highway Tractors	2016	51	120	0.743357	0.625	5.6465	3.92464	0.005	0.454	0.418	509.4472	0.154
Off-Highway Tractors	2016	121	175	0.465284	0.391	4.51093	3.27806	0.005	0.229	0.211	507.6294	0.153
Off-Highway Tractors	2016	176	250	0.426838	0.359	4.92994	1.47177	0.005	0.171	0.157	504.1229	0.152
Off-Highway Tractors	2016	501	750	0.299821	0.252	3.57265	1.14348	0.005	0.117	0.108	505.762	0.153
Off-Highway Tractors	2016	751	1000	0.127675	0.107	2.31987	0.97285	0.005	0.057	0.053	506.1474	0.153
Off-Highway Tractors	2017	51	120	0.697857	0.586	5.31726	3.90108	0.005	0.423	0.389	501.2453	0.154
Off-Highway Tractors	2017	121	175	0.423504	0.356	4.02594	3.2589	0.005	0.205	0.189	499.2446	0.153
Off-Highway Tractors	2017	176	250	0.389773	0.328	4.38216	1.403	0.005	0.151	0.139	496.4983	0.152
Off-Highway Tractors	2017	501	750	0.294592	0.248	3.32351	1.14456	0.005	0.112	0.103	497.6181	0.152
Off-Highway Tractors	2017	751	1000	0.140776	0.118	2.33951	0.98542	0.005	0.059	0.054	498.2798	0.153
Off-Highway Tractors	2018	51	120	0.621057	0.522	4.78732	3.83227	0.005	0.373	0.343	492.8709	0.153
Off-Highway Tractors	2018	121	175	0.374746	0.315	3.49764	3.2191	0.005	0.176	0.162	491.3128	0.153
Off-Highway Tractors	2018	176	250	0.323278	0.272	3.45421	1.29494	0.005	0.119	0.109	488.6765	0.152
Off-Highway Tractors	2018	501	750	0.232675	0.196	2.1656	1.11871	0.005	0.081	0.074	490.1818	0.153
Off-Highway Tractors	2018	751	1000	0.153606	0.129	2.35874	0.99773	0.005	0.06	0.055	490.4122	0.153
Off-Highway Tractors	2019	51	120	0.562974	0.473	4.42145	3.79465	0.005	0.331	0.305	484.2693	0.153
Off-Highway Tractors	2019	121	175	0.350048	0.294	3.20755	3.21895	0.005	0.159	0.146	483.4306	0.153
Off-Highway Tractors	2019	176	250	0.283777	0.238	2.9142	1.21832	0.005	0.098	0.09	481.2751	0.152
Off-Highway Tractors	2019	501	750	0.244248	0.205	2.17682	1.12934	0.005	0.082	0.075	482.3091	0.153
Off-Highway Tractors	2019	751	1000	0.166166	0.14	2.37757	1.00978	0.005	0.062	0.057	482.5446	0.153
Off-Highway Tractors	2020	51	120	0.533073	0.448	4.18317	3.78798	0.005	0.307	0.282	474.1481	0.153
Off-Highway Tractors	2020	121	175	0.322507	0.271	2.89032	3.21511	0.005	0.14	0.129	472.9169	0.153
Off-Highway Tractors	2020	176	250	0.263453	0.221	2.57547	1.1813	0.005	0.086	0.079	470.943	0.152
Off-Highway Tractors	2020	501	750	0.239679	0.201	2.04663	1.13143	0.005	0.076	0.07	471.8151	0.153
Off-Highway Tractors	2020	751	1000	0.178457	0.15	2.39599	1.02156	0.005	0.063	0.058	472.0545	0.153
Off-Highway Tractors	2021	51	120	0.469894	0.395	3.77306	3.74258	0.005	0.261	0.24	474.5155	0.153
Off-Highway Tractors	2021	121	175	0.307902	0.259	2.65962	3.21953	0.005	0.129	0.118	472.9236	0.153
Off-Highway Tractors	2021	176	250	0.237665	0.2	2.11341	1.16179	0.005	0.072	0.067	471.0028	0.152
Off-Highway Tractors	2021	501	750	0.215694	0.181	1.71505	1.12237	0.005	0.063	0.058	471.8056	0.153
Off-Highway Tractors	2021	751	1000	0.190478	0.16	2.41401	1.0331	0.005	0.064	0.059	472.0545	0.153
Off-Highway Tractors	2022	51	120	0.414344	0.348	3.39986	3.70994	0.005	0.219	0.202	475.2338	0.154
Off-Highway Tractors	2022	121	175	0.275155	0.231	2.23877	3.18586	0.005	0.107	0.099	472.8111	0.153
Off-Highway Tractors	2022	176	250	0.213642	0.18	1.73242	1.14284	0.005	0.06	0.055	471.1313	0.152
Off-Highway Tractors	2022	501	750	0.20345	0.171	1.43309	1.12111	0.005	0.055	0.05	471.939	0.153
Off-Highway Tractors	2022	751	1000	0.202228	0.17	2.43162	1.04437	0.005	0.066	0.06	472.0545	0.153
Off-Highway Tractors	2023	51	120	0.37642	0.316	3.09527	3.68654	0.005	0.187	0.172	476.0871	0.154
Off-Highway Tractors	2023	121	175	0.239199	0.201	1.78476	3.14329	0.005	0.085	0.079	472.9962	0.153
Off-Highway Tractors	2023	176	250	0.20356	0.171	1.49148	1.13796	0.005	0.053	0.049	470.845	0.152
Off-Highway Tractors	2023	501	750	0.199838	0.168	1.28868	1.12418	0.005	0.051	0.047	471.9321	0.153
Off-Highway Tractors	2023	751	1000	0.213709	0.18	2.44883	1.05538	0.005	0.067	0.062	472.0545	0.153
Off-Highway Tractors	2024	51	120	0.359218	0.302	2.94932	3.69095	0.005	0.171	0.157	476.3711	0.154
Off-Highway Tractors	2024	121	175	0.21727	0.183	1.49579	3.1328	0.005	0.071	0.066	473.097	0.153
Off-Highway Tractors	2024	176	250	0.200963	0.169	1.37732	1.13461	0.005	0.049	0.045	470.6894	0.152
Off-Highway Tractors	2024	501	750	0.200706	0.169	1.23477	1.13006	0.005	0.048	0.044	471.9247	0.153
Off-Highway Tractors	2024	751	1000	0.22492	0.189	2.46563	1.06613	0.005	0.068	0.063	472.0545	0.153
Off-Highway Tractors	2025	51	120	0.32831	0.276	2.70745	3.66914	0.005	0.144	0.132	476.9211	0.154
Off-Highway Tractors	2025	121	175	0.208537	0.175	1.34858	3.14246	0.005	0.065	0.059	473.3021	0.153
Off-Highway Tractors	2025	176	250	0.183862	0.154	1.11624	1.13017	0.005	0.04	0.037	470.861	0.152
Off-Highway Tractors	2025	501	750	0.199094	0.167	1.11804	1.13452	0.005	0.045	0.041	471.9169	0.153
Off-Highway Tractors	2025	751	1000	0.235862	0.198	2.48203	1.07663	0.005	0.069	0.064	472.0545	0.153
Off-Highway Tractors	2030	51	120	1.683	0.518	2.959	3.944	0.006	0.175	0.175	568.299	0.046
Off-Highway Tractors	2030	121	175	1.689	0.373	1.916	3.435	0.006	0.104	0.104	568.299	0.033
Off-Highway Tractors	2030	176	250	1.423	0.315	1.715	1.286	0.006	0.064	0.064	568.299	0.028
Off-Highway Tractors	2030	501	750	5.992	0.304	1.59	1.351	0.005	0.06	0.06	568.299	0.027
Off-Highway Tractors	2030	751	1000	8.981	0.318	3.569	1.409	0.005	0.078	0.078	568.3	0.028
Off-Highway Tractors	2035	51	120	1.359	0.418	2.35	3.902	0.006	0.107	0.107	568.299	0.037
Off-Highway Tractors	2035	121	175	1.361	0.301	1.252	3.421	0.006	0.065	0.065	568.299	0.027
Off-Highway Tractors	2035	176	250	1.211	0.268	1.115	1.232	0.006	0.042	0.042	568.299	0.024
Off-Highway Tractors	2035	501	750	5.163	0.262	1.045	1.238	0.005	0.04	0.04	568.299	0.023
Off-Highway Tractors	2035	751	1000	7.617	0.269	3.116	1.268	0.005	0.056	0.056	568.299	0.024
Off-Highway Tractors	2040	51	120	1.176	0.362	1.976	3.878	0.006	0.067	0.067	568.299	0.032
Off-Highway Tractors	2040	121	175	1.162	0.257	0.836	3.412	0.006	0.041	0.041	568.299	0.023
Off-Highway Tractors	2040	176	250	1.073	0.237	0.747	1.198	0.006	0.028	0.028	568.299	0.021
Off-Highway Tractors	2040	501	750	4.612	0.234	0.71	1.164	0.005	0.027	0.027	568.299	0.021
Off-Highway Tractors	2040	751	1000	6.743	0.238	2.844	1.183	0.005	0.042	0.042	568.299	0.021
Off-Highway Trucks	1990	121	175	6.457	2.005	15.394	5.36	0.758	1.133	1.133	568.299	0.18
Off-Highway Trucks	1990	176	250	8.597	2.005	15.394	5.36	0.758	1.133	1.133	568.299	0.18
Off-Highway Trucks	1990	251	500	12.319	1.757	14.499	12.538	0.662	0.959	0.959	568.299	0.158
Off-Highway Trucks	1990	501	750	19.982	1.757	14.499	12.538	1.018	0.976	0.976	568.299	0.158
Off-Highway Trucks	1990	751	1000	28.084	1.746	14.499	12.538	1.018	0.963	0.963	568.3	0.157
Off-Highway Trucks	2000	121	175	4.115	1.278	9.57	3.772	0.057	0.548	0.548	568.299	0.115
Off-Highway Trucks	2000	176	250	4.454	1.039	9.178	2.896	0.057	0.425	0.425	568.299	0.093
Off-Highway Trucks	2000	251	500	6.594	0.94	8.675	4.214	0.05	0.376	0.376	568.299	0.084
Off-Highway Trucks	2000	501	750	10.696	0.94	8.675	4.214	0.052	0.376	0.376	568.299	0.084
Off-Highway Trucks	2000	751	1000	16.13	1.003	9.339	4.878	0.052	0.355	0.355	568.3	0.09
Off-Highway Trucks	2005	121	175	3.462	1.075	8.1	3.531	0.057	0.481	0.481	568.299	0.097
Off-Highway Trucks	2005	176	250	3.21	0.748	7.652	1.978	0.057	0.291	0.291	568.299	0.067
Off-Highway Trucks	2005	251	500	4.695	0.669	6.848	2.332	0.05	0.26	0.26	568.299	0.06
Off-Highway Trucks	2005	501	750	7.697	0.677	7.052	2.33	0.052	0.264	0.264	568.299	0.061
Off-Highway Trucks	2005	751	1000	12.436	0.773	8.177	2.812	0.052	0.266	0.266	568.299	0.069
Off-Highway Trucks	2010	121	175	0.758703	0.638	6.59182	3.51002	0.005	0.39	0.359	522.6455	0.152
Off-Highway Trucks	2010	176	250	0.657432	0.552	6.86617	2.13151	0.005	0.29	0.267	521.8781	0.152
Off-Highway Trucks	2010	251	500	0.5118	0.43	5.52051	2.32222	0.005	0.213	0.196	528.8078	0.154

Off-Highway Trucks	2010	501	750	0.633984	0.533	6.54487	3.68555	0.005	0.276	0.254	530.4366	0.154
Off-Highway Trucks	2010	751	1000	0.549873	0.462	7.15365	2.05613	0.005	0.211	0.194	526.5915	0.153
Off-Highway Trucks	2011	121	175	0.704506	0.592	6.13879	3.48667	0.005	0.357	0.328	521.3222	0.152
Off-Highway Trucks	2011	176	250	0.640546	0.538	6.53722	2.08881	0.005	0.278	0.256	520.1539	0.152
Off-Highway Trucks	2011	251	500	0.515485	0.433	5.39802	2.27798	0.005	0.21	0.193	527.2602	0.154
Off-Highway Trucks	2011	501	750	0.643792	0.541	6.51376	3.68121	0.005	0.276	0.254	529.0143	0.154
Off-Highway Trucks	2011	751	1000	0.55014	0.462	7.09609	2.03783	0.005	0.211	0.194	524.7459	0.153
Off-Highway Trucks	2012	121	175	0.704248	0.592	6.0668	3.51164	0.005	0.354	0.325	519.901	0.152
Off-Highway Trucks	2012	176	250	0.646155	0.543	6.43814	2.1013	0.005	0.277	0.255	518.7133	0.152
Off-Highway Trucks	2012	251	500	0.525914	0.442	5.37678	2.29017	0.005	0.21	0.193	525.9398	0.154
Off-Highway Trucks	2012	501	750	0.661317	0.556	6.55684	3.73128	0.005	0.28	0.258	527.6141	0.154
Off-Highway Trucks	2012	751	1000	0.55909	0.47	7.10377	2.05327	0.005	0.213	0.196	523.3305	0.153
Off-Highway Trucks	2013	121	175	0.671819	0.565	5.78297	3.51059	0.005	0.33	0.304	517.0124	0.152
Off-Highway Trucks	2013	176	250	0.623589	0.524	6.05816	2.04802	0.005	0.263	0.242	515.8273	0.152
Off-Highway Trucks	2013	251	500	0.502477	0.422	5.06239	2.17762	0.005	0.197	0.181	523.5459	0.154
Off-Highway Trucks	2013	501	750	0.645495	0.542	6.30864	3.55888	0.005	0.268	0.247	525.1075	0.154
Off-Highway Trucks	2013	751	1000	0.543085	0.456	6.89277	1.9094	0.005	0.205	0.189	520.5876	0.153
Off-Highway Trucks	2014	121	175	0.610195	0.513	5.21922	3.47308	0.005	0.292	0.269	514.0574	0.152
Off-Highway Trucks	2014	176	250	0.574728	0.483	5.4411	1.93163	0.005	0.235	0.217	512.8333	0.152
Off-Highway Trucks	2014	251	500	0.468214	0.393	4.68575	2.07518	0.005	0.18	0.165	521.0573	0.154
Off-Highway Trucks	2014	501	750	0.576983	0.485	5.57816	2.95299	0.005	0.231	0.212	521.2295	0.154
Off-Highway Trucks	2014	751	1000	0.493307	0.415	6.36534	1.77934	0.005	0.187	0.172	516.9385	0.153
Off-Highway Trucks	2015	121	175	0.604782	0.508	5.10449	3.48853	0.005	0.284	0.262	508.7011	0.152
Off-Highway Trucks	2015	176	250	0.563373	0.473	5.24228	1.89994	0.005	0.227	0.209	507.8087	0.152
Off-Highway Trucks	2015	251	500	0.457555	0.384	4.52794	2.0367	0.005	0.173	0.159	515.8419	0.154
Off-Highway Trucks	2015	501	750	0.537539	0.452	5.12427	2.61969	0.005	0.208	0.192	514.6436	0.154
Off-Highway Trucks	2015	751	1000	0.489174	0.411	6.28012	1.77206	0.005	0.185	0.17	511.1369	0.153
Off-Highway Trucks	2016	121	175	0.562854	0.473	4.64707	3.45883	0.005	0.258	0.237	503.5515	0.152
Off-Highway Trucks	2016	176	250	0.530487	0.446	4.82646	1.82377	0.005	0.208	0.191	502.4732	0.152
Off-Highway Trucks	2016	251	500	0.418147	0.351	4.04798	1.88523	0.005	0.153	0.141	509.8604	0.154
Off-Highway Trucks	2016	501	750	0.497396	0.418	4.64247	2.43646	0.005	0.187	0.172	508.3916	0.153
Off-Highway Trucks	2016	751	1000	0.467579	0.393	6.0352	1.70739	0.005	0.175	0.161	505.7218	0.153
Off-Highway Trucks	2017	121	175	0.525186	0.441	4.23649	3.43636	0.005	0.233	0.215	495.924	0.152
Off-Highway Trucks	2017	176	250	0.496493	0.417	4.36785	1.75281	0.005	0.189	0.174	494.7935	0.152
Off-Highway Trucks	2017	251	500	0.387096	0.325	3.66841	1.74773	0.005	0.136	0.125	501.4368	0.154
Off-Highway Trucks	2017	501	750	0.468516	0.394	4.25656	2.35644	0.005	0.17	0.157	500.1987	0.153
Off-Highway Trucks	2017	751	1000	0.430867	0.362	5.65254	1.54555	0.005	0.159	0.146	497.1154	0.152
Off-Highway Trucks	2018	121	175	0.456313	0.383	3.54273	3.38333	0.005	0.192	0.177	488.0439	0.152
Off-Highway Trucks	2018	176	250	0.405448	0.341	3.45071	1.54329	0.005	0.141	0.13	487.6353	0.152
Off-Highway Trucks	2018	251	500	0.341588	0.287	3.08995	1.5595	0.005	0.113	0.104	493.5059	0.154
Off-Highway Trucks	2018	501	750	0.413946	0.348	3.69054	2.17619	0.005	0.143	0.132	492.1136	0.153
Off-Highway Trucks	2018	751	1000	0.352998	0.297	4.85753	1.35734	0.005	0.126	0.116	487.7902	0.152
Off-Highway Trucks	2019	121	175	0.38382	0.323	2.82463	3.32598	0.005	0.149	0.137	480.3623	0.152
Off-Highway Trucks	2019	176	250	0.365362	0.307	2.98481	1.46079	0.005	0.119	0.109	480.1703	0.152
Off-Highway Trucks	2019	251	500	0.313575	0.263	2.66851	1.48346	0.005	0.097	0.089	485.3832	0.154
Off-Highway Trucks	2019	501	750	0.389037	0.327	3.32044	2.04129	0.005	0.129	0.118	483.2182	0.153
Off-Highway Trucks	2019	751	1000	0.351304	0.295	4.76495	1.3561	0.005	0.124	0.114	480.3479	0.152
Off-Highway Trucks	2020	121	175	0.36879	0.31	2.62769	3.3388	0.005	0.137	0.126	470.0967	0.152
Off-Highway Trucks	2020	176	250	0.327003	0.275	2.50726	1.39106	0.005	0.098	0.09	470.1675	0.152
Off-Highway Trucks	2020	251	500	0.292906	0.246	2.34677	1.41417	0.005	0.086	0.079	474.5787	0.153
Off-Highway Trucks	2020	501	750	0.371665	0.312	3.05816	2.02683	0.005	0.12	0.11	472.7499	0.153
Off-Highway Trucks	2020	751	1000	0.360605	0.303	4.79365	1.37163	0.005	0.125	0.115	469.8892	0.152
Off-Highway Trucks	2021	121	175	0.331341	0.278	2.24626	3.32405	0.005	0.113	0.104	470.2898	0.152
Off-Highway Trucks	2021	176	250	0.29675	0.249	2.10869	1.34839	0.005	0.082	0.076	470.1932	0.152
Off-Highway Trucks	2021	251	500	0.267636	0.225	1.95357	1.33781	0.005	0.072	0.066	474.542	0.153
Off-Highway Trucks	2021	501	750	0.348975	0.293	2.66798	1.93522	0.005	0.106	0.098	472.991	0.153
Off-Highway Trucks	2021	751	1000	0.304392	0.256	4.15817	1.25154	0.005	0.099	0.091	471.0552	0.152
Off-Highway Trucks	2022	121	175	0.286556	0.241	1.81091	3.28383	0.005	0.088	0.081	470.1813	0.152
Off-Highway Trucks	2022	176	250	0.255309	0.215	1.61794	1.27852	0.005	0.064	0.059	469.6151	0.152
Off-Highway Trucks	2022	251	500	0.233409	0.196	1.48975	1.24664	0.005	0.054	0.05	474.7136	0.154
Off-Highway Trucks	2022	501	750	0.313397	0.263	2.26799	1.74571	0.005	0.088	0.081	473.9773	0.153
Off-Highway Trucks	2022	751	1000	0.27833	0.234	3.84239	1.2141	0.005	0.086	0.079	472.3437	0.153
Off-Highway Trucks	2023	121	175	0.280582	0.236	1.68277	3.30432	0.005	0.081	0.074	470.2917	0.152
Off-Highway Trucks	2023	176	250	0.24623	0.207	1.45572	1.27325	0.005	0.059	0.054	469.4464	0.152
Off-Highway Trucks	2023	251	500	0.222566	0.187	1.32428	1.22057	0.005	0.048	0.044	475.0488	0.154
Off-Highway Trucks	2023	501	750	0.312722	0.263	2.18151	1.71923	0.005	0.084	0.078	473.7666	0.153
Off-Highway Trucks	2023	751	1000	0.254284	0.214	3.54374	1.19398	0.005	0.074	0.068	472.8574	0.153
Off-Highway Trucks	2024	121	175	0.266426	0.224	1.49436	3.3248	0.005	0.07	0.064	470.2638	0.152
Off-Highway Trucks	2024	176	250	0.240426	0.202	1.35543	1.25915	0.005	0.054	0.05	469.1126	0.152
Off-Highway Trucks	2024	251	500	0.219543	0.184	1.23518	1.20637	0.005	0.044	0.041	475.2203	0.154
Off-Highway Trucks	2024	501	750	0.308071	0.259	2.08486	1.64986	0.005	0.079	0.073	473.8394	0.153
Off-Highway Trucks	2024	751	1000	0.248432	0.209	3.43925	1.19994	0.005	0.069	0.064	473.0969	0.153
Off-Highway Trucks	2025	121	175	0.254265	0.214	1.3354	3.32765	0.005	0.065	0.06	470.0035	0.152
Off-Highway Trucks	2025	176	250	0.220008	0.185	1.12886	1.21268	0.005	0.043	0.04	469.1258	0.152
Off-Highway Trucks	2025	251	500	0.210955	0.177	1.06379	1.18233	0.005	0.038	0.035	474.9697	0.154
Off-Highway Trucks	2025	501	750	0.280009	0.235	1.75055	1.57807	0.005	0.066	0.061	476.314	0.154
Off-Highway Trucks	2025	751	1000	0.222695	0.187	3.13521	1.14565	0.005	0.057	0.052	473.3693	0.153
Off-Highway Trucks	2030	121	175	0.739	0.229	0.563	3.425	0.006	0.025	0.025	568.299	0.02
Off-Highway Trucks	2030	176	250	0.932	0.217	0.481	1.166	0.006	0.017	0.017	568.3	0.019
Off-Highway Trucks	2030	251	500	1.52	0.216	0.458	1.104	0.005	0.017	0.017	568.299	0.019
Off-Highway Trucks	2030	501	750	2.467	0.217	0.463	1.104	0.005	0.017	0.017	568.299	0.019
Off-Highway Trucks	2030	751	1000	3.55	0.22	2.651	1.107	0.005	0.033	0.033	568.3	0.019
Off-Highway Trucks	2035	121	175	0.68	0.211	0.38	3.425	0.006	0.016	0.016	568.299	0.019
Off-Highway Trucks	2035	176	250	0.894	0.208	0.353	1.167	0.006	0.013	0.013	568.299	0.018
Off-Highway Trucks	2035	251	500	1.461	0.208	0.348	1.105	0.005	0.013	0.013	568.299	0.018
Off-Highway Trucks	2035	501	750	2.371	0.208	0.348	1.105	0.005	0.013	0.013	568.299	0.018
Off-Highway Trucks	2035	751	1000	3.368	0.209	2.565	1.105	0.005	0.028	0.028	568.299	0.018
Off-Highway Trucks	2040	121	175	0.662	0.205	0.318	3.426	0.006	0.013	0.013	568.299	0.018
Off-Highway Trucks	2040	176	250	0.877	0							

Off-Highway Trucks	2040	251	500	1.434	0.204	0.305	1.105	0.005	0.012	0.012	568.299	0.018
Off-Highway Trucks	2040	501	750	2.327	0.204	0.305	1.105	0.005	0.012	0.012	568.299	0.018
Off-Highway Trucks	2040	751	1000	3.296	0.205	2.532	1.105	0.005	0.026	0.026	568.299	0.018
Other Construction Equipn	1990	6	15	5.348	1.804	9.999	4.999	1.049	0.975	0.975	568.3	0.162
Other Construction Equipn	1990	16	25	8.578	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Other Construction Equipn	1990	26	50	39.33	4.791	7.947	9.693	0.871	1.267	1.267	568.299	0.432
Other Construction Equipn	1990	51	120	56.637	2.388	15.176	5.782	0.791	1.343	1.343	568.299	0.215
Other Construction Equipn	1990	121	175	60.86	1.948	15.112	5.191	0.758	1.085	1.085	568.299	0.175
Other Construction Equipn	1990	251	500	128.26	1.72	14.332	11.412	0.662	0.927	0.927	568.299	0.155
Other Construction Equipn	2000	6	15	4.374	1.475	8.242	4.49	0.079	0.676	0.676	568.299	0.133
Other Construction Equipn	2000	16	25	7.591	1.958	6.358	4.53	0.065	0.563	0.563	568.3	0.176
Other Construction Equipn	2000	26	50	30.619	3.73	6.784	7.85	0.066	0.816	0.816	568.299	0.336
Other Construction Equipn	2000	51	120	38.817	1.636	9.507	4.283	0.06	0.786	0.786	568.3	0.147
Other Construction Equipn	2000	121	175	34.573	1.106	8.749	3.417	0.057	0.453	0.453	568.299	0.099
Other Construction Equipn	2000	251	500	61.92	0.83	8.069	3.67	0.05	0.321	0.321	568.299	0.074
Other Construction Equipn	2005	6	15	2.271	0.766	5.228	3.469	0.079	0.361	0.361	568.299	0.069
Other Construction Equipn	2005	16	25	3.564	0.919	5.412	2.642	0.065	0.347	0.347	568.3	0.082
Other Construction Equipn	2005	26	50	26.204	3.192	6.226	7.102	0.066	0.739	0.739	568.299	0.288
Other Construction Equipn	2005	51	120	33.145	1.397	8.067	4.043	0.06	0.725	0.725	568.299	0.126
Other Construction Equipn	2005	121	175	28.235	0.903	7.379	3.208	0.057	0.392	0.392	568.299	0.081
Other Construction Equipn	2005	251	500	41.035	0.55	6.334	2.051	0.05	0.22	0.22	568.299	0.049
Other Construction Equipn	2010	6	15	1.52864	1.284	5.55407	5.29076	0.005	0.497	0.457	587.5495	0.171
Other Construction Equipn	2010	16	25	1.52864	1.284	5.55407	5.29076	0.005	0.497	0.457	587.5495	0.171
Other Construction Equipn	2010	26	50	1.52864	1.284	5.55407	5.29076	0.005	0.497	0.457	587.5495	0.171
Other Construction Equipn	2010	51	120	0.92739	0.779	7.11752	3.89903	0.005	0.549	0.505	523.1661	0.152
Other Construction Equipn	2010	121	175	0.769602	0.647	7.30949	3.47406	0.005	0.38	0.349	522.1244	0.152
Other Construction Equipn	2010	251	500	0.480247	0.404	5.78616	3.20434	0.005	0.219	0.201	530.8514	0.155
Other Construction Equipn	2011	6	15	1.531741	1.287	5.5686	5.36962	0.005	0.499	0.459	586.0703	0.171
Other Construction Equipn	2011	16	25	1.531741	1.287	5.5686	5.36962	0.005	0.499	0.459	586.0703	0.171
Other Construction Equipn	2011	26	50	1.531741	1.287	5.5686	5.36962	0.005	0.499	0.459	586.0703	0.171
Other Construction Equipn	2011	51	120	0.909764	0.764	6.98332	3.89723	0.005	0.542	0.498	521.5282	0.152
Other Construction Equipn	2011	121	175	0.725704	0.61	6.92098	3.41832	0.005	0.361	0.332	520.664	0.152
Other Construction Equipn	2011	251	500	0.449646	0.378	5.42766	2.91483	0.005	0.204	0.188	529.9639	0.155
Other Construction Equipn	2012	6	15	1.548775	1.301	5.58169	5.47004	0.005	0.503	0.463	584.6639	0.171
Other Construction Equipn	2012	16	25	1.548775	1.301	5.58169	5.47004	0.005	0.503	0.463	584.6639	0.171
Other Construction Equipn	2012	26	50	1.548775	1.301	5.58169	5.47004	0.005	0.503	0.463	584.6639	0.171
Other Construction Equipn	2012	51	120	0.910724	0.765	6.95644	3.91674	0.005	0.543	0.5	519.9075	0.152
Other Construction Equipn	2012	121	175	0.730754	0.614	6.91612	3.4429	0.005	0.363	0.334	519.3479	0.152
Other Construction Equipn	2012	251	500	0.458869	0.386	5.42334	2.95715	0.005	0.206	0.189	528.6246	0.155
Other Construction Equipn	2013	6	15	1.571874	1.321	5.60361	5.57699	0.005	0.509	0.468	581.8471	0.171
Other Construction Equipn	2013	16	25	1.571874	1.321	5.60361	5.57699	0.005	0.509	0.468	581.8471	0.171
Other Construction Equipn	2013	26	50	1.571874	1.321	5.60361	5.57699	0.005	0.509	0.468	581.8471	0.171
Other Construction Equipn	2013	51	120	0.892781	0.75	6.82868	3.91866	0.005	0.532	0.489	517.5939	0.152
Other Construction Equipn	2013	121	175	0.708053	0.595	6.69102	3.41257	0.005	0.351	0.323	516.9857	0.152
Other Construction Equipn	2013	251	500	0.440093	0.37	5.14317	2.79519	0.005	0.194	0.179	525.1086	0.154
Other Construction Equipn	2014	6	15	1.547867	1.301	5.56546	5.60223	0.005	0.502	0.462	578.9591	0.171
Other Construction Equipn	2014	16	25	1.547867	1.301	5.56546	5.60223	0.005	0.502	0.462	578.9591	0.171
Other Construction Equipn	2014	26	50	1.547867	1.301	5.56546	5.60223	0.005	0.502	0.462	578.9591	0.171
Other Construction Equipn	2014	51	120	0.866935	0.728	6.63282	3.90558	0.005	0.518	0.476	515.2847	0.152
Other Construction Equipn	2014	121	175	0.674237	0.567	6.37185	3.38516	0.005	0.333	0.307	514.5518	0.152
Other Construction Equipn	2014	251	500	0.392211	0.33	4.5608	2.47571	0.005	0.168	0.155	520.9444	0.154
Other Construction Equipn	2015	6	15	1.557753	1.309	5.56397	5.68113	0.005	0.503	0.463	573.0198	0.171
Other Construction Equipn	2015	16	25	1.557753	1.309	5.56397	5.68113	0.005	0.503	0.463	573.0198	0.171
Other Construction Equipn	2015	26	50	1.557753	1.309	5.56397	5.68113	0.005	0.503	0.463	573.0198	0.171
Other Construction Equipn	2015	51	120	0.860334	0.723	6.53649	3.9159	0.005	0.512	0.471	510.1706	0.152
Other Construction Equipn	2015	121	175	0.66302	0.557	6.2305	3.38183	0.005	0.326	0.3	509.3069	0.152
Other Construction Equipn	2015	251	500	0.386006	0.324	4.41519	2.40724	0.005	0.163	0.15	515.1953	0.154
Other Construction Equipn	2016	6	15	1.524032	1.281	5.49921	5.67687	0.005	0.492	0.453	566.9782	0.171
Other Construction Equipn	2016	16	25	1.524032	1.281	5.49921	5.67687	0.005	0.492	0.453	566.9782	0.171
Other Construction Equipn	2016	26	50	1.524032	1.281	5.49921	5.67687	0.005	0.492	0.453	566.9782	0.171
Other Construction Equipn	2016	51	120	0.837049	0.703	6.32533	3.90894	0.005	0.496	0.456	505.349	0.152
Other Construction Equipn	2016	121	175	0.62413	0.524	5.81763	3.35672	0.005	0.306	0.281	503.9641	0.152
Other Construction Equipn	2016	251	500	0.366005	0.308	4.08972	2.28488	0.005	0.151	0.139	509.7062	0.154
Other Construction Equipn	2017	6	15	1.480652	1.244	5.42066	5.65509	0.005	0.477	0.439	558.0007	0.171
Other Construction Equipn	2017	16	25	1.480652	1.244	5.42066	5.65509	0.005	0.477	0.439	558.0007	0.171
Other Construction Equipn	2017	26	50	1.480652	1.244	5.42066	5.65509	0.005	0.477	0.439	558.0007	0.171
Other Construction Equipn	2017	51	120	0.804436	0.676	6.06955	3.88542	0.005	0.475	0.437	497.3832	0.152
Other Construction Equipn	2017	121	175	0.595557	0.5	5.49424	3.33767	0.005	0.29	0.267	495.9311	0.152
Other Construction Equipn	2017	251	500	0.3449	0.29	3.77706	2.12114	0.005	0.138	0.127	501.1295	0.154
Other Construction Equipn	2018	6	15	1.39068	1.169	5.27161	5.54108	0.005	0.449	0.413	548.9388	0.171
Other Construction Equipn	2018	16	25	1.39068	1.169	5.27161	5.54108	0.005	0.449	0.413	548.9388	0.171
Other Construction Equipn	2018	26	50	1.39068	1.169	5.27161	5.54108	0.005	0.449	0.413	548.9388	0.171
Other Construction Equipn	2018	51	120	0.711314	0.598	5.44123	3.79863	0.005	0.417	0.383	490.018	0.153
Other Construction Equipn	2018	121	175	0.519398	0.436	4.75499	3.26346	0.005	0.25	0.23	487.9859	0.152
Other Construction Equipn	2018	251	500	0.298599	0.251	3.16693	1.81261	0.005	0.115	0.105	493.36	0.154
Other Construction Equipn	2019	6	15	1.370834	1.152	5.20338	5.54123	0.005	0.437	0.402	539.7349	0.171
Other Construction Equipn	2019	16	25	1.370834	1.152	5.20338	5.54123	0.005	0.437	0.402	539.7349	0.171
Other Construction Equipn	2019	26	50	1.370834	1.152	5.20338	5.54123	0.005	0.437	0.402	539.7349	0.171
Other Construction Equipn	2019	51	120	0.655004	0.55	5.04831	3.7535	0.005	0.379	0.349	482.2177	0.153
Other Construction Equipn	2019	121	175	0.490382	0.412	4.4331	3.25619	0.005	0.233	0.215	480.4518	0.152
Other Construction Equipn	2019	251	500	0.277883	0.233	2.85547	1.66739	0.005	0.103	0.094	485.4127	0.154
Other Construction Equipn	2020	6	15	1.276029	1.072	5.03626	5.40446	0.005	0.405	0.373	527.9656	0.171
Other Construction Equipn	2020	16	25	1.276029	1.072	5.03626	5.40446	0.005	0.405	0.373	527.9656	0.171
Other Construction Equipn	2020	26	50	1.276029	1.072	5.03626	5.40446	0.005	0.405	0.373	527.9656	0.171
Other Construction Equipn	2020	51	120	0.617777	0.519	4.7712	3.73189	0.005	0.354	0.325	472.2162	0.153
Other Construction Equipn	2020	121	175	0.461441	0.388	4.11203	3.23528	0.005	0.217	0.2	469.9837	0.152
Other Construction Equipn	2020	251	500	0.266788	0.224	2.63672	1.6338	0.005	0.096	0.088	475.2326	0.154
Other Construction Equipn	2021	6	15	1.201423	1.01	4.90234	5.30749	0.005	0.382	0.351	527.7834	0.171
Other Construction Equipn	2021	16	25	1.201423	1.01	4.90234	5.30749	0.005	0.382	0.351	527.7834	0.171

Other Construction Equipn	2021	26	50	1.201423	1.01	4.90234	5.30749	0.005	0.382	0.351	527.7834	0.171
Other Construction Equipn	2021	51	120	0.573212	0.482	4.4558	3.70304	0.005	0.323	0.298	472.275	0.153
Other Construction Equipn	2021	121	175	0.392185	0.33	3.43847	3.18275	0.005	0.18	0.165	469.7642	0.152
Other Construction Equipn	2021	251	500	0.256006	0.215	2.42822	1.59874	0.005	0.09	0.082	475.2124	0.154
Other Construction Equipn	2022	6	15	1.094466	0.92	4.74117	5.16732	0.005	0.348	0.32	529.1825	0.171
Other Construction Equipn	2022	16	25	1.094466	0.92	4.74117	5.16732	0.005	0.348	0.32	529.1825	0.171
Other Construction Equipn	2022	26	50	1.094466	0.92	4.74117	5.16732	0.005	0.348	0.32	529.1825	0.171
Other Construction Equipn	2022	51	120	0.523663	0.44	4.09846	3.66623	0.005	0.288	0.265	472.3178	0.153
Other Construction Equipn	2022	121	175	0.351187	0.295	2.99437	3.15539	0.005	0.156	0.144	469.6126	0.152
Other Construction Equipn	2022	251	500	0.223796	0.188	1.97544	1.43828	0.005	0.074	0.068	475.9983	0.154
Other Construction Equipn	2023	6	15	1.030598	0.866	4.59446	5.07368	0.005	0.322	0.296	529.3389	0.171
Other Construction Equipn	2023	16	25	1.030598	0.866	4.59446	5.07368	0.005	0.322	0.296	529.3389	0.171
Other Construction Equipn	2023	26	50	1.030598	0.866	4.59446	5.07368	0.005	0.322	0.296	529.3389	0.171
Other Construction Equipn	2023	51	120	0.482844	0.406	3.79013	3.63188	0.005	0.259	0.238	471.9899	0.153
Other Construction Equipn	2023	121	175	0.325455	0.273	2.69821	3.14152	0.005	0.14	0.129	469.5579	0.152
Other Construction Equipn	2023	251	500	0.214667	0.18	1.81226	1.39596	0.005	0.069	0.063	476.1847	0.154
Other Construction Equipn	2024	6	15	0.984979	0.828	4.51017	5.03181	0.005	0.305	0.28	529.2094	0.171
Other Construction Equipn	2024	16	25	0.984979	0.828	4.51017	5.03181	0.005	0.305	0.28	529.2094	0.171
Other Construction Equipn	2024	26	50	0.984979	0.828	4.51017	5.03181	0.005	0.305	0.28	529.2094	0.171
Other Construction Equipn	2024	51	120	0.454266	0.382	3.58173	3.61958	0.005	0.237	0.218	472.1254	0.153
Other Construction Equipn	2024	121	175	0.310043	0.261	2.52019	3.14951	0.005	0.13	0.12	469.5445	0.152
Other Construction Equipn	2024	251	500	0.208244	0.175	1.67692	1.38248	0.005	0.064	0.059	476.4838	0.154
Other Construction Equipn	2025	6	15	0.901061	0.757	4.30575	4.87388	0.005	0.268	0.246	528.9535	0.171
Other Construction Equipn	2025	16	25	0.901061	0.757	4.30575	4.87388	0.005	0.268	0.246	528.9535	0.171
Other Construction Equipn	2025	26	50	0.901061	0.757	4.30575	4.87388	0.005	0.268	0.246	528.9535	0.171
Other Construction Equipn	2025	51	120	0.40612	0.341	3.25221	3.58397	0.005	0.203	0.187	472.7482	0.153
Other Construction Equipn	2025	121	175	0.279358	0.235	2.16742	3.13647	0.005	0.112	0.103	469.843	0.152
Other Construction Equipn	2025	251	500	0.200431	0.168	1.55241	1.3582	0.005	0.059	0.055	476.2959	0.154
Other Construction Equipn	2030	6	15	1.96	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Other Construction Equipn	2030	16	25	2.657	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Other Construction Equipn	2030	26	50	3.526	0.429	3.19	4.39	0.007	0.03	0.03	568.299	0.038
Other Construction Equipn	2030	51	120	5.348	0.225	1.576	3.538	0.006	0.027	0.027	568.3	0.02
Other Construction Equipn	2030	121	175	5.057	0.161	0.459	3.127	0.006	0.019	0.019	568.299	0.014
Other Construction Equipn	2030	251	500	11.523	0.154	0.391	1.028	0.005	0.014	0.014	568.3	0.013
Other Construction Equipn	2035	6	15	1.96	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Other Construction Equipn	2035	16	25	2.657	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Other Construction Equipn	2035	26	50	3.367	0.41	3.124	4.377	0.007	0.018	0.018	568.299	0.037
Other Construction Equipn	2035	51	120	5.057	0.213	1.474	3.536	0.006	0.017	0.017	568.299	0.019
Other Construction Equipn	2035	121	175	4.686	0.15	0.334	3.128	0.006	0.013	0.013	568.299	0.013
Other Construction Equipn	2035	251	500	11.034	0.147	0.311	1.029	0.005	0.011	0.011	568.299	0.013
Other Construction Equipn	2040	6	15	1.96	0.661	4.142	3.47	0.008	0.161	0.161	568.3	0.059
Other Construction Equipn	2040	16	25	2.657	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Other Construction Equipn	2040	26	50	3.359	0.409	3.096	4.377	0.007	0.015	0.015	568.3	0.036
Other Construction Equipn	2040	51	120	4.992	0.21	1.441	3.536	0.006	0.014	0.014	568.299	0.018
Other Construction Equipn	2040	121	175	4.556	0.145	0.29	3.128	0.006	0.011	0.011	568.299	0.013
Other Construction Equipn	2040	251	500	10.825	0.145	0.282	1.029	0.005	0.01	0.01	568.299	0.013
Other General Industrial Ec	1990	6	15	4.264	1.804	9.999	4.999	0.833	0.968	0.968	568.299	0.162
Other General Industrial Ec	1990	16	25	12.555	2.213	6.919	4.999	0.679	0.735	0.735	568.299	0.199
Other General Industrial Ec	1990	26	50	38.808	4.828	7.957	9.768	0.692	1.266	1.266	568.299	0.435
Other General Industrial Ec	1990	51	120	54.2	2.363	14.962	5.72	0.628	1.331	1.331	568.299	0.213
Other General Industrial Ec	1990	121	175	57.106	1.61	13.434	5.066	0.602	0.88	0.88	568.299	0.145
Other General Industrial Ec	1990	176	250	80.71	1.61	13.434	5.066	0.602	0.88	0.88	568.299	0.145
Other General Industrial Ec	1990	251	500	139.861	1.425	12.743	11.207	0.525	0.756	0.756	568.299	0.128
Other General Industrial Ec	1990	501	750	230.516	1.425	12.743	11.207	0.538	0.756	0.756	568.299	0.128
Other General Industrial Ec	1990	751	1000	293.256	1.417	12.743	11.207	0.538	0.746	0.746	568.299	0.127
Other General Industrial Ec	2000	6	15	2.475	1.047	7.362	4.258	0.079	0.428	0.428	568.299	0.094
Other General Industrial Ec	2000	16	25	5.83	1.027	6.284	4.322	0.064	0.431	0.431	568.299	0.092
Other General Industrial Ec	2000	26	50	36.086	4.49	7.09	9.236	0.065	0.935	0.935	568.299	0.405
Other General Industrial Ec	2000	51	120	43.196	1.883	10.664	4.733	0.059	0.91	0.91	568.299	0.169
Other General Industrial Ec	2000	121	175	44.74	1.261	9.686	3.852	0.057	0.536	0.536	568.299	0.113
Other General Industrial Ec	2000	176	250	53	1.057	9.325	3.072	0.057	0.438	0.438	568.299	0.095
Other General Industrial Ec	2000	251	500	93.834	0.956	8.862	5.179	0.049	0.385	0.385	568.299	0.086
Other General Industrial Ec	2000	501	750	154.656	0.956	8.862	5.179	0.051	0.385	0.385	568.3	0.086
Other General Industrial Ec	2000	751	1000	214.063	1.034	9.479	5.791	0.051	0.385	0.385	568.299	0.093
Other General Industrial Ec	2005	6	15	1.674	0.708	4.985	3.469	0.079	0.35	0.35	568.299	0.063
Other General Industrial Ec	2005	16	25	4.288	0.755	5.226	2.4	0.064	0.315	0.315	568.299	0.068
Other General Industrial Ec	2005	26	50	33.133	4.122	6.676	8.765	0.065	0.888	0.888	568.299	0.371
Other General Industrial Ec	2005	51	120	37.812	1.649	9.041	4.418	0.059	0.867	0.867	568.299	0.148
Other General Industrial Ec	2005	121	175	38.439	1.084	8.273	3.513	0.057	0.479	0.479	568.299	0.097
Other General Industrial Ec	2005	176	250	38.228	0.762	7.795	2.065	0.057	0.301	0.301	568.299	0.068
Other General Industrial Ec	2005	251	500	66.246	0.675	7.094	2.681	0.049	0.269	0.269	568.299	0.06
Other General Industrial Ec	2005	501	750	110.94	0.686	7.252	2.681	0.051	0.272	0.272	568.3	0.061
Other General Industrial Ec	2005	751	1000	166.893	0.806	8.322	3.276	0.051	0.28	0.28	568.299	0.072
Other General Industrial Ec	2010	6	15	1.873274	1.574	5.68505	6.00712	0.005	0.563	0.518	584.6401	0.17
Other General Industrial Ec	2010	16	25	1.873274	1.574	5.68505	6.00712	0.005	0.563	0.518	584.6401	0.17
Other General Industrial Ec	2010	26	50	1.873274	1.574	5.68505	6.00712	0.005	0.563	0.518	584.6401	0.17
Other General Industrial Ec	2010	51	120	1.01726	0.855	7.36447	4.0773	0.005	0.611	0.562	522.222	0.152
Other General Industrial Ec	2010	121	175	0.746027	0.627	7.0202	3.51505	0.005	0.379	0.349	524.278	0.153
Other General Industrial Ec	2010	176	250	0.769173	0.646	8.04899	2.61803	0.005	0.359	0.33	525.8035	0.153
Other General Industrial Ec	2010	251	500	0.489206	0.411	5.68219	2.96412	0.005	0.219	0.202	525.4767	0.153
Other General Industrial Ec	2010	501	750	0.368598	0.31	4.78207	1.62081	0.005	0.168	0.154	526.0709	0.153
Other General Industrial Ec	2010	751	1000	0.368913	0.31	6.10226	1.02418	0.005	0.148	0.136	524.505	0.153
Other General Industrial Ec	2011	6	15	1.86071	1.564	5.69446	6.08575	0.005	0.562	0.517	583.1785	0.17
Other General Industrial Ec	2011	16	25	1.86071	1.564	5.69446	6.08575	0.005	0.562	0.517	583.1785	0.17
Other General Industrial Ec	2011	26	50	1.86071	1.564	5.69446	6.08575	0.005	0.562	0.517	583.1785	0.17
Other General Industrial Ec	2011	51	120	1.006419	0.846	7.24885	4.08854	0.005	0.609	0.56	520.9164	0.152
Other General Industrial Ec	2011	121	175	0.688559	0.579	6.5273	3.47165	0.005	0.352	0.324	522.9673	0.153
Other General Industrial Ec	2011	176	250	0.679053	0.571	7.30022	2.33422	0.005	0.313	0.288	524.489	0.153
Other General Industrial Ec	2011	251	500	0.467324	0.393	5.42881	2.74249	0.005	0.207	0.19	524.163	0.153

Other General Industrial Ec	2011	501	750	0.373245	0.314	4.72869	1.62791	0.005	0.163	0.15	524.7557	0.153
Other General Industrial Ec	2011	751	1000	0.37971	0.319	6.1714	1.03813	0.005	0.153	0.141	523.1938	0.153
Other General Industrial Ec	2012	6	15	1.895405	1.593	5.71254	6.24676	0.005	0.569	0.524	581.7169	0.17
Other General Industrial Ec	2012	16	25	1.895405	1.593	5.71254	6.24676	0.005	0.569	0.524	581.7169	0.17
Other General Industrial Ec	2012	26	50	1.895405	1.593	5.71254	6.24676	0.005	0.569	0.524	581.7169	0.17
Other General Industrial Ec	2012	51	120	1.008569	0.847	7.21493	4.12133	0.005	0.612	0.563	519.6109	0.152
Other General Industrial Ec	2012	121	175	0.685664	0.576	6.44491	3.49618	0.005	0.349	0.321	521.6566	0.153
Other General Industrial Ec	2012	176	250	0.675065	0.567	7.14362	2.33594	0.005	0.308	0.284	523.1745	0.153
Other General Industrial Ec	2012	251	500	0.47625	0.4	5.39821	2.75094	0.005	0.207	0.19	522.8493	0.153
Other General Industrial Ec	2012	501	750	0.379047	0.319	4.69855	1.63473	0.005	0.161	0.148	523.4405	0.153
Other General Industrial Ec	2012	751	1000	0.390508	0.328	6.24054	1.05208	0.005	0.158	0.145	521.8825	0.153
Other General Industrial Ec	2013	6	15	1.848739	1.553	5.64536	6.26146	0.005	0.556	0.511	578.7937	0.17
Other General Industrial Ec	2013	16	25	1.848739	1.553	5.64536	6.26146	0.005	0.556	0.511	578.7937	0.17
Other General Industrial Ec	2013	26	50	1.848739	1.553	5.64536	6.26146	0.005	0.556	0.511	578.7937	0.17
Other General Industrial Ec	2013	51	120	0.982208	0.825	7.03299	4.11871	0.005	0.597	0.549	516.9998	0.152
Other General Industrial Ec	2013	121	175	0.6403	0.538	6.02319	3.4592	0.005	0.324	0.298	519.0352	0.153
Other General Industrial Ec	2013	176	250	0.609561	0.512	6.51958	2.15134	0.005	0.273	0.251	520.5455	0.153
Other General Industrial Ec	2013	251	500	0.434695	0.365	4.82071	2.62159	0.005	0.183	0.168	520.2219	0.153
Other General Industrial Ec	2013	501	750	0.344704	0.29	4.12057	1.58393	0.005	0.139	0.128	520.8102	0.153
Other General Industrial Ec	2013	751	1000	0.401306	0.337	6.30968	1.06602	0.005	0.162	0.149	519.26	0.153
Other General Industrial Ec	2014	6	15	1.810128	1.521	5.58361	6.28785	0.005	0.544	0.5	575.8705	0.17
Other General Industrial Ec	2014	16	25	1.810128	1.521	5.58361	6.28785	0.005	0.544	0.5	575.8705	0.17
Other General Industrial Ec	2014	26	50	1.810128	1.521	5.58361	6.28785	0.005	0.544	0.5	575.8705	0.17
Other General Industrial Ec	2014	51	120	0.938561	0.789	6.72277	4.09005	0.005	0.574	0.528	514.3886	0.152
Other General Industrial Ec	2014	121	175	0.621882	0.523	5.79166	3.46929	0.005	0.312	0.287	516.4138	0.153
Other General Industrial Ec	2014	176	250	0.580321	0.488	6.15263	2.05376	0.005	0.255	0.234	517.9164	0.153
Other General Industrial Ec	2014	251	500	0.422239	0.355	4.56494	2.49943	0.005	0.172	0.159	517.5945	0.153
Other General Industrial Ec	2014	501	750	0.304364	0.256	3.62195	1.48882	0.005	0.115	0.106	518.1798	0.153
Other General Industrial Ec	2014	751	1000	0.412103	0.346	6.37883	1.07997	0.005	0.167	0.153	516.6375	0.153
Other General Industrial Ec	2015	6	15	1.779268	1.495	5.52435	6.32452	0.005	0.532	0.49	570.0241	0.17
Other General Industrial Ec	2015	16	25	1.779268	1.495	5.52435	6.32452	0.005	0.532	0.49	570.0241	0.17
Other General Industrial Ec	2015	26	50	1.779268	1.495	5.52435	6.32452	0.005	0.532	0.49	570.0241	0.17
Other General Industrial Ec	2015	51	120	0.905303	0.761	6.50163	4.0811	0.005	0.553	0.509	509.1664	0.152
Other General Industrial Ec	2015	121	175	0.589015	0.495	5.3974	3.45434	0.005	0.294	0.27	511.171	0.153
Other General Industrial Ec	2015	176	250	0.538134	0.452	5.64293	1.9257	0.005	0.23	0.211	512.6584	0.153
Other General Industrial Ec	2015	251	500	0.420225	0.353	4.42481	2.43603	0.005	0.167	0.154	512.3397	0.153
Other General Industrial Ec	2015	501	750	0.298831	0.251	3.36512	1.49062	0.005	0.109	0.1	512.9191	0.153
Other General Industrial Ec	2015	751	1000	0.422901	0.355	6.44797	1.09391	0.005	0.171	0.158	511.3924	0.153
Other General Industrial Ec	2016	6	15	1.690474	1.42	5.40705	6.25866	0.005	0.506	0.466	564.1777	0.17
Other General Industrial Ec	2016	16	25	1.690474	1.42	5.40705	6.25866	0.005	0.506	0.466	564.1777	0.17
Other General Industrial Ec	2016	26	50	1.690474	1.42	5.40705	6.25866	0.005	0.506	0.466	564.1777	0.17
Other General Industrial Ec	2016	51	120	0.851445	0.715	6.14411	4.04541	0.005	0.518	0.476	503.9442	0.152
Other General Industrial Ec	2016	121	175	0.559455	0.47	5.05466	3.43665	0.005	0.276	0.254	505.9282	0.153
Other General Industrial Ec	2016	176	250	0.519923	0.437	5.40733	1.8667	0.005	0.217	0.2	507.4004	0.153
Other General Industrial Ec	2016	251	500	0.407021	0.342	4.14966	2.36652	0.005	0.159	0.146	507.085	0.153
Other General Industrial Ec	2016	501	750	0.289084	0.243	3.10202	1.49061	0.005	0.1	0.092	507.6584	0.153
Other General Industrial Ec	2016	751	1000	0.288345	0.242	4.7462	1.04483	0.005	0.112	0.103	506.1474	0.153
Other General Industrial Ec	2017	6	15	1.605819	1.349	5.27694	6.17923	0.005	0.479	0.441	555.4081	0.17
Other General Industrial Ec	2017	16	25	1.605819	1.349	5.27694	6.17923	0.005	0.479	0.441	555.4081	0.17
Other General Industrial Ec	2017	26	50	1.605819	1.349	5.27694	6.17923	0.005	0.479	0.441	555.4081	0.17
Other General Industrial Ec	2017	51	120	0.785454	0.66	5.72138	3.99811	0.005	0.47	0.433	496.1109	0.152
Other General Industrial Ec	2017	121	175	0.520155	0.437	4.53359	3.39928	0.005	0.25	0.23	498.0641	0.153
Other General Industrial Ec	2017	176	250	0.489435	0.411	5.02246	1.78	0.005	0.199	0.183	499.5133	0.153
Other General Industrial Ec	2017	251	500	0.397215	0.334	3.9491	2.36453	0.005	0.152	0.14	499.2028	0.153
Other General Industrial Ec	2017	501	750	0.260833	0.219	2.59187	1.48016	0.005	0.086	0.079	499.7673	0.153
Other General Industrial Ec	2017	751	1000	0.29828	0.251	4.7865	1.05719	0.005	0.114	0.105	498.2798	0.153
Other General Industrial Ec	2018	6	15	1.373834	1.154	4.97857	5.82717	0.005	0.414	0.381	546.6385	0.17
Other General Industrial Ec	2018	16	25	1.373834	1.154	4.97857	5.82717	0.005	0.414	0.381	546.6385	0.17
Other General Industrial Ec	2018	26	50	1.373834	1.154	4.97857	5.82717	0.005	0.414	0.381	546.6385	0.17
Other General Industrial Ec	2018	51	120	0.663253	0.557	4.95455	3.87633	0.005	0.392	0.36	488.2775	0.152
Other General Industrial Ec	2018	121	175	0.377931	0.318	3.23673	3.23662	0.005	0.172	0.158	490.1999	0.153
Other General Industrial Ec	2018	176	250	0.360768	0.303	3.64819	1.45525	0.005	0.135	0.124	491.6263	0.153
Other General Industrial Ec	2018	251	500	0.301755	0.254	2.90735	1.58301	0.005	0.104	0.095	491.3207	0.153
Other General Industrial Ec	2018	501	750	0.257602	0.216	2.41933	1.48303	0.005	0.083	0.076	491.8763	0.153
Other General Industrial Ec	2018	751	1000	0.306245	0.257	4.81007	1.06646	0.005	0.116	0.107	490.4122	0.153
Other General Industrial Ec	2019	6	15	1.240314	1.042	4.80683	5.66186	0.005	0.374	0.344	537.8689	0.17
Other General Industrial Ec	2019	16	25	1.240314	1.042	4.80683	5.66186	0.005	0.374	0.344	537.8689	0.17
Other General Industrial Ec	2019	26	50	1.240314	1.042	4.80683	5.66186	0.005	0.374	0.344	537.8689	0.17
Other General Industrial Ec	2019	51	120	0.594634	0.5	4.49674	3.82128	0.005	0.343	0.315	480.4442	0.152
Other General Industrial Ec	2019	121	175	0.359068	0.302	2.99891	3.24129	0.005	0.156	0.144	482.3357	0.153
Other General Industrial Ec	2019	176	250	0.307665	0.259	3.01996	1.29893	0.005	0.106	0.097	483.7392	0.153
Other General Industrial Ec	2019	251	500	0.283854	0.239	2.57531	1.56115	0.005	0.092	0.085	483.4385	0.153
Other General Industrial Ec	2019	501	750	0.236758	0.199	2.11518	1.47441	0.005	0.076	0.07	483.9852	0.153
Other General Industrial Ec	2019	751	1000	0.31421	0.264	4.83364	1.07573	0.005	0.117	0.108	482.5446	0.153
Other General Industrial Ec	2020	6	15	1.125869	0.946	4.62219	5.50397	0.005	0.334	0.307	526.1761	0.17
Other General Industrial Ec	2020	16	25	1.125869	0.946	4.62219	5.50397	0.005	0.334	0.307	526.1761	0.17
Other General Industrial Ec	2020	26	50	1.125869	0.946	4.62219	5.50397	0.005	0.334	0.307	526.1761	0.17
Other General Industrial Ec	2020	51	120	0.53075	0.446	4.06079	3.77073	0.005	0.296	0.272	469.9998	0.152
Other General Industrial Ec	2020	121	175	0.319281	0.268	2.57503	3.22922	0.005	0.135	0.124	471.8502	0.153
Other General Industrial Ec	2020	176	250	0.281815	0.237	2.66782	1.23914	0.005	0.09	0.083	473.2231	0.153
Other General Industrial Ec	2020	251	500	0.247036	0.208	2.06187	1.34424	0.005	0.072	0.067	472.929	0.153
Other General Industrial Ec	2020	501	750	0.207847	0.175	1.67591	1.46184	0.005	0.062	0.057	473.4638	0.153
Other General Industrial Ec	2020	751	1000	0.322174	0.271	4.85721	1.085	0.005	0.119	0.109	472.0545	0.153
Other General Industrial Ec	2021	6	15	0.989462	0.831	4.42532	5.31354	0.005	0.289	0.266	526.1761	0.17
Other General Industrial Ec	2021	16	25	0.989462	0.831	4.42532	5.31354	0.005	0.289	0.266	526.1761	0.17
Other General Industrial Ec	2021	26	50	0.989462	0.831	4.42532	5.31354	0.005	0.289	0.266	526.1761	0.17
Other General Industrial Ec	2021	51	120	0.480398	0.404	3.7177	3.74029	0.005	0.256	0.235	469.9998	0.152
Other General Industrial Ec	2021	121	175	0.302394	0.254	2.34745	3.23421	0.005	0.121	0.111	471.8502	0.153
Other General Industrial Ec	2021	176	250	0.242448	0.204	2.0939	1.17138	0.005	0.07	0.064	473.2231	0.153

Other General Industrial Ec	2021	251	500	0.232592	0.195	1.79624	1.32956	0.005	0.064	0.059	472.929	0.153
Other General Industrial Ec	2021	501	750	0.197551	0.166	1.38672	1.46305	0.005	0.054	0.05	473.4638	0.153
Other General Industrial Ec	2021	751	1000	0.328625	0.276	4.87557	1.09291	0.005	0.12	0.11	472.0545	0.153
Other General Industrial Ec	2022	6	15	0.835231	0.702	4.19687	5.07591	0.005	0.238	0.219	526.1761	0.17
Other General Industrial Ec	2022	16	25	0.835231	0.702	4.19687	5.07591	0.005	0.238	0.219	526.1761	0.17
Other General Industrial Ec	2022	26	50	0.835231	0.702	4.19687	5.07591	0.005	0.238	0.219	526.1761	0.17
Other General Industrial Ec	2022	51	120	0.403101	0.339	3.19968	3.66821	0.005	0.199	0.183	469.9998	0.152
Other General Industrial Ec	2022	121	175	0.289798	0.244	2.14959	3.23346	0.005	0.111	0.102	471.8502	0.153
Other General Industrial Ec	2022	176	250	0.222216	0.187	1.75874	1.13752	0.005	0.057	0.052	473.2231	0.153
Other General Industrial Ec	2022	251	500	0.208015	0.175	1.43348	1.17139	0.005	0.05	0.046	472.929	0.153
Other General Industrial Ec	2022	501	750	0.177285	0.149	1.06247	1.45658	0.005	0.046	0.042	473.4638	0.153
Other General Industrial Ec	2022	751	1000	0.223076	0.187	3.942	1.03925	0.005	0.079	0.073	472.0545	0.153
Other General Industrial Ec	2023	6	15	0.717857	0.603	3.99304	4.88317	0.005	0.194	0.178	526.1761	0.17
Other General Industrial Ec	2023	16	25	0.717857	0.603	3.99304	4.88317	0.005	0.194	0.178	526.1761	0.17
Other General Industrial Ec	2023	26	50	0.717857	0.603	3.99304	4.88317	0.005	0.194	0.178	526.1761	0.17
Other General Industrial Ec	2023	51	120	0.366077	0.308	2.92394	3.64703	0.005	0.168	0.155	469.9998	0.152
Other General Industrial Ec	2023	121	175	0.238568	0.2	1.60937	3.17453	0.005	0.08	0.074	471.8502	0.153
Other General Industrial Ec	2023	176	250	0.214876	0.181	1.53043	1.14024	0.005	0.051	0.047	473.2231	0.153
Other General Industrial Ec	2023	251	500	0.195172	0.164	1.25618	1.12057	0.005	0.043	0.04	472.929	0.153
Other General Industrial Ec	2023	501	750	0.131565	0.111	0.62571	1.10458	0.005	0.023	0.021	473.4638	0.153
Other General Industrial Ec	2023	751	1000	0.229255	0.193	3.95649	1.04852	0.005	0.08	0.073	472.0545	0.153
Other General Industrial Ec	2024	6	15	0.649743	0.546	3.85892	4.78022	0.005	0.165	0.152	526.1761	0.17
Other General Industrial Ec	2024	16	25	0.649743	0.546	3.85892	4.78022	0.005	0.165	0.152	526.1761	0.17
Other General Industrial Ec	2024	26	50	0.649743	0.546	3.85892	4.78022	0.005	0.165	0.152	526.1761	0.17
Other General Industrial Ec	2024	51	120	0.341745	0.287	2.70778	3.63929	0.005	0.146	0.134	469.9998	0.152
Other General Industrial Ec	2024	121	175	0.226791	0.191	1.44774	3.18534	0.005	0.073	0.067	471.8502	0.153
Other General Industrial Ec	2024	176	250	0.205547	0.173	1.31888	1.14124	0.005	0.046	0.042	473.2231	0.153
Other General Industrial Ec	2024	251	500	0.187509	0.158	1.15288	1.1102	0.005	0.04	0.036	472.929	0.153
Other General Industrial Ec	2024	501	750	0.137014	0.115	0.62782	1.11228	0.005	0.023	0.021	473.4638	0.153
Other General Industrial Ec	2024	751	1000	0.235434	0.198	3.97098	1.05779	0.005	0.08	0.074	472.0545	0.153
Other General Industrial Ec	2025	6	15	0.585572	0.492	3.71721	4.67981	0.005	0.136	0.125	526.1761	0.17
Other General Industrial Ec	2025	16	25	0.585572	0.492	3.71721	4.67981	0.005	0.136	0.125	526.1761	0.17
Other General Industrial Ec	2025	26	50	0.585572	0.492	3.71721	4.67981	0.005	0.136	0.125	526.1761	0.17
Other General Industrial Ec	2025	51	120	0.306396	0.257	2.43889	3.61204	0.005	0.118	0.109	469.9998	0.152
Other General Industrial Ec	2025	121	175	0.224974	0.189	1.36379	3.20434	0.005	0.07	0.065	471.8502	0.153
Other General Industrial Ec	2025	176	250	0.184121	0.155	1.02801	1.13176	0.005	0.036	0.033	473.2231	0.153
Other General Industrial Ec	2025	251	500	0.180295	0.151	1.05334	1.10932	0.005	0.035	0.032	472.929	0.153
Other General Industrial Ec	2025	501	750	0.139282	0.117	0.629	1.1152	0.005	0.023	0.021	473.4638	0.153
Other General Industrial Ec	2025	751	1000	0.241613	0.203	3.98546	1.06706	0.005	0.081	0.074	472.0545	0.153
Other General Industrial Ec	2030	6	15	1.393	0.589	4.142	3.469	0.008	0.161	0.161	568.299	0.053
Other General Industrial Ec	2030	16	25	3.889	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Other General Industrial Ec	2030	26	50	4.896	0.609	3.46	5.299	0.007	0.048	0.048	568.299	0.054
Other General Industrial Ec	2030	51	120	7.091	0.309	1.766	3.802	0.006	0.043	0.043	568.299	0.027
Other General Industrial Ec	2030	121	175	7.93	0.223	0.641	3.357	0.006	0.028	0.028	568.299	0.02
Other General Industrial Ec	2030	176	250	10.485	0.209	0.536	1.143	0.006	0.018	0.018	568.299	0.018
Other General Industrial Ec	2030	251	500	20.447	0.208	0.506	1.087	0.005	0.018	0.018	568.299	0.018
Other General Industrial Ec	2030	501	750	33.725	0.208	0.512	1.087	0.005	0.018	0.018	568.299	0.018
Other General Industrial Ec	2030	751	1000	44.002	0.212	2.66	1.088	0.005	0.035	0.035	568.299	0.019
Other General Industrial Ec	2035	6	15	1.393	0.589	4.142	3.469	0.008	0.161	0.161	568.299	0.053
Other General Industrial Ec	2035	16	25	3.889	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Other General Industrial Ec	2035	26	50	4.535	0.564	3.334	5.255	0.007	0.025	0.025	568.299	0.05
Other General Industrial Ec	2035	51	120	6.486	0.282	1.567	3.794	0.006	0.022	0.022	568.3	0.025
Other General Industrial Ec	2035	121	175	7.079	0.199	0.399	3.355	0.006	0.016	0.016	568.3	0.018
Other General Industrial Ec	2035	176	250	9.803	0.195	0.355	1.143	0.006	0.013	0.013	568.299	0.017
Other General Industrial Ec	2035	251	500	19.187	0.195	0.351	1.087	0.005	0.013	0.013	568.299	0.017
Other General Industrial Ec	2035	501	750	31.624	0.195	0.351	1.087	0.005	0.013	0.013	568.299	0.017
Other General Industrial Ec	2035	751	1000	40.723	0.196	2.532	1.087	0.005	0.028	0.028	568.299	0.017
Other General Industrial Ec	2040	6	15	1.393	0.589	4.142	3.47	0.008	0.161	0.161	568.299	0.053
Other General Industrial Ec	2040	16	25	3.889	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Other General Industrial Ec	2040	26	50	4.521	0.562	3.283	5.257	0.007	0.019	0.019	568.299	0.05
Other General Industrial Ec	2040	51	120	6.373	0.277	1.506	3.794	0.006	0.017	0.017	568.299	0.025
Other General Industrial Ec	2040	121	175	6.806	0.191	0.315	3.356	0.006	0.012	0.012	568.299	0.017
Other General Industrial Ec	2040	176	250	9.551	0.19	0.299	1.143	0.006	0.011	0.011	568.299	0.017
Other General Industrial Ec	2040	251	500	18.696	0.19	0.299	1.087	0.005	0.011	0.011	568.299	0.017
Other General Industrial Ec	2040	501	750	30.815	0.19	0.299	1.087	0.005	0.011	0.011	568.299	0.017
Other General Industrial Ec	2040	751	1000	39.521	0.191	2.5	1.087	0.005	0.025	0.025	568.299	0.017
Other Material Handling Ec	1990	26	50	12.278	4.763	7.932	9.649	0.692	1.252	1.252	568.3	0.429
Other Material Handling Ec	1990	51	120	12.096	2.346	14.896	5.692	0.628	1.317	1.317	568.299	0.211
Other Material Handling Ec	1990	121	175	16.59	1.599	13.377	5.041	0.602	0.872	0.872	568.299	0.144
Other Material Handling Ec	1990	176	250	19.708	1.599	13.377	5.041	0.602	0.872	0.872	568.3	0.144
Other Material Handling Ec	1990	251	500	23.083	1.417	12.702	11.046	0.525	0.75	0.75	568.299	0.127
Other Material Handling Ec	1990	1001	9999	88.844	1.41	12.702	11.046	0.525	0.741	0.741	568.3	0.127
Other Material Handling Ec	2000	26	50	11.414	4.428	7.068	9.121	0.065	0.925	0.925	568.299	0.399
Other Material Handling Ec	2000	51	120	9.647	1.871	10.623	4.712	0.059	0.901	0.901	568.299	0.168
Other Material Handling Ec	2000	121	175	13	1.253	9.648	3.836	0.057	0.531	0.531	568.299	0.113
Other Material Handling Ec	2000	176	250	12.957	1.051	9.289	3.061	0.057	0.435	0.435	568.3	0.094
Other Material Handling Ec	2000	251	500	15.5	0.951	8.836	5.171	0.049	0.383	0.383	568.299	0.085
Other Material Handling Ec	2000	1001	9999	65.006	1.031	9.45	5.779	0.049	0.384	0.384	568.299	0.093
Other Material Handling Ec	2005	26	50	10.467	4.06	6.65	8.646	0.065	0.878	0.878	568.299	0.366
Other Material Handling Ec	2005	51	120	8.426	1.634	9.001	4.393	0.059	0.857	0.857	568.3	0.147
Other Material Handling Ec	2005	121	175	11.141	1.073	8.235	3.493	0.057	0.473	0.473	568.299	0.096
Other Material Handling Ec	2005	176	250	9.335	0.757	7.76	2.058	0.057	0.299	0.299	568.299	0.068
Other Material Handling Ec	2005	251	500	10.914	0.67	7.071	2.676	0.049	0.268	0.268	568.299	0.06
Other Material Handling Ec	2005	1001	9999	50.601	0.803	8.291	3.267	0.049	0.278	0.278	568.299	0.072
Other Material Handling Ec	2010	26	50	2.513226	2.112	6.11921	7.14242	0.005	0.673	0.619	581.8987	0.169
Other Material Handling Ec	2010	51	120	0.880333	0.74	6.86036	3.91836	0.005	0.55	0.506	526.2094	0.153
Other Material Handling Ec	2010	121	175	0.703937	0.592	6.62945	3.45939	0.005	0.364	0.335	524.6881	0.153
Other Material Handling Ec	2010	176	250	0.639111	0.537	7.05748	2.2178	0.005	0.292	0.269	523.8689	0.152
Other Material Handling Ec	2010	251	500	0.474577	0.399	5.53948	2.89546	0.005	0.225	0.207	522.5525	0.152



Other Material Handling Ec	2010	1001	9999	0.19342	0.163	4.31467	0.96514	0.005	0.1	0.092	524.505	0.153
Other Material Handling Ec	2011	26	50	2.357707	1.981	6.0264	6.95209	0.005	0.644	0.593	580.4439	0.169
Other Material Handling Ec	2011	51	120	0.835489	0.702	6.54765	3.89742	0.005	0.527	0.485	524.8938	0.153
Other Material Handling Ec	2011	121	175	0.695125	0.584	6.48588	3.45599	0.005	0.36	0.331	523.3764	0.153
Other Material Handling Ec	2011	176	250	0.63663	0.535	6.98965	2.18416	0.005	0.288	0.265	522.5592	0.152
Other Material Handling Ec	2011	251	500	0.474482	0.399	5.43165	2.78574	0.005	0.221	0.203	521.2461	0.152
Other Material Handling Ec	2011	1001	9999	0.210247	0.177	4.35542	0.97804	0.005	0.103	0.095	523.1938	0.153
Other Material Handling Ec	2012	26	50	2.238738	1.881	5.92499	6.81597	0.005	0.62	0.57	578.9892	0.169
Other Material Handling Ec	2012	51	120	0.817068	0.687	6.36758	3.90414	0.005	0.516	0.475	523.5783	0.153
Other Material Handling Ec	2012	121	175	0.692769	0.582	6.40913	3.47827	0.005	0.357	0.328	522.0647	0.153
Other Material Handling Ec	2012	176	250	0.646463	0.543	7.02565	2.19514	0.005	0.29	0.267	521.2496	0.152
Other Material Handling Ec	2012	251	500	0.470349	0.395	5.30246	2.61135	0.005	0.214	0.197	519.9397	0.152
Other Material Handling Ec	2012	1001	9999	0.227073	0.191	4.39617	0.99094	0.005	0.106	0.098	521.8825	0.153
Other Material Handling Ec	2013	26	50	2.105942	1.77	5.85572	6.66457	0.005	0.596	0.548	576.0797	0.169
Other Material Handling Ec	2013	51	120	0.724086	0.608	5.76277	3.82317	0.005	0.447	0.411	520.9473	0.153
Other Material Handling Ec	2013	121	175	0.665996	0.56	6.15356	3.43613	0.005	0.333	0.306	519.4412	0.153
Other Material Handling Ec	2013	176	250	0.634565	0.533	6.82184	2.16882	0.005	0.281	0.259	518.6302	0.152
Other Material Handling Ec	2013	251	500	0.438071	0.368	4.87099	2.33558	0.005	0.195	0.179	517.327	0.152
Other Material Handling Ec	2013	1001	9999	0.2439	0.205	4.43692	1.00384	0.005	0.11	0.101	519.26	0.153
Other Material Handling Ec	2014	26	50	2.017454	1.695	5.75119	6.58988	0.005	0.575	0.529	573.1702	0.169
Other Material Handling Ec	2014	51	120	0.66398	0.558	5.37202	3.77914	0.005	0.412	0.379	518.3162	0.153
Other Material Handling Ec	2014	121	175	0.628738	0.528	5.79759	3.43064	0.005	0.313	0.288	516.8178	0.153
Other Material Handling Ec	2014	176	250	0.565441	0.475	6.17254	1.93605	0.005	0.242	0.223	516.0109	0.152
Other Material Handling Ec	2014	251	500	0.394393	0.331	4.35658	1.92674	0.005	0.169	0.155	514.7142	0.152
Other Material Handling Ec	2014	1001	9999	0.168044	0.141	3.4363	0.97804	0.005	0.066	0.061	516.6375	0.153
Other Material Handling Ec	2015	26	50	2.062891	1.733	5.7994	6.75642	0.005	0.586	0.539	567.3512	0.169
Other Material Handling Ec	2015	51	120	0.628094	0.528	4.98312	3.75787	0.005	0.383	0.352	513.0541	0.153
Other Material Handling Ec	2015	121	175	0.624881	0.525	5.6445	3.43301	0.005	0.306	0.282	511.5709	0.153
Other Material Handling Ec	2015	176	250	0.503855	0.423	5.5323	1.74236	0.005	0.207	0.191	510.7722	0.152
Other Material Handling Ec	2015	251	500	0.396328	0.333	4.27243	1.91761	0.005	0.166	0.152	509.4887	0.152
Other Material Handling Ec	2015	1001	9999	0.1762	0.148	3.45753	0.98449	0.005	0.068	0.063	511.3924	0.153
Other Material Handling Ec	2016	26	50	2.100647	1.765	5.80157	6.89161	0.005	0.593	0.546	561.5322	0.169
Other Material Handling Ec	2016	51	120	0.611519	0.514	4.79843	3.76606	0.005	0.367	0.338	507.792	0.153
Other Material Handling Ec	2016	121	175	0.581687	0.489	5.21152	3.41823	0.005	0.279	0.257	506.324	0.153
Other Material Handling Ec	2016	176	250	0.474176	0.398	5.19629	1.64277	0.005	0.189	0.174	505.5335	0.152
Other Material Handling Ec	2016	251	500	0.384009	0.323	4.05322	1.87077	0.005	0.156	0.143	504.2631	0.152
Other Material Handling Ec	2016	1001	9999	0.188654	0.159	3.48884	0.99739	0.005	0.07	0.065	506.1474	0.153
Other Material Handling Ec	2017	26	50	1.922269	1.615	5.57447	6.63527	0.005	0.546	0.502	552.8037	0.169
Other Material Handling Ec	2017	51	120	0.580499	0.488	4.56113	3.75788	0.005	0.341	0.314	499.8989	0.153
Other Material Handling Ec	2017	121	175	0.508007	0.427	4.48809	3.35117	0.005	0.238	0.219	498.4537	0.153
Other Material Handling Ec	2017	176	250	0.42771	0.359	4.70454	1.51249	0.005	0.163	0.15	497.6755	0.152
Other Material Handling Ec	2017	251	500	0.386945	0.325	3.9709	1.86256	0.005	0.154	0.141	496.4249	0.152
Other Material Handling Ec	2017	1001	9999	0.201109	0.169	3.52015	1.01029	0.005	0.072	0.066	498.2798	0.153
Other Material Handling Ec	2018	26	50	1.534491	1.289	5.18225	6.06083	0.005	0.457	0.42	544.0753	0.169
Other Material Handling Ec	2018	51	120	0.484553	0.407	3.9436	3.67482	0.005	0.271	0.249	492.0058	0.153
Other Material Handling Ec	2018	121	175	0.38852	0.326	3.33231	3.21803	0.005	0.173	0.159	490.5834	0.153
Other Material Handling Ec	2018	176	250	0.376195	0.316	4.09187	1.3884	0.005	0.135	0.124	489.8174	0.152
Other Material Handling Ec	2018	251	500	0.352182	0.296	3.52439	1.63271	0.005	0.133	0.123	488.5866	0.152
Other Material Handling Ec	2018	1001	9999	0.213564	0.179	3.55146	1.02319	0.005	0.074	0.068	490.4122	0.153
Other Material Handling Ec	2019	26	50	1.5177	1.275	5.17904	6.13945	0.005	0.452	0.416	535.3468	0.169
Other Material Handling Ec	2019	51	120	0.428699	0.36	3.56573	3.63634	0.005	0.231	0.212	484.1126	0.153
Other Material Handling Ec	2019	121	175	0.332757	0.28	2.77369	3.1852	0.005	0.139	0.128	482.7131	0.153
Other Material Handling Ec	2019	176	250	0.357063	0.3	3.81716	1.34052	0.005	0.123	0.113	481.9594	0.152
Other Material Handling Ec	2019	251	500	0.346245	0.291	3.37078	1.61951	0.005	0.128	0.118	480.7483	0.152
Other Material Handling Ec	2019	1001	9999	0.226018	0.19	3.58277	1.03609	0.005	0.076	0.07	482.5446	0.153
Other Material Handling Ec	2020	26	50	1.481858	1.245	5.13925	6.1671	0.005	0.439	0.404	523.7088	0.169
Other Material Handling Ec	2020	51	120	0.36479	0.307	3.10396	3.58938	0.005	0.182	0.168	473.5884	0.153
Other Material Handling Ec	2020	121	175	0.299922	0.252	2.36653	3.17089	0.005	0.118	0.109	472.2193	0.153
Other Material Handling Ec	2020	176	250	0.346024	0.291	3.59889	1.31882	0.005	0.115	0.106	471.482	0.152
Other Material Handling Ec	2020	251	500	0.336187	0.282	3.20974	1.52346	0.005	0.12	0.11	470.2972	0.152
Other Material Handling Ec	2020	1001	9999	0.238473	0.2	3.61407	1.04898	0.005	0.078	0.072	472.0545	0.153
Other Material Handling Ec	2021	26	50	1.318509	1.108	4.96638	5.95956	0.005	0.396	0.364	523.7088	0.169
Other Material Handling Ec	2021	51	120	0.349969	0.294	2.95622	3.60203	0.005	0.166	0.152	473.5884	0.153
Other Material Handling Ec	2021	121	175	0.296084	0.249	2.24633	3.19638	0.005	0.114	0.105	472.2193	0.153
Other Material Handling Ec	2021	176	250	0.32063	0.269	3.08193	1.30911	0.005	0.102	0.094	471.482	0.152
Other Material Handling Ec	2021	251	500	0.302407	0.254	2.60166	1.44188	0.005	0.101	0.093	470.2972	0.152
Other Material Handling Ec	2021	1001	9999	0.086228	0.072	2.3179	0.97159	0.005	0.019	0.018	472.0545	0.153
Other Material Handling Ec	2022	26	50	1.313129	1.103	4.92048	5.98386	0.005	0.385	0.354	523.7088	0.169
Other Material Handling Ec	2022	51	120	0.294157	0.247	2.56673	3.55673	0.005	0.121	0.111	473.5884	0.153
Other Material Handling Ec	2022	121	175	0.268495	0.226	1.89383	3.17607	0.005	0.103	0.095	472.2193	0.153
Other Material Handling Ec	2022	176	250	0.272302	0.229	2.42542	1.23917	0.005	0.083	0.076	471.482	0.152
Other Material Handling Ec	2022	251	500	0.269417	0.226	2.06254	1.34592	0.005	0.083	0.077	470.2972	0.152
Other Material Handling Ec	2022	1001	9999	0.090526	0.076	2.32798	0.97804	0.005	0.02	0.018	472.0545	0.153
Other Material Handling Ec	2023	26	50	1.203044	1.011	4.68435	5.75727	0.005	0.34	0.313	523.7088	0.169
Other Material Handling Ec	2023	51	120	0.267491	0.225	2.29768	3.51535	0.005	0.104	0.095	473.5884	0.153
Other Material Handling Ec	2023	121	175	0.25813	0.217	1.76898	3.17066	0.005	0.096	0.088	472.2193	0.153
Other Material Handling Ec	2023	176	250	0.246291	0.207	2.00366	1.20917	0.005	0.069	0.064	471.482	0.152
Other Material Handling Ec	2023	251	500	0.258837	0.217	1.87023	1.34382	0.005	0.078	0.072	470.2972	0.152
Other Material Handling Ec	2023	1001	9999	0.064735	0.054	2.26751	0.93935	0.005	0.018	0.017	472.0545	0.153
Other Material Handling Ec	2024	26	50	1.121754	0.943	4.5789	5.6693	0.005	0.314	0.289	523.7088	0.169
Other Material Handling Ec	2024	51	120	0.262084	0.22	2.22162	3.51036	0.005	0.096	0.089	473.5884	0.153
Other Material Handling Ec	2024	121	175	0.247908	0.208	1.63864	3.18111	0.005	0.088	0.081	472.2193	0.153
Other Material Handling Ec	2024	176	250	0.250036	0.21	1.98559	1.21822	0.005	0.068	0.063	471.482	0.152
Other Material Handling Ec	2024	251	500	0.252116	0.212	1.75588	1.26223	0.005	0.072	0.066	470.2972	0.152
Other Material Handling Ec	2024	1001	9999	0.069034	0.058	2.27759	0.9458	0.005	0.018	0.017	472.0545	0.153
Other Material Handling Ec	2025	26	50	0.88573	0.744	4.23278	5.24797	0.005	0.239	0.219	523.7088	0.169
Other Material Handling Ec	2025	51	120	0.241784	0.203	2.05524	3.49652	0.005	0.081	0.074	473.5884	0.153
Other Material Handling Ec	2025	121	175	0.225132	0.189	1.39583	3.1679	0.005	0.072	0.067	472.2193	0.153
Other Material Handling Ec	2025	176	250	0.237677	0.2	1.77352	1.19728	0.005	0.06</			

Other Material Handling Ec	2025	251	500	0.242568	0.204	1.60116	1.25988	0.005	0.067	0.061	470.2972	0.152
Other Material Handling Ec	2025	1001	9999	0.077631	0.065	2.29775	0.9587	0.005	0.019	0.017	472.0545	0.153
Other Material Handling Ec	2030	26	50	1.542	0.598	3.447	5.237	0.007	0.048	0.048	568.299	0.053
Other Material Handling Ec	2030	51	120	1.57	0.304	1.762	3.784	0.006	0.043	0.043	568.299	0.027
Other Material Handling Ec	2030	121	175	2.287	0.22	0.64	3.341	0.006	0.028	0.028	568.299	0.019
Other Material Handling Ec	2030	176	250	2.539	0.206	0.535	1.138	0.006	0.018	0.018	568.299	0.018
Other Material Handling Ec	2030	251	500	3.342	0.205	0.505	1.083	0.005	0.018	0.018	568.299	0.018
Other Material Handling Ec	2030	1001	9999	13.763	0.218	2.653	1.084	0.005	0.035	0.035	568.299	0.019
Other Material Handling Ec	2035	26	50	1.425	0.552	3.321	5.189	0.007	0.025	0.025	568.299	0.049
Other Material Handling Ec	2035	51	120	1.432	0.277	1.563	3.774	0.006	0.022	0.022	568.299	0.025
Other Material Handling Ec	2035	121	175	2.036	0.196	0.398	3.338	0.006	0.016	0.016	568.299	0.017
Other Material Handling Ec	2035	176	250	2.369	0.192	0.354	1.137	0.006	0.013	0.013	568.299	0.017
Other Material Handling Ec	2035	251	500	3.13	0.192	0.35	1.082	0.005	0.013	0.013	568.299	0.017
Other Material Handling Ec	2035	1001	9999	12.454	0.197	2.525	1.082	0.005	0.027	0.027	568.299	0.017
Other Material Handling Ec	2040	26	50	1.42	0.551	3.269	5.191	0.007	0.018	0.018	568.299	0.049
Other Material Handling Ec	2040	51	120	1.407	0.272	1.502	3.775	0.006	0.017	0.017	568.3	0.024
Other Material Handling Ec	2040	121	175	1.956	0.188	0.314	3.339	0.006	0.012	0.012	568.299	0.017
Other Material Handling Ec	2040	176	250	2.307	0.187	0.298	1.137	0.006	0.011	0.011	568.299	0.016
Other Material Handling Ec	2040	251	500	3.048	0.187	0.298	1.082	0.005	0.011	0.011	568.299	0.016
Other Material Handling Ec	2040	1001	9999	11.917	0.189	2.493	1.082	0.005	0.025	0.025	568.3	0.017
Pavers	1990	16	25	5.971	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Pavers	1990	26	50	19.405	4.794	7.946	9.701	0.871	1.268	1.268	568.299	0.432
Pavers	1990	51	120	23.749	2.373	15.062	5.748	0.791	1.339	1.339	568.299	0.214
Pavers	1990	121	175	33.808	1.822	14.503	5.135	0.758	1.01	1.01	568.3	0.164
Pavers	1990	176	250	51.225	1.822	14.503	5.135	0.758	1.01	1.01	568.299	0.164
Pavers	1990	251	500	54.32	1.61	13.755	11.305	0.662	0.864	0.864	568.3	0.145
Pavers	2000	16	25	5.517	2.044	6.391	4.689	0.065	0.569	0.569	568.299	0.184
Pavers	2000	26	50	18.072	4.464	7.116	9.175	0.066	0.93	0.93	568.299	0.402
Pavers	2000	51	120	19.415	1.94	11.121	4.853	0.06	0.916	0.916	568.299	0.175
Pavers	2000	121	175	24.566	1.324	10.172	4.022	0.057	0.558	0.558	568.299	0.119
Pavers	2000	176	250	33.03	1.175	9.909	3.443	0.057	0.488	0.488	568.299	0.106
Pavers	2000	251	500	35.713	1.058	9.422	6.242	0.05	0.426	0.426	568.299	0.095
Pavers	2005	16	25	3.746	1.388	5.819	3.497	0.065	0.444	0.444	568.299	0.125
Pavers	2005	26	50	16.699	4.125	6.746	8.722	0.066	0.883	0.883	568.299	0.372
Pavers	2005	51	120	17.345	1.733	9.797	4.584	0.06	0.869	0.869	568.299	0.156
Pavers	2005	121	175	21.287	1.147	8.921	3.731	0.057	0.5	0.5	568.299	0.103
Pavers	2005	176	250	26.087	0.928	8.591	2.661	0.057	0.382	0.382	568.299	0.083
Pavers	2005	251	500	27.622	0.818	7.91	4.283	0.05	0.335	0.335	568.299	0.073
Pavers	2010	16	25	2.244446	1.886	5.97127	6.22261	0.005	0.619	0.569	585.4019	0.17
Pavers	2010	26	50	2.244446	1.886	5.97127	6.22261	0.005	0.619	0.569	585.4019	0.17
Pavers	2010	51	120	0.922393	0.775	7.01944	3.82417	0.005	0.54	0.497	521.2606	0.152
Pavers	2010	121	175	0.693583	0.583	6.66867	3.10662	0.005	0.337	0.31	525.3233	0.153
Pavers	2010	176	250	0.236627	0.199	4.38018	1.01703	0.005	0.111	0.102	526.8527	0.153
Pavers	2010	251	500	0.240458	0.202	3.56944	1.1256	0.005	0.123	0.113	517.8758	0.151
Pavers	2011	16	25	2.255759	1.895	5.97418	6.28822	0.005	0.621	0.571	583.8947	0.17
Pavers	2011	26	50	2.255759	1.895	5.97418	6.28822	0.005	0.621	0.571	583.8947	0.17
Pavers	2011	51	120	0.882284	0.741	6.70468	3.7912	0.005	0.521	0.479	519.7431	0.152
Pavers	2011	121	175	0.67473	0.567	6.45159	3.11177	0.005	0.327	0.301	524.0864	0.153
Pavers	2011	176	250	0.244703	0.206	4.38871	1.02596	0.005	0.112	0.103	525.5251	0.153
Pavers	2011	251	500	0.249329	0.21	3.58498	1.13249	0.005	0.125	0.115	516.5811	0.151
Pavers	2012	16	25	2.286702	1.921	5.86068	6.36408	0.005	0.609	0.56	582.5825	0.17
Pavers	2012	26	50	2.286702	1.921	5.86068	6.36408	0.005	0.609	0.56	582.5825	0.17
Pavers	2012	51	120	0.886577	0.745	6.67323	3.81157	0.005	0.523	0.481	518.3581	0.152
Pavers	2012	121	175	0.677654	0.569	6.44162	3.13178	0.005	0.329	0.303	522.8325	0.153
Pavers	2012	176	250	0.2532	0.213	4.41317	1.035	0.005	0.114	0.105	524.2222	0.153
Pavers	2012	251	500	0.257974	0.217	3.59993	1.13914	0.005	0.127	0.117	515.2863	0.151
Pavers	2013	16	25	2.27571	1.912	5.84153	6.39148	0.005	0.605	0.557	580.2093	0.171
Pavers	2013	26	50	2.27571	1.912	5.84153	6.39148	0.005	0.605	0.557	580.2093	0.171
Pavers	2013	51	120	0.845721	0.711	6.43604	3.79289	0.005	0.501	0.461	516.6013	0.152
Pavers	2013	121	175	0.630117	0.529	6.05919	3.11657	0.005	0.304	0.28	519.6823	0.153
Pavers	2013	176	250	0.245733	0.206	4.23038	1.01743	0.005	0.106	0.098	521.5314	0.153
Pavers	2013	251	500	0.242925	0.204	3.39449	1.08604	0.005	0.118	0.108	514.2313	0.151
Pavers	2014	16	25	2.258865	1.898	5.71682	6.3806	0.005	0.595	0.547	577.016	0.171
Pavers	2014	26	50	2.258865	1.898	5.71682	6.3806	0.005	0.595	0.547	577.016	0.171
Pavers	2014	51	120	0.81298	0.683	6.19872	3.77256	0.005	0.483	0.444	514.3769	0.152
Pavers	2014	121	175	0.597911	0.502	5.73631	3.1146	0.005	0.287	0.264	516.745	0.153
Pavers	2014	176	250	0.247393	0.208	4.14032	1.02279	0.005	0.105	0.097	518.7225	0.153
Pavers	2014	251	500	0.214341	0.18	3.04734	1.00469	0.005	0.101	0.093	512.1908	0.151
Pavers	2015	16	25	2.205076	1.853	5.63731	6.34019	0.005	0.579	0.533	571.0859	0.17
Pavers	2015	26	50	2.205076	1.853	5.63731	6.34019	0.005	0.579	0.533	571.0859	0.17
Pavers	2015	51	120	0.809163	0.68	6.14096	3.78832	0.005	0.479	0.441	509.3767	0.152
Pavers	2015	121	175	0.582419	0.489	5.53669	3.11546	0.005	0.277	0.255	511.6457	0.153
Pavers	2015	176	250	0.254974	0.214	4.16051	1.03121	0.005	0.107	0.098	513.4682	0.153
Pavers	2015	251	500	0.209561	0.176	2.91741	0.97787	0.005	0.097	0.089	506.0973	0.151
Pavers	2016	16	25	2.174792	1.827	5.57882	6.33993	0.005	0.569	0.523	565.2336	0.17
Pavers	2016	26	50	2.174792	1.827	5.57882	6.33993	0.005	0.569	0.523	565.2336	0.17
Pavers	2016	51	120	0.773362	0.65	5.88646	3.76854	0.005	0.457	0.42	503.7795	0.152
Pavers	2016	121	175	0.515586	0.433	4.87397	3.08023	0.005	0.242	0.223	506.5401	0.153
Pavers	2016	176	250	0.254126	0.214	4.02384	1.03591	0.005	0.104	0.096	508.0698	0.153
Pavers	2016	251	500	0.214564	0.18	2.88492	0.9829	0.005	0.096	0.089	500.9364	0.151
Pavers	2017	16	25	2.059621	1.731	5.43675	6.19932	0.005	0.54	0.496	556.4528	0.17
Pavers	2017	26	50	2.059621	1.731	5.43675	6.19932	0.005	0.54	0.496	556.4528	0.17
Pavers	2017	51	120	0.744072	0.625	5.69243	3.75882	0.005	0.437	0.402	495.9253	0.152
Pavers	2017	121	175	0.462819	0.389	4.35312	3.06282	0.005	0.214	0.197	498.967	0.153
Pavers	2017	176	250	0.247933	0.208	3.80866	1.03652	0.005	0.1	0.092	499.5617	0.153
Pavers	2017	251	500	0.199578	0.168	2.48674	0.97942	0.005	0.087	0.08	491.7843	0.151
Pavers	2018	16	25	1.831035	1.539	5.12103	5.8493	0.005	0.478	0.44	547.0785	0.17
Pavers	2018	26	50	1.831035	1.539	5.12103	5.8493	0.005	0.478	0.44	547.0785	0.17
Pavers	2018	51	120	0.637446	0.536	5.01936	3.66032	0.005	0.375	0.345	488.1812	0.152

Pavers	2018	121	175	0.403099	0.339	3.7472	3.03913	0.005	0.183	0.168	491.322	0.153
Pavers	2018	176	250	0.235833	0.198	3.47438	1.03446	0.005	0.092	0.085	491.543	0.153
Pavers	2018	251	500	0.195547	0.164	2.32002	0.98125	0.005	0.083	0.076	484.2774	0.151
Pavers	2019	16	25	1.687019	1.418	4.91634	5.65687	0.005	0.436	0.401	538.3246	0.17
Pavers	2019	26	50	1.687019	1.418	4.91634	5.65687	0.005	0.436	0.401	538.3246	0.17
Pavers	2019	51	120	0.589904	0.496	4.67048	3.62215	0.005	0.345	0.318	480.2509	0.152
Pavers	2019	121	175	0.355588	0.299	3.24473	3.01323	0.005	0.159	0.146	483.3938	0.153
Pavers	2019	176	250	0.222293	0.187	3.11084	1.03181	0.005	0.084	0.077	483.5743	0.153
Pavers	2019	251	500	0.198123	0.166	2.26992	0.98586	0.005	0.081	0.075	476.9707	0.151
Pavers	2020	16	25	1.568718	1.318	4.76401	5.52345	0.005	0.402	0.37	526.2098	0.17
Pavers	2020	26	50	1.568718	1.318	4.76401	5.52345	0.005	0.402	0.37	526.2098	0.17
Pavers	2020	51	120	0.558949	0.47	4.42718	3.60405	0.005	0.325	0.299	469.8815	0.152
Pavers	2020	121	175	0.324615	0.273	2.91833	3.0097	0.005	0.142	0.131	472.7746	0.153
Pavers	2020	176	250	0.209036	0.176	2.77699	1.02834	0.005	0.076	0.07	472.8337	0.153
Pavers	2020	251	500	0.195949	0.165	2.13394	0.98677	0.005	0.077	0.071	466.2059	0.151
Pavers	2021	16	25	1.43708	1.208	4.60183	5.30162	0.005	0.37	0.34	526.5153	0.17
Pavers	2021	26	50	1.43708	1.208	4.60183	5.30162	0.005	0.37	0.34	526.5153	0.17
Pavers	2021	51	120	0.499355	0.42	4.02622	3.56251	0.005	0.285	0.262	469.7736	0.152
Pavers	2021	121	175	0.304315	0.256	2.6948	3.01647	0.005	0.13	0.12	472.5552	0.153
Pavers	2021	176	250	0.196899	0.165	2.4844	1.02422	0.005	0.07	0.064	472.4765	0.153
Pavers	2021	251	500	0.195105	0.164	2.05298	0.9877	0.005	0.074	0.068	465.5908	0.151
Pavers	2022	16	25	1.299052	1.092	4.42092	5.11433	0.005	0.33	0.303	526.8963	0.17
Pavers	2022	26	50	1.299052	1.092	4.42092	5.11433	0.005	0.33	0.303	526.8963	0.17
Pavers	2022	51	120	0.443951	0.373	3.65932	3.52511	0.005	0.248	0.228	470.1854	0.152
Pavers	2022	121	175	0.255688	0.215	2.17958	2.99478	0.005	0.104	0.095	472.7599	0.153
Pavers	2022	176	250	0.167123	0.14	1.89985	1.01231	0.005	0.055	0.05	472.3718	0.153
Pavers	2022	251	500	0.178545	0.15	1.81028	0.98238	0.005	0.063	0.058	466.0042	0.151
Pavers	2023	16	25	1.198318	1.007	4.28484	5.00667	0.005	0.299	0.275	526.8595	0.17
Pavers	2023	26	50	1.198318	1.007	4.28484	5.00667	0.005	0.299	0.275	526.8595	0.17
Pavers	2023	51	120	0.415607	0.349	3.42661	3.50733	0.005	0.226	0.208	470.0839	0.152
Pavers	2023	121	175	0.237199	0.199	1.95517	2.99398	0.005	0.092	0.085	472.7178	0.153
Pavers	2023	176	250	0.154288	0.13	1.6106	1.01018	0.005	0.047	0.043	472.6051	0.153
Pavers	2023	251	500	0.18061	0.152	1.77101	0.98653	0.005	0.062	0.057	466.0038	0.151
Pavers	2024	16	25	1.130978	0.95	4.20308	4.95625	0.005	0.279	0.257	526.8565	0.17
Pavers	2024	26	50	1.130978	0.95	4.20308	4.95625	0.005	0.279	0.257	526.8565	0.17
Pavers	2024	51	120	0.40131	0.337	3.2771	3.50784	0.005	0.213	0.196	470.2262	0.152
Pavers	2024	121	175	0.226916	0.191	1.80882	3.0042	0.005	0.084	0.078	472.6605	0.153
Pavers	2024	176	250	0.141914	0.119	1.34323	1.00872	0.005	0.041	0.038	473.2362	0.153
Pavers	2024	251	500	0.169789	0.143	1.54798	0.98624	0.005	0.054	0.049	467.1711	0.151
Pavers	2025	16	25	1.092933	0.918	4.13112	4.94451	0.005	0.265	0.243	526.8533	0.17
Pavers	2025	26	50	1.092933	0.918	4.13112	4.94451	0.005	0.265	0.243	526.8533	0.17
Pavers	2025	51	120	0.373474	0.314	3.06788	3.49286	0.005	0.19	0.175	469.8988	0.152
Pavers	2025	121	175	0.214799	0.18	1.64396	3.0071	0.005	0.077	0.071	472.485	0.153
Pavers	2025	176	250	0.127304	0.107	1.03493	1.00414	0.005	0.034	0.031	473.4832	0.153
Pavers	2025	251	500	0.136633	0.115	1.13351	0.96892	0.005	0.039	0.036	465.8824	0.151
Pavers	2030	16	25	1.849	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Pavers	2030	26	50	3.42	0.845	3.841	5.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	51	120	4.084	0.408	2.468	3.8	0.006	0.121	0.121	568.3	0.036
Pavers	2030	121	175	5.577	0.3	1.425	3.326	0.006	0.074	0.074	568.299	0.027
Pavers	2030	176	250	7.306	0.259	1.246	1.192	0.006	0.045	0.045	568.299	0.023
Pavers	2030	251	500	8.558	0.253	1.141	1.181	0.005	0.043	0.043	568.299	0.022
Pavers	2035	16	25	1.849	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Pavers	2035	26	50	2.812	0.694	3.555	5.26	0.007	0.076	0.076	568.299	0.062
Pavers	2035	51	120	3.386	0.338	1.986	3.774	0.006	0.069	0.069	568.299	0.03
Pavers	2035	121	175	4.543	0.244	0.889	3.319	0.006	0.043	0.043	568.299	0.022
Pavers	2035	176	250	6.219	0.221	0.772	1.157	0.006	0.027	0.027	568.3	0.019
Pavers	2035	251	500	7.364	0.218	0.722	1.111	0.005	0.026	0.026	568.299	0.019
Pavers	2040	16	25	1.849	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Pavers	2040	26	50	2.504	0.618	3.393	5.189	0.007	0.047	0.047	568.299	0.055
Pavers	2040	51	120	3.03	0.302	1.731	3.763	0.006	0.043	0.043	568.299	0.027
Pavers	2040	121	175	3.958	0.213	0.583	3.319	0.006	0.027	0.027	568.299	0.019
Pavers	2040	176	250	5.625	0.2	0.525	1.138	0.006	0.018	0.018	568.299	0.018
Pavers	2040	251	500	6.703	0.198	0.498	1.085	0.005	0.018	0.018	568.299	0.017
Paving Equipment	1990	16	25	5.257	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Paving Equipment	1990	26	50	21.788	4.84	7.965	9.783	0.871	1.277	1.277	568.299	0.436
Paving Equipment	1990	51	120	24.593	2.398	15.202	5.796	0.791	1.352	1.352	568.299	0.216
Paving Equipment	1990	121	175	35.738	1.88	14.821	5.196	0.758	1.044	1.044	568.3	0.169
Paving Equipment	1990	176	250	43.262	1.88	14.821	5.196	0.758	1.044	1.044	568.299	0.169
Paving Equipment	2000	16	25	4.652	1.958	6.358	4.53	0.065	0.563	0.563	568.299	0.176
Paving Equipment	2000	26	50	19.86	4.412	7.101	9.076	0.066	0.921	0.921	568.299	0.398
Paving Equipment	2000	51	120	19.826	1.933	11.122	4.844	0.06	0.909	0.909	568.299	0.174
Paving Equipment	2000	121	175	25.015	1.316	10.15	4.018	0.057	0.553	0.553	568.299	0.118
Paving Equipment	2000	176	250	26.974	1.172	9.895	3.458	0.057	0.486	0.486	568.299	0.105
Paving Equipment	2005	16	25	2.184	0.919	5.412	2.642	0.065	0.347	0.347	568.299	0.082
Paving Equipment	2005	26	50	18.352	4.077	6.73	8.626	0.066	0.875	0.875	568.299	0.367
Paving Equipment	2005	51	120	17.633	1.719	9.754	4.557	0.06	0.86	0.86	568.299	0.155
Paving Equipment	2005	121	175	21.589	1.135	8.873	3.705	0.057	0.494	0.494	568.299	0.102
Paving Equipment	2005	176	250	21.201	0.921	8.548	2.655	0.057	0.38	0.38	568.299	0.083
Paving Equipment	2010	16	25	1.378997	1.159	5.35696	4.92203	0.005	0.47	0.433	578.6236	0.168
Paving Equipment	2010	26	50	1.378997	1.159	5.35696	4.92203	0.005	0.47	0.433	578.6236	0.168
Paving Equipment	2010	51	120	0.934999	0.786	7.23593	3.90118	0.005	0.553	0.508	526.5834	0.153
Paving Equipment	2010	121	175	0.573407	0.482	6.09511	3.13688	0.005	0.295	0.271	523.4127	0.152
Paving Equipment	2010	176	250	0.486641	0.409	6.03614	1.69744	0.005	0.224	0.206	524.3728	0.153
Paving Equipment	2011	16	25	1.380687	1.16	5.36974	4.99687	0.005	0.472	0.434	577.1303	0.168
Paving Equipment	2011	26	50	1.380687	1.16	5.36974	4.99687	0.005	0.472	0.434	577.1303	0.168
Paving Equipment	2011	51	120	0.895349	0.752	6.99544	3.87125	0.005	0.536	0.493	524.9269	0.153
Paving Equipment	2011	121	175	0.56507	0.475	5.97526	3.14337	0.005	0.29	0.267	522.1549	0.152
Paving Equipment	2011	176	250	0.466258	0.392	5.77978	1.64572	0.005	0.213	0.196	523.0323	0.153
Paving Equipment	2012	16	25	1.384947	1.164	5.34363	5.06516	0.005	0.47	0.432	575.687	0.168

Paving Equipment	2012	26	50	1.384947	1.164	5.34363	5.06516	0.005	0.47	0.432	575.687	0.168
Paving Equipment	2012	51	120	0.910401	0.765	7.04165	3.90635	0.005	0.546	0.503	523.5886	0.153
Paving Equipment	2012	121	175	0.56544	0.475	5.9326	3.15801	0.005	0.29	0.267	520.7286	0.152
Paving Equipment	2012	176	250	0.474854	0.399	5.81292	1.657	0.005	0.215	0.198	521.7154	0.153
Paving Equipment	2013	16	25	1.327494	1.115	5.2986	5.02677	0.005	0.459	0.422	572.4644	0.168
Paving Equipment	2013	26	50	1.327494	1.115	5.2986	5.02677	0.005	0.459	0.422	572.4644	0.168
Paving Equipment	2013	51	120	0.845445	0.71	6.6576	3.86369	0.005	0.507	0.467	520.6724	0.153
Paving Equipment	2013	121	175	0.532035	0.447	5.60344	3.1205	0.005	0.271	0.249	517.6606	0.152
Paving Equipment	2013	176	250	0.40741	0.342	5.25206	1.48037	0.005	0.18	0.166	519.5215	0.153
Paving Equipment	2014	16	25	1.253528	1.053	5.18385	4.95215	0.005	0.437	0.402	569.4822	0.168
Paving Equipment	2014	26	50	1.253528	1.053	5.18385	4.95215	0.005	0.437	0.402	569.4822	0.168
Paving Equipment	2014	51	120	0.805438	0.677	6.36952	3.83664	0.005	0.486	0.447	518.0756	0.153
Paving Equipment	2014	121	175	0.494038	0.415	5.21567	3.09686	0.005	0.249	0.229	515.0343	0.152
Paving Equipment	2014	176	250	0.369032	0.31	4.78232	1.37011	0.005	0.158	0.146	516.8998	0.153
Paving Equipment	2015	16	25	1.166929	0.981	5.02757	4.86895	0.005	0.407	0.374	563.5534	0.168
Paving Equipment	2015	26	50	1.166929	0.981	5.02757	4.86895	0.005	0.407	0.374	563.5534	0.168
Paving Equipment	2015	51	120	0.786628	0.661	6.14454	3.83329	0.005	0.471	0.433	513.1672	0.153
Paving Equipment	2015	121	175	0.48887	0.411	4.96561	3.10403	0.005	0.242	0.223	509.8942	0.152
Paving Equipment	2015	176	250	0.374849	0.315	4.77176	1.37947	0.005	0.159	0.146	511.6544	0.153
Paving Equipment	2016	16	25	1.178909	0.991	4.98487	4.93662	0.005	0.403	0.371	557.7058	0.168
Paving Equipment	2016	26	50	1.178909	0.991	4.98487	4.93662	0.005	0.403	0.371	557.7058	0.168
Paving Equipment	2016	51	120	0.741701	0.623	5.7333	3.79639	0.005	0.438	0.403	507.9102	0.153
Paving Equipment	2016	121	175	0.442497	0.372	4.3217	3.08114	0.005	0.214	0.197	504.8201	0.152
Paving Equipment	2016	176	250	0.353542	0.297	4.42821	1.33145	0.005	0.148	0.136	506.1965	0.153
Paving Equipment	2017	16	25	1.102141	0.926	4.72756	4.80403	0.005	0.359	0.33	548.6481	0.168
Paving Equipment	2017	26	50	1.102141	0.926	4.72756	4.80403	0.005	0.359	0.33	548.6481	0.168
Paving Equipment	2017	51	120	0.670017	0.563	5.20745	3.74146	0.005	0.391	0.359	500.1649	0.153
Paving Equipment	2017	121	175	0.407568	0.342	3.89633	3.07321	0.005	0.195	0.179	497.148	0.152
Paving Equipment	2017	176	250	0.342633	0.288	4.12109	1.333	0.005	0.141	0.13	498.7323	0.153
Paving Equipment	2018	16	25	0.877571	0.737	4.31244	4.41578	0.005	0.286	0.263	540.6115	0.168
Paving Equipment	2018	26	50	0.877571	0.737	4.31244	4.41578	0.005	0.286	0.263	540.6115	0.168
Paving Equipment	2018	51	120	0.534861	0.449	4.27034	3.60743	0.005	0.302	0.278	492.1184	0.153
Paving Equipment	2018	121	175	0.337615	0.284	3.17208	3.02602	0.005	0.155	0.143	489.2024	0.152
Paving Equipment	2018	176	250	0.307374	0.258	3.58656	1.28117	0.005	0.123	0.113	490.6833	0.153
Paving Equipment	2019	16	25	0.838543	0.705	4.23779	4.40798	0.005	0.27	0.248	531.8612	0.168
Paving Equipment	2019	26	50	0.838543	0.705	4.23779	4.40798	0.005	0.27	0.248	531.8612	0.168
Paving Equipment	2019	51	120	0.50594	0.425	4.04152	3.59849	0.005	0.281	0.258	484.387	0.153
Paving Equipment	2019	121	175	0.302373	0.254	2.6924	3.0109	0.005	0.134	0.123	481.2251	0.152
Paving Equipment	2019	176	250	0.286526	0.241	3.25106	1.24449	0.005	0.112	0.103	482.6441	0.153
Paving Equipment	2020	16	25	0.73951	0.621	3.9519	4.22322	0.005	0.217	0.2	520.1235	0.168
Paving Equipment	2020	26	50	0.73951	0.621	3.9519	4.22322	0.005	0.217	0.2	520.1235	0.168
Paving Equipment	2020	51	120	0.472907	0.397	3.78064	3.58172	0.005	0.256	0.235	473.3249	0.153
Paving Equipment	2020	121	175	0.294586	0.248	2.55498	3.02393	0.005	0.128	0.118	470.7359	0.152
Paving Equipment	2020	176	250	0.289784	0.243	3.2202	1.25215	0.005	0.111	0.102	472.1514	0.153
Paving Equipment	2021	16	25	0.698022	0.587	3.88226	4.21072	0.005	0.2	0.184	520.3965	0.168
Paving Equipment	2021	26	50	0.698022	0.587	3.88226	4.21072	0.005	0.2	0.184	520.3965	0.168
Paving Equipment	2021	51	120	0.422572	0.355	3.45065	3.5537	0.005	0.219	0.201	473.2205	0.153
Paving Equipment	2021	121	175	0.272687	0.229	2.31505	3.03229	0.005	0.114	0.105	470.6495	0.152
Paving Equipment	2021	176	250	0.250607	0.211	2.58202	1.20904	0.005	0.092	0.085	472.151	0.153
Paving Equipment	2022	16	25	0.68013	0.571	3.83611	4.24448	0.005	0.188	0.173	520.6594	0.168
Paving Equipment	2022	26	50	0.68013	0.571	3.83611	4.24448	0.005	0.188	0.173	520.6594	0.168
Paving Equipment	2022	51	120	0.351718	0.296	2.99968	3.50075	0.005	0.171	0.157	473.4475	0.153
Paving Equipment	2022	121	175	0.253077	0.213	2.07331	3.03777	0.005	0.101	0.093	470.6646	0.152
Paving Equipment	2022	176	250	0.232653	0.195	2.22813	1.20363	0.005	0.083	0.076	472.169	0.153
Paving Equipment	2023	16	25	0.644074	0.541	3.77446	4.24108	0.005	0.173	0.159	521.1138	0.169
Paving Equipment	2023	26	50	0.644074	0.541	3.77446	4.24108	0.005	0.173	0.159	521.1138	0.169
Paving Equipment	2023	51	120	0.331302	0.278	2.83717	3.50331	0.005	0.152	0.14	473.427	0.153
Paving Equipment	2023	121	175	0.242414	0.204	1.91255	3.05059	0.005	0.093	0.086	470.663	0.152
Paving Equipment	2023	176	250	0.208228	0.175	1.88495	1.16523	0.005	0.07	0.065	472.169	0.153
Paving Equipment	2024	16	25	0.622364	0.523	3.74329	4.27468	0.005	0.164	0.151	521.0575	0.169
Paving Equipment	2024	26	50	0.622364	0.523	3.74329	4.27468	0.005	0.164	0.151	521.0575	0.169
Paving Equipment	2024	51	120	0.311995	0.262	2.67309	3.50288	0.005	0.135	0.125	473.1748	0.153
Paving Equipment	2024	121	175	0.233948	0.197	1.78512	3.06623	0.005	0.086	0.079	470.6614	0.152
Paving Equipment	2024	176	250	0.164733	0.138	1.29567	1.11417	0.005	0.048	0.044	472.2124	0.153
Paving Equipment	2025	16	25	0.566694	0.476	3.62672	4.20347	0.005	0.141	0.13	520.9975	0.169
Paving Equipment	2025	26	50	0.566694	0.476	3.62672	4.20347	0.005	0.141	0.13	520.9975	0.169
Paving Equipment	2025	51	120	0.287394	0.241	2.49628	3.48256	0.005	0.118	0.108	473.4239	0.153
Paving Equipment	2025	121	175	0.208465	0.175	1.509	3.03837	0.005	0.075	0.069	470.4844	0.152
Paving Equipment	2025	176	250	0.158556	0.133	1.10952	1.11653	0.005	0.043	0.04	472.2341	0.153
Paving Equipment	2030	16	25	1.628	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Paving Equipment	2030	26	50	3.613	0.802	3.809	5.309	0.007	0.126	0.126	568.299	0.072
Paving Equipment	2030	51	120	4.007	0.39	2.393	3.774	0.006	0.114	0.114	568.3	0.035
Paving Equipment	2030	121	175	5.525	0.29	1.363	3.306	0.006	0.07	0.07	568.299	0.026
Paving Equipment	2030	176	250	5.771	0.25	1.176	1.171	0.006	0.042	0.042	568.299	0.022
Paving Equipment	2035	16	25	1.628	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Paving Equipment	2035	26	50	2.991	0.664	3.511	5.181	0.007	0.07	0.07	568.3	0.059
Paving Equipment	2035	51	120	3.343	0.326	1.928	3.753	0.006	0.064	0.064	568.299	0.029
Paving Equipment	2035	121	175	4.485	0.235	0.832	3.303	0.006	0.04	0.04	568.299	0.021
Paving Equipment	2035	176	250	4.886	0.212	0.714	1.14	0.006	0.024	0.024	568.299	0.019
Paving Equipment	2040	16	25	1.628	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Paving Equipment	2040	26	50	2.651	0.589	3.361	5.111	0.007	0.042	0.042	568.3	0.053
Paving Equipment	2040	51	120	2.989	0.291	1.687	3.744	0.006	0.039	0.039	568.299	0.026
Paving Equipment	2040	121	175	3.901	0.205	0.536	3.304	0.006	0.025	0.025	568.299	0.018
Paving Equipment	2040	176	250	4.452	0.193	0.485	1.127	0.006	0.017	0.017	568.299	0.017
Plate Compactors	1990	6	15	2.156	1.804	9.999	4.999	1.049	0.975	0.975	568.299	0.162
Plate Compactors	2000	6	15	1.852	1.55	8.519	4.606	0.079	0.708	0.708	568.299	0.139
Plate Compactors	2005	6	15	0.955	0.799	5.435	3.503	0.079	0.377	0.377	568.299	0.072
Plate Compactors	2010	6	15	0.794	0.664	4.178	3.469	0.008	0.198	0.198	568.299	0.059
Plate Compactors	2011	6	15	0.791	0.662	4.15	3.469	0.008	0.172	0.172	568.299	0.059

Plate Compactors	2012	6	15	0.79	0.661	4.142	3.469	0.008	0.165	0.165	568.3	0.059
Plate Compactors	2013	6	15	0.79	0.661	4.142	3.469	0.008	0.162	0.162	568.3	0.059
Plate Compactors	2014	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2015	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2016	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2017	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2018	6	15	0.79	0.661	4.142	3.47	0.008	0.161	0.161	568.3	0.059
Plate Compactors	2019	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2020	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2021	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2022	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2023	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2024	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2025	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2030	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2035	6	15	0.79	0.661	4.142	3.47	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2040	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Pressure Washers	1990	6	15	4.972	1.804	9.999	4.999	1.018	0.974	0.974	568.299	0.162
Pressure Washers	1990	16	25	8.915	2.213	6.92	5	0.83	0.74	0.74	568.3	0.199
Pressure Washers	1990	26	50	20.959	2.601	7.129	5.721	0.846	0.821	0.821	568.299	0.234
Pressure Washers	1990	51	120	23.659	1.743	12.634	4.735	0.768	0.874	0.874	568.299	0.157
Pressure Washers	1990	121	175	82.001	1.272	11.763	4.353	1.123	0.649	0.649	568.299	0.114
Pressure Washers	1990	176	250	77.237	0.953	9.035	3.084	1.077	0.476	0.476	568.299	0.086
Pressure Washers	2000	6	15	4.186	1.518	8.846	4.875	0.079	0.613	0.613	568.299	0.137
Pressure Washers	2000	16	25	6.717	1.667	6.405	4.783	0.065	0.51	0.51	568.299	0.15
Pressure Washers	2000	26	50	19.934	2.474	6.381	5.524	0.066	0.615	0.615	568.3	0.223
Pressure Washers	2000	51	120	19.23	1.417	9.062	3.967	0.06	0.613	0.613	568.3	0.127
Pressure Washers	2000	121	175	66.055	1.024	8.685	3.38	0.059	0.399	0.399	568.299	0.092
Pressure Washers	2000	176	250	35.508	0.438	6.315	1.005	0.058	0.143	0.143	568.299	0.039
Pressure Washers	2005	6	15	3.341	1.212	7.615	4.38	0.079	0.505	0.505	568.3	0.109
Pressure Washers	2005	16	25	5.048	1.253	6.014	3.922	0.065	0.432	0.432	568.299	0.113
Pressure Washers	2005	26	50	17.362	2.154	5.932	5.075	0.066	0.566	0.566	568.299	0.194
Pressure Washers	2005	51	120	16.424	1.21	7.651	3.682	0.06	0.566	0.566	568.299	0.109
Pressure Washers	2005	121	175	55.65	0.863	7.441	3.072	0.059	0.349	0.349	568.299	0.077
Pressure Washers	2005	176	250	21.871	0.27	4.822	0.986	0.058	0.111	0.111	568.299	0.024
Pressure Washers	2010	6	15	2.628	0.953	6.387	4.027	0.008	0.38	0.38	568.299	0.086
Pressure Washers	2010	16	25	3.872	0.961	5.477	3.309	0.007	0.342	0.342	568.299	0.086
Pressure Washers	2010	26	50	13.073	1.622	5.501	4.517	0.007	0.453	0.453	568.299	0.146
Pressure Washers	2010	51	120	12.296	0.906	6.273	3.503	0.006	0.451	0.451	568.299	0.081
Pressure Washers	2010	121	175	41.062	0.637	5.773	2.967	0.006	0.275	0.275	568.299	0.057
Pressure Washers	2010	176	250	16.502	0.203	2.5	0.986	0.006	0.1	0.1	568.299	0.018
Pressure Washers	2011	6	15	2.504	0.908	6.134	3.952	0.008	0.358	0.358	568.299	0.081
Pressure Washers	2011	16	25	3.706	0.92	5.36	3.179	0.007	0.325	0.325	568.299	0.083
Pressure Washers	2011	26	50	12.056	1.496	5.405	4.382	0.007	0.428	0.428	568.299	0.135
Pressure Washers	2011	51	120	11.392	0.839	5.939	3.468	0.006	0.43	0.43	568.299	0.075
Pressure Washers	2011	121	175	38.303	0.594	5.441	2.953	0.006	0.263	0.263	568.299	0.053
Pressure Washers	2011	176	250	15.247	0.188	2.086	0.986	0.006	0.072	0.072	568.299	0.016
Pressure Washers	2012	6	15	2.385	0.865	5.874	3.874	0.008	0.338	0.338	568.299	0.078
Pressure Washers	2012	16	25	3.564	0.884	5.239	3.043	0.007	0.307	0.307	568.299	0.079
Pressure Washers	2012	26	50	10.983	1.363	5.306	4.238	0.007	0.402	0.402	568.299	0.123
Pressure Washers	2012	51	120	10.457	0.77	5.578	3.433	0.006	0.4	0.4	568.299	0.069
Pressure Washers	2012	121	175	35.56	0.551	5.109	2.941	0.006	0.244	0.244	568.299	0.049
Pressure Washers	2012	176	250	13.887	0.171	1.749	0.986	0.006	0.046	0.046	568.299	0.015
Pressure Washers	2013	6	15	2.27	0.823	5.616	3.796	0.008	0.318	0.318	568.299	0.074
Pressure Washers	2013	16	25	3.431	0.851	5.117	2.907	0.007	0.289	0.289	568.299	0.076
Pressure Washers	2013	26	50	9.897	1.228	5.086	4.092	0.007	0.367	0.367	568.299	0.11
Pressure Washers	2013	51	120	9.523	0.701	5.226	3.399	0.006	0.366	0.366	568.299	0.063
Pressure Washers	2013	121	175	32.885	0.51	4.803	2.931	0.006	0.225	0.225	568.299	0.046
Pressure Washers	2013	176	250	12.508	0.154	1.468	0.986	0.006	0.021	0.021	568.299	0.013
Pressure Washers	2014	6	15	2.16	0.783	5.369	3.723	0.008	0.298	0.298	568.299	0.07
Pressure Washers	2014	16	25	3.308	0.821	5	2.78	0.007	0.272	0.272	568.299	0.074
Pressure Washers	2014	26	50	8.833	1.096	4.873	3.951	0.007	0.332	0.332	568.299	0.098
Pressure Washers	2014	51	120	8.608	0.634	4.912	3.367	0.006	0.332	0.332	568.299	0.057
Pressure Washers	2014	121	175	30.292	0.469	4.513	2.923	0.006	0.206	0.206	568.299	0.042
Pressure Washers	2014	176	250	11.167	0.137	1.047	0.986	0.006	0.014	0.014	568.299	0.012
Pressure Washers	2015	6	15	2.059	0.747	5.141	3.657	0.008	0.28	0.28	568.299	0.067
Pressure Washers	2015	16	25	3.196	0.793	4.89	2.666	0.007	0.256	0.256	568.299	0.071
Pressure Washers	2015	26	50	7.868	0.976	4.685	3.833	0.007	0.3	0.3	568.299	0.088
Pressure Washers	2015	51	120	7.703	0.567	4.551	3.336	0.006	0.297	0.297	568.299	0.051
Pressure Washers	2015	121	175	27.567	0.427	4.115	2.917	0.006	0.187	0.187	568.299	0.038
Pressure Washers	2015	176	250	9.864	0.121	0.69	0.986	0.006	0.01	0.01	568.299	0.01
Pressure Washers	2016	6	15	1.986	0.72	4.978	3.622	0.008	0.264	0.264	568.299	0.065
Pressure Washers	2016	16	25	3.116	0.773	4.803	2.604	0.007	0.244	0.244	568.299	0.069
Pressure Washers	2016	26	50	6.97	0.865	4.515	3.729	0.007	0.269	0.269	568.299	0.078
Pressure Washers	2016	51	120	6.839	0.504	4.209	3.308	0.006	0.264	0.264	568.299	0.045
Pressure Washers	2016	121	175	24.906	0.386	3.726	2.913	0.006	0.168	0.168	568.299	0.034
Pressure Washers	2016	176	250	8.667	0.107	0.399	0.986	0.006	0.009	0.009	568.299	0.009
Pressure Washers	2017	6	15	1.927	0.699	4.847	3.599	0.008	0.25	0.25	568.299	0.063
Pressure Washers	2017	16	25	3.053	0.757	4.729	2.564	0.007	0.233	0.233	568.299	0.068
Pressure Washers	2017	26	50	6.126	0.76	4.355	3.632	0.007	0.24	0.24	568.299	0.068
Pressure Washers	2017	51	120	6.031	0.444	3.888	3.283	0.006	0.233	0.233	568.3	0.04
Pressure Washers	2017	121	175	22.349	0.346	3.349	2.91	0.006	0.149	0.149	568.299	0.031
Pressure Washers	2017	176	250	8.288	0.102	0.317	0.986	0.006	0.009	0.009	568.299	0.009
Pressure Washers	2018	6	15	1.874	0.679	4.728	3.58	0.008	0.237	0.237	568.299	0.061
Pressure Washers	2018	16	25	2.997	0.744	4.661	2.531	0.007	0.224	0.224	568.299	0.067
Pressure Washers	2018	26	50	5.332	0.661	4.202	3.542	0.007	0.212	0.212	568.299	0.059
Pressure Washers	2018	51	120	5.276	0.388	3.584	3.26	0.006	0.203	0.203	568.299	0.035
Pressure Washers	2018	121	175	19.96	0.309	2.989	2.908	0.006	0.132	0.132	568.299	0.027
Pressure Washers	2018	176	250	8.072	0.099	0.277	0.986	0.006	0.009	0.009	568.299	0.008

Pressure Washers	2019	6	15	1.824	0.662	4.617	3.562	0.008	0.224	0.224	568.299	0.059
Pressure Washers	2019	16	25	2.947	0.731	4.596	2.501	0.007	0.214	0.214	568.299	0.066
Pressure Washers	2019	26	50	4.585	0.569	4.053	3.457	0.007	0.184	0.184	568.299	0.051
Pressure Washers	2019	51	120	4.575	0.337	3.295	3.24	0.006	0.174	0.174	568.299	0.03
Pressure Washers	2019	121	175	18.102	0.28	2.67	2.907	0.006	0.117	0.117	568.299	0.025
Pressure Washers	2019	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2020	6	15	1.78	0.646	4.516	3.546	0.008	0.212	0.212	568.299	0.058
Pressure Washers	2020	16	25	2.904	0.721	4.538	2.473	0.007	0.205	0.205	568.299	0.065
Pressure Washers	2020	26	50	4.025	0.499	3.917	3.393	0.007	0.161	0.161	568.299	0.045
Pressure Washers	2020	51	120	4.048	0.298	3.036	3.225	0.006	0.151	0.151	568.299	0.026
Pressure Washers	2020	121	175	16.638	0.258	2.383	2.907	0.006	0.104	0.104	568.299	0.023
Pressure Washers	2020	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2021	6	15	1.747	0.634	4.441	3.531	0.008	0.201	0.201	568.299	0.057
Pressure Washers	2021	16	25	2.87	0.712	4.497	2.446	0.007	0.196	0.196	568.299	0.064
Pressure Washers	2021	26	50	3.542	0.439	3.765	3.329	0.007	0.136	0.136	568.299	0.039
Pressure Washers	2021	51	120	3.592	0.264	2.766	3.21	0.006	0.129	0.129	568.299	0.023
Pressure Washers	2021	121	175	15.389	0.238	2.118	2.907	0.006	0.093	0.093	568.299	0.021
Pressure Washers	2021	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2022	6	15	1.725	0.626	4.39	3.519	0.008	0.193	0.193	568.299	0.056
Pressure Washers	2022	16	25	2.847	0.706	4.47	2.426	0.007	0.188	0.188	568.299	0.063
Pressure Washers	2022	26	50	3.213	0.398	3.649	3.291	0.007	0.117	0.117	568.3	0.035
Pressure Washers	2022	51	120	3.281	0.241	2.56	3.202	0.006	0.112	0.112	568.299	0.021
Pressure Washers	2022	121	175	14.252	0.221	1.871	2.907	0.006	0.082	0.082	568.299	0.019
Pressure Washers	2022	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2023	6	15	1.706	0.618	4.345	3.508	0.008	0.186	0.186	568.299	0.055
Pressure Washers	2023	16	25	2.827	0.701	4.447	2.407	0.007	0.182	0.182	568.299	0.063
Pressure Washers	2023	26	50	2.928	0.363	3.541	3.26	0.007	0.101	0.101	568.299	0.032
Pressure Washers	2023	51	120	3.012	0.222	2.377	3.196	0.006	0.097	0.097	568.299	0.02
Pressure Washers	2023	121	175	13.244	0.205	1.665	2.907	0.006	0.072	0.072	568.299	0.018
Pressure Washers	2023	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2024	6	15	1.689	0.612	4.305	3.499	0.008	0.181	0.181	568.299	0.055
Pressure Washers	2024	16	25	2.811	0.697	4.426	2.39	0.007	0.178	0.178	568.299	0.062
Pressure Washers	2024	26	50	2.685	0.333	3.441	3.233	0.007	0.087	0.087	568.299	0.03
Pressure Washers	2024	51	120	2.78	0.204	2.229	3.191	0.006	0.084	0.084	568.299	0.018
Pressure Washers	2024	121	175	12.332	0.191	1.482	2.907	0.006	0.062	0.062	568.299	0.017
Pressure Washers	2024	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2025	6	15	1.674	0.607	4.269	3.491	0.008	0.178	0.178	568.299	0.054
Pressure Washers	2025	16	25	2.797	0.694	4.407	2.376	0.007	0.175	0.175	568.299	0.062
Pressure Washers	2025	26	50	2.472	0.306	3.344	3.21	0.007	0.075	0.075	568.299	0.027
Pressure Washers	2025	51	120	2.575	0.189	2.1	3.186	0.006	0.072	0.072	568.299	0.017
Pressure Washers	2025	121	175	11.476	0.178	1.31	2.907	0.006	0.053	0.053	568.299	0.016
Pressure Washers	2025	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2030	6	15	1.632	0.592	4.164	3.47	0.008	0.166	0.166	568.3	0.053
Pressure Washers	2030	16	25	2.766	0.686	4.347	2.34	0.007	0.165	0.165	568.299	0.061
Pressure Washers	2030	26	50	1.735	0.215	2.989	3.124	0.007	0.03	0.03	568.299	0.019
Pressure Washers	2030	51	120	1.821	0.134	1.594	3.167	0.006	0.028	0.028	568.3	0.012
Pressure Washers	2030	121	175	8.178	0.126	0.619	2.907	0.006	0.024	0.024	568.299	0.011
Pressure Washers	2030	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2035	6	15	1.624	0.589	4.143	3.47	0.008	0.162	0.162	568.3	0.053
Pressure Washers	2035	16	25	2.761	0.685	4.332	2.34	0.007	0.162	0.162	568.299	0.061
Pressure Washers	2035	26	50	1.515	0.188	2.882	3.101	0.007	0.015	0.015	568.299	0.016
Pressure Washers	2035	51	120	1.58	0.116	1.421	3.161	0.006	0.014	0.014	568.299	0.01
Pressure Washers	2035	121	175	7.052	0.109	0.382	2.907	0.006	0.013	0.013	568.299	0.009
Pressure Washers	2035	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2040	6	15	1.624	0.589	4.142	3.469	0.008	0.161	0.161	568.299	0.053
Pressure Washers	2040	16	25	2.761	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Pressure Washers	2040	26	50	1.5	0.186	2.836	3.098	0.007	0.01	0.01	568.299	0.016
Pressure Washers	2040	51	120	1.54	0.113	1.365	3.16	0.006	0.01	0.01	568.299	0.01
Pressure Washers	2040	121	175	6.649	0.103	0.293	2.907	0.006	0.01	0.01	568.299	0.009
Pressure Washers	2040	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pumps	1990	6	15	3.929	1.804	10	4.999	1.018	0.974	0.974	568.299	0.162
Pumps	1990	16	25	12.652	2.213	6.92	4.999	0.83	0.74	0.74	568.299	0.199
Pumps	1990	26	50	33.318	3.307	7.391	7.004	0.846	0.964	0.964	568.299	0.298
Pumps	1990	51	120	44.398	1.941	13.378	5.049	0.768	1.022	1.022	568.299	0.175
Pumps	1990	121	175	54.599	1.328	12.036	4.466	0.736	0.678	0.678	568.299	0.119
Pumps	1990	176	250	78.462	1.328	12.036	4.466	0.736	0.678	0.678	568.299	0.119
Pumps	1990	251	500	123.784	1.222	11.736	7.034	0.642	0.614	0.614	568.3	0.11
Pumps	1990	501	750	204.643	1.222	11.736	7.034	0.658	0.614	0.614	568.299	0.11
Pumps	1990	1001	9999	484.933	1.22	11.736	7.034	0.658	0.612	0.612	568.299	0.11
Pumps	2000	6	15	3.754	1.723	9.08	4.875	0.079	0.747	0.747	568.299	0.155
Pumps	2000	16	25	11.979	2.095	6.405	4.783	0.065	0.569	0.569	568.299	0.189
Pumps	2000	26	50	31.461	3.123	6.608	6.715	0.066	0.718	0.718	568.299	0.281
Pumps	2000	51	120	36.02	1.575	9.604	4.223	0.06	0.711	0.711	568.3	0.142
Pumps	2000	121	175	43.406	1.055	8.734	3.435	0.057	0.419	0.419	568.299	0.095
Pumps	2000	176	250	51.67	0.874	8.397	2.707	0.057	0.339	0.339	568.299	0.078
Pumps	2000	251	500	83.09	0.82	8.188	3.956	0.05	0.311	0.311	568.299	0.074
Pumps	2000	501	750	137.368	0.82	8.188	3.956	0.051	0.311	0.311	568.299	0.074
Pumps	2000	1001	9999	372.377	0.936	8.775	4.533	0.051	0.351	0.351	568.299	0.084
Pumps	2005	6	15	3.036	1.394	7.817	4.38	0.079	0.621	0.621	568.299	0.125
Pumps	2005	16	25	9.278	1.622	6.014	3.922	0.065	0.483	0.483	568.299	0.146
Pumps	2005	26	50	27.809	2.76	6.155	6.203	0.066	0.664	0.664	568.299	0.249
Pumps	2005	51	120	30.825	1.348	8.1	3.91	0.06	0.657	0.657	568.3	0.121
Pumps	2005	121	175	36.106	0.878	7.408	3.114	0.057	0.363	0.363	568.299	0.079
Pumps	2005	176	250	36.853	0.623	6.99	1.836	0.057	0.239	0.239	568.299	0.056
Pumps	2005	251	500	56.766	0.56	6.535	2.32	0.05	0.219	0.219	568.299	0.05
Pumps	2005	501	750	96.43	0.575	6.679	2.32	0.051	0.221	0.221	568.299	0.051
Pumps	2005	1001	9999	289.357	0.728	7.658	2.838	0.051	0.258	0.258	568.299	0.065
Pumps	2010	6	15	2.449	1.124	6.554	4.027	0.008	0.473	0.473	568.299	0.101
Pumps	2010	16	25	7.245	1.267	5.477	3.309	0.007	0.384	0.384	568.299	0.114

Pumps	2010	26	50	22.041	2.188	5.74	5.634	0.007	0.545	0.545	568.3	0.197
Pumps	2010	51	120	23.77	1.039	6.675	3.735	0.006	0.538	0.538	568.299	0.093
Pumps	2010	121	175	28.171	0.685	5.961	3.033	0.006	0.298	0.298	568.299	0.061
Pumps	2010	176	250	26.273	0.444	5.586	1.359	0.006	0.17	0.17	568.299	0.04
Pumps	2010	251	500	40.384	0.398	5.074	1.536	0.005	0.158	0.158	568.299	0.035
Pumps	2010	501	750	68.724	0.41	5.207	1.536	0.005	0.161	0.161	568.299	0.037
Pumps	2010	1001	9999	218.911	0.55	6.617	1.991	0.005	0.196	0.196	568.299	0.049
Pumps	2011	6	15	2.324	1.067	6.283	3.952	0.008	0.441	0.441	568.299	0.096
Pumps	2011	16	25	6.815	1.192	5.36	3.179	0.007	0.361	0.361	568.299	0.107
Pumps	2011	26	50	20.53	2.038	5.645	5.474	0.007	0.518	0.518	568.299	0.183
Pumps	2011	51	120	22.177	0.969	6.322	3.698	0.006	0.514	0.514	568.299	0.087
Pumps	2011	121	175	26.426	0.642	5.63	3.02	0.006	0.286	0.286	568.299	0.058
Pumps	2011	176	250	24.051	0.407	5.206	1.272	0.006	0.153	0.153	568.299	0.036
Pumps	2011	251	500	36.969	0.365	4.71	1.405	0.005	0.143	0.143	568.299	0.032
Pumps	2011	501	750	62.964	0.376	4.841	1.405	0.005	0.145	0.145	568.299	0.033
Pumps	2011	1001	9999	203.755	0.512	6.273	1.835	0.005	0.183	0.183	568.299	0.046
Pumps	2012	6	15	2.194	1.007	5.999	3.874	0.008	0.407	0.407	568.299	0.09
Pumps	2012	16	25	6.363	1.113	5.239	3.043	0.007	0.337	0.337	568.299	0.1
Pumps	2012	26	50	18.887	1.875	5.545	5.296	0.007	0.488	0.488	568.299	0.169
Pumps	2012	51	120	20.51	0.896	5.939	3.66	0.006	0.481	0.481	568.299	0.08
Pumps	2012	121	175	24.576	0.597	5.28	3.009	0.006	0.265	0.265	568.299	0.053
Pumps	2012	176	250	22.301	0.377	4.846	1.218	0.006	0.139	0.139	568.299	0.034
Pumps	2012	251	500	34.322	0.338	4.367	1.311	0.005	0.13	0.13	568.299	0.03
Pumps	2012	501	750	58.469	0.349	4.495	1.311	0.005	0.132	0.132	568.299	0.031
Pumps	2012	1001	9999	188.287	0.473	5.916	1.682	0.005	0.168	0.168	568.299	0.042
Pumps	2013	6	15	2.065	0.948	5.716	3.796	0.008	0.373	0.373	568.299	0.085
Pumps	2013	16	25	5.914	1.034	5.117	2.907	0.007	0.314	0.314	568.3	0.093
Pumps	2013	26	50	17.185	1.706	5.323	5.11	0.007	0.448	0.448	568.299	0.153
Pumps	2013	51	120	18.831	0.823	5.563	3.623	0.006	0.443	0.443	568.299	0.074
Pumps	2013	121	175	22.712	0.552	4.949	2.998	0.006	0.244	0.244	568.299	0.049
Pumps	2013	176	250	20.801	0.352	4.498	1.181	0.006	0.127	0.127	568.3	0.031
Pumps	2013	251	500	32.081	0.316	4.037	1.241	0.005	0.119	0.119	568.299	0.028
Pumps	2013	501	750	54.658	0.326	4.163	1.241	0.005	0.121	0.121	568.299	0.029
Pumps	2013	1001	9999	173.151	0.435	5.558	1.538	0.005	0.154	0.154	568.299	0.039
Pumps	2014	6	15	1.942	0.891	5.445	3.723	0.008	0.341	0.341	568.299	0.08
Pumps	2014	16	25	5.492	0.96	5	2.78	0.007	0.291	0.291	568.299	0.086
Pumps	2014	26	50	15.493	1.538	5.107	4.929	0.007	0.409	0.409	568.299	0.138
Pumps	2014	51	120	17.179	0.751	5.226	3.587	0.006	0.403	0.403	568.299	0.067
Pumps	2014	121	175	20.895	0.508	4.635	2.989	0.006	0.222	0.222	568.299	0.045
Pumps	2014	176	250	19.3	0.326	4.09	1.149	0.006	0.115	0.115	568.299	0.029
Pumps	2014	251	500	29.829	0.294	3.648	1.181	0.005	0.108	0.108	568.299	0.026
Pumps	2014	501	750	50.824	0.303	3.77	1.181	0.005	0.11	0.11	568.299	0.027
Pumps	2014	1001	9999	158.959	0.399	5.21	1.406	0.005	0.141	0.141	568.299	0.036
Pumps	2015	6	15	1.831	0.84	5.196	3.658	0.008	0.311	0.311	568.299	0.075
Pumps	2015	16	25	5.112	0.894	4.89	2.666	0.007	0.27	0.27	568.299	0.08
Pumps	2015	26	50	13.946	1.384	4.916	4.775	0.007	0.371	0.371	568.3	0.124
Pumps	2015	51	120	15.537	0.679	4.842	3.554	0.006	0.364	0.364	568.3	0.061
Pumps	2015	121	175	18.983	0.461	4.202	2.983	0.006	0.2	0.2	568.299	0.041
Pumps	2015	176	250	17.881	0.302	3.693	1.122	0.006	0.104	0.104	568.299	0.027
Pumps	2015	251	500	27.722	0.273	3.272	1.134	0.005	0.097	0.097	568.299	0.024
Pumps	2015	501	750	47.213	0.281	3.389	1.134	0.005	0.099	0.099	568.299	0.025
Pumps	2015	1001	9999	144.304	0.363	4.878	1.293	0.005	0.127	0.127	568.299	0.032
Pumps	2016	6	15	1.762	0.809	5.023	3.622	0.008	0.289	0.289	568.299	0.073
Pumps	2016	16	25	4.893	0.855	4.803	2.604	0.007	0.255	0.255	568.299	0.077
Pumps	2016	26	50	12.497	1.24	4.742	4.64	0.007	0.335	0.335	568.299	0.111
Pumps	2016	51	120	13.964	0.61	4.478	3.523	0.006	0.325	0.325	568.299	0.055
Pumps	2016	121	175	17.155	0.417	3.789	2.978	0.006	0.179	0.179	568.299	0.037
Pumps	2016	176	250	16.558	0.28	3.313	1.099	0.006	0.094	0.094	568.299	0.025
Pumps	2016	251	500	25.804	0.254	2.919	1.093	0.005	0.088	0.088	568.299	0.022
Pumps	2016	501	750	43.884	0.262	3.028	1.093	0.005	0.089	0.089	568.299	0.023
Pumps	2016	1001	9999	133.448	0.335	4.596	1.223	0.005	0.116	0.116	568.3	0.03
Pumps	2017	6	15	1.713	0.786	4.887	3.599	0.008	0.272	0.272	568.299	0.07
Pumps	2017	16	25	4.745	0.83	4.729	2.564	0.007	0.243	0.243	568.299	0.074
Pumps	2017	26	50	11.12	1.104	4.578	4.514	0.007	0.301	0.301	568.299	0.099
Pumps	2017	51	120	12.49	0.546	4.134	3.495	0.006	0.287	0.287	568.299	0.049
Pumps	2017	121	175	15.466	0.376	3.4	2.975	0.006	0.159	0.159	568.299	0.033
Pumps	2017	176	250	15.375	0.26	2.958	1.08	0.006	0.084	0.084	568.299	0.023
Pumps	2017	251	500	24.243	0.239	2.613	1.062	0.005	0.079	0.079	568.299	0.021
Pumps	2017	501	750	40.958	0.244	2.695	1.062	0.005	0.08	0.08	568.299	0.022
Pumps	2017	1001	9999	124.604	0.313	4.343	1.177	0.005	0.106	0.106	568.299	0.028
Pumps	2018	6	15	1.669	0.766	4.762	3.58	0.008	0.256	0.256	568.299	0.069
Pumps	2018	16	25	4.618	0.807	4.661	2.531	0.007	0.232	0.232	568.299	0.072
Pumps	2018	26	50	9.809	0.973	4.422	4.397	0.007	0.267	0.267	568.299	0.087
Pumps	2018	51	120	11.107	0.485	3.808	3.471	0.006	0.252	0.252	568.299	0.043
Pumps	2018	121	175	13.918	0.338	3.035	2.974	0.006	0.14	0.14	568.299	0.03
Pumps	2018	176	250	14.304	0.242	2.624	1.065	0.006	0.075	0.075	568.299	0.021
Pumps	2018	251	500	22.927	0.226	2.34	1.041	0.005	0.071	0.071	568.299	0.02
Pumps	2018	501	750	38.511	0.23	2.401	1.041	0.005	0.072	0.072	568.299	0.02
Pumps	2018	1001	9999	116.529	0.293	4.105	1.144	0.005	0.098	0.098	568.299	0.026
Pumps	2019	6	15	1.63	0.748	4.647	3.562	0.008	0.241	0.241	568.3	0.067
Pumps	2019	16	25	4.503	0.787	4.596	2.501	0.007	0.222	0.222	568.3	0.071
Pumps	2019	26	50	8.56	0.849	4.269	4.284	0.007	0.235	0.235	568.299	0.076
Pumps	2019	51	120	9.812	0.429	3.497	3.449	0.006	0.217	0.217	568.299	0.038
Pumps	2019	121	175	12.706	0.309	2.711	2.974	0.006	0.124	0.124	568.299	0.027
Pumps	2019	176	250	13.378	0.226	2.323	1.052	0.006	0.067	0.067	568.299	0.02
Pumps	2019	251	500	21.711	0.214	2.084	1.027	0.005	0.064	0.064	568.3	0.019
Pumps	2019	501	750	36.35	0.217	2.133	1.027	0.005	0.065	0.065	568.299	0.019
Pumps	2019	1001	9999	108.825	0.273	3.873	1.118	0.005	0.089	0.089	568.299	0.024
Pumps	2020	6	15	1.593	0.731	4.542	3.546	0.008	0.227	0.227	568.299	0.066

Pumps	2020	16	25	4.396	0.769	4.538	2.473	0.007	0.212	0.212	568.299	0.069
Pumps	2020	26	50	7.613	0.755	4.128	4.197	0.007	0.206	0.206	568.299	0.068
Pumps	2020	51	120	8.832	0.386	3.219	3.432	0.006	0.189	0.189	568.299	0.034
Pumps	2020	121	175	11.744	0.285	2.418	2.974	0.006	0.111	0.111	568.299	0.025
Pumps	2020	176	250	12.575	0.212	2.05	1.042	0.006	0.06	0.06	568.299	0.019
Pumps	2020	251	500	20.565	0.203	1.841	1.017	0.005	0.057	0.057	568.3	0.018
Pumps	2020	501	750	34.373	0.205	1.884	1.017	0.005	0.058	0.058	568.299	0.018
Pumps	2020	1001	9999	101.462	0.255	3.649	1.096	0.005	0.081	0.081	568.3	0.023
Pumps	2021	6	15	1.563	0.717	4.462	3.531	0.008	0.214	0.214	568.299	0.064
Pumps	2021	16	25	4.302	0.752	4.497	2.446	0.007	0.201	0.201	568.299	0.067
Pumps	2021	26	50	6.761	0.671	3.966	4.099	0.007	0.175	0.175	568.299	0.06
Pumps	2021	51	120	7.94	0.347	2.928	3.412	0.006	0.162	0.162	568.3	0.031
Pumps	2021	121	175	10.713	0.26	2.101	2.968	0.006	0.096	0.096	568.299	0.023
Pumps	2021	176	250	11.658	0.197	1.759	1.031	0.006	0.052	0.052	568.299	0.017
Pumps	2021	251	500	19.186	0.189	1.584	1.007	0.005	0.05	0.05	568.299	0.017
Pumps	2021	501	750	32.005	0.191	1.618	1.007	0.005	0.05	0.05	568.299	0.017
Pumps	2021	1001	9999	92.954	0.233	3.409	1.074	0.005	0.072	0.072	568.3	0.021
Pumps	2022	6	15	1.54	0.707	4.408	3.519	0.008	0.203	0.203	568.299	0.063
Pumps	2022	16	25	4.229	0.739	4.47	2.426	0.007	0.193	0.193	568.299	0.066
Pumps	2022	26	50	6.194	0.614	3.846	4.048	0.007	0.152	0.152	568.299	0.055
Pumps	2022	51	120	7.351	0.321	2.708	3.404	0.006	0.142	0.142	568.299	0.029
Pumps	2022	121	175	9.985	0.242	1.86	2.969	0.006	0.085	0.085	568.299	0.021
Pumps	2022	176	250	11.025	0.186	1.534	1.025	0.006	0.045	0.045	568.299	0.016
Pumps	2022	251	500	18.249	0.18	1.404	1.001	0.005	0.044	0.044	568.3	0.016
Pumps	2022	501	750	30.396	0.181	1.432	1.001	0.005	0.044	0.044	568.3	0.016
Pumps	2022	1001	9999	87.313	0.219	3.236	1.058	0.005	0.065	0.065	568.299	0.019
Pumps	2023	6	15	1.521	0.698	4.359	3.508	0.008	0.194	0.194	568.299	0.063
Pumps	2023	16	25	4.165	0.728	4.447	2.407	0.007	0.186	0.186	568.299	0.065
Pumps	2023	26	50	5.699	0.565	3.734	4.007	0.007	0.131	0.131	568.299	0.051
Pumps	2023	51	120	6.838	0.299	2.511	3.398	0.006	0.123	0.123	568.299	0.026
Pumps	2023	121	175	9.349	0.227	1.662	2.971	0.006	0.075	0.075	568.299	0.02
Pumps	2023	176	250	10.47	0.177	1.351	1.021	0.006	0.04	0.04	568.299	0.015
Pumps	2023	251	500	17.411	0.171	1.246	0.998	0.005	0.038	0.038	568.3	0.015
Pumps	2023	501	750	28.971	0.173	1.271	0.998	0.005	0.039	0.039	568.299	0.015
Pumps	2023	1001	9999	82.523	0.207	3.09	1.043	0.005	0.059	0.059	568.299	0.018
Pumps	2024	6	15	1.503	0.69	4.316	3.499	0.008	0.188	0.188	568.299	0.062
Pumps	2024	16	25	4.107	0.718	4.426	2.39	0.007	0.181	0.181	568.299	0.064
Pumps	2024	26	50	5.272	0.523	3.63	3.974	0.007	0.114	0.114	568.299	0.047
Pumps	2024	51	120	6.391	0.279	2.352	3.393	0.006	0.107	0.107	568.299	0.025
Pumps	2024	121	175	8.769	0.213	1.486	2.973	0.006	0.065	0.065	568.299	0.019
Pumps	2024	176	250	9.948	0.168	1.189	1.018	0.006	0.034	0.034	568.3	0.015
Pumps	2024	251	500	16.61	0.164	1.098	0.994	0.005	0.033	0.033	568.299	0.014
Pumps	2024	501	750	27.614	0.164	1.12	0.994	0.005	0.034	0.034	568.299	0.014
Pumps	2024	1001	9999	78.184	0.196	2.96	1.031	0.005	0.054	0.054	568.299	0.017
Pumps	2025	6	15	1.488	0.683	4.278	3.491	0.008	0.183	0.183	568.299	0.061
Pumps	2025	16	25	4.058	0.709	4.407	2.376	0.007	0.177	0.177	568.299	0.064
Pumps	2025	26	50	4.891	0.485	3.528	3.943	0.007	0.099	0.099	568.299	0.043
Pumps	2025	51	120	5.988	0.261	2.213	3.389	0.006	0.092	0.092	568.299	0.023
Pumps	2025	121	175	8.209	0.199	1.318	2.974	0.006	0.056	0.056	568.3	0.018
Pumps	2025	176	250	9.449	0.159	1.038	1.016	0.006	0.029	0.029	568.299	0.014
Pumps	2025	251	500	15.837	0.156	0.958	0.992	0.005	0.028	0.028	568.3	0.014
Pumps	2025	501	750	26.308	0.157	0.977	0.992	0.005	0.029	0.029	568.3	0.014
Pumps	2025	1001	9999	74.054	0.186	2.84	1.02	0.005	0.049	0.049	568.299	0.016
Pumps	2030	6	15	1.445	0.663	4.164	3.47	0.008	0.166	0.166	568.299	0.059
Pumps	2030	16	25	3.928	0.687	4.347	2.34	0.007	0.165	0.165	568.3	0.061
Pumps	2030	26	50	3.513	0.348	3.146	3.814	0.007	0.04	0.04	568.299	0.031
Pumps	2030	51	120	4.416	0.193	1.662	3.367	0.006	0.036	0.036	568.299	0.017
Pumps	2030	121	175	5.842	0.142	0.61	2.973	0.006	0.024	0.024	568.299	0.012
Pumps	2030	176	250	7.699	0.13	0.511	1.013	0.006	0.016	0.016	568.299	0.011
Pumps	2030	251	500	13.115	0.129	0.482	0.989	0.005	0.016	0.016	568.299	0.011
Pumps	2030	501	750	21.709	0.129	0.488	0.989	0.005	0.016	0.016	568.299	0.011
Pumps	2030	1001	9999	55.475	0.139	2.504	0.99	0.005	0.03	0.03	568.299	0.012
Pumps	2035	6	15	1.44	0.661	4.143	3.469	0.008	0.162	0.162	568.299	0.059
Pumps	2035	16	25	3.919	0.685	4.332	2.34	0.007	0.162	0.162	568.299	0.061
Pumps	2035	26	50	3.089	0.306	3.028	3.778	0.007	0.019	0.019	568.299	0.027
Pumps	2035	51	120	3.891	0.17	1.47	3.36	0.006	0.017	0.017	568.299	0.015
Pumps	2035	121	175	5.059	0.123	0.377	2.973	0.006	0.014	0.014	568.299	0.011
Pumps	2035	176	250	7.07	0.119	0.335	1.012	0.006	0.011	0.011	568.299	0.01
Pumps	2035	251	500	12.118	0.119	0.331	0.989	0.005	0.011	0.011	568.299	0.01
Pumps	2035	501	750	20.034	0.119	0.331	0.989	0.005	0.011	0.011	568.299	0.01
Pumps	2035	1001	9999	49.373	0.124	2.38	0.989	0.005	0.023	0.023	568.299	0.011
Pumps	2040	6	15	1.44	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Pumps	2040	16	25	3.919	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Pumps	2040	26	50	3.056	0.303	2.976	3.77	0.007	0.013	0.013	568.299	0.027
Pumps	2040	51	120	3.777	0.165	1.41	3.358	0.006	0.012	0.012	568.299	0.014
Pumps	2040	121	175	4.771	0.116	0.295	2.971	0.006	0.01	0.01	568.299	0.01
Pumps	2040	176	250	6.779	0.114	0.279	1.012	0.006	0.009	0.009	568.299	0.01
Pumps	2040	251	500	11.622	0.114	0.279	0.989	0.005	0.009	0.009	568.299	0.01
Pumps	2040	501	750	19.214	0.114	0.279	0.989	0.005	0.009	0.009	568.299	0.01
Pumps	2040	1001	9999	46.343	0.116	2.347	0.989	0.005	0.02	0.02	568.299	0.01
Rollers	1990	6	15	4.21	1.804	9.999	4.999	1.049	0.975	0.975	568.299	0.162
Rollers	1990	16	25	10.903	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Rollers	1990	26	50	45.466	4.738	7.927	9.598	0.871	1.256	1.256	568.299	0.427
Rollers	1990	51	120	51.677	2.372	15.111	5.756	0.791	1.332	1.332	568.3	0.214
Rollers	1990	121	175	75.451	1.889	14.858	5.165	0.758	1.046	1.046	568.299	0.17
Rollers	1990	176	250	106.808	1.889	14.858	5.165	0.758	1.046	1.046	568.299	0.17
Rollers	1990	251	500	135.093	1.669	14.103	11.266	0.662	0.896	0.896	568.299	0.15
Rollers	2000	6	15	3.444	1.475	8.242	4.49	0.079	0.676	0.676	568.3	0.133
Rollers	2000	16	25	9.648	1.958	6.358	4.53	0.065	0.563	0.563	568.299	0.176



Rollers	2000	26	50	38.643	4.027	6.941	8.379	0.066	0.861	0.861	568.299	0.363
Rollers	2000	51	120	39.062	1.793	10.425	4.585	0.06	0.844	0.844	568.299	0.161
Rollers	2000	121	175	48.357	1.21	9.501	3.749	0.057	0.503	0.503	568.299	0.109
Rollers	2000	176	250	59.24	1.047	9.211	3.108	0.057	0.427	0.427	568.299	0.094
Rollers	2000	251	500	77.413	0.956	8.821	5.254	0.05	0.379	0.379	568.299	0.086
Rollers	2005	6	15	1.788	0.766	5.228	3.469	0.079	0.361	0.361	568.299	0.069
Rollers	2005	16	25	4.53	0.919	5.412	2.642	0.065	0.347	0.347	568.299	0.082
Rollers	2005	26	50	34.997	3.647	6.51	7.864	0.066	0.808	0.808	568.299	0.329
Rollers	2005	51	120	34.046	1.563	8.963	4.289	0.06	0.79	0.79	568.299	0.141
Rollers	2005	121	175	40.854	1.023	8.18	3.44	0.057	0.441	0.441	568.299	0.092
Rollers	2005	176	250	44.594	0.788	7.822	2.262	0.057	0.319	0.319	568.299	0.071
Rollers	2005	251	500	56.466	0.697	7.196	3.183	0.05	0.282	0.282	568.299	0.062
Rollers	2010	6	15	1.637529	1.376	5.58863	5.19619	0.005	0.516	0.475	584.6125	0.17
Rollers	2010	16	25	1.637529	1.376	5.58863	5.19619	0.005	0.516	0.475	584.6125	0.17
Rollers	2010	26	50	1.637529	1.376	5.58863	5.19619	0.005	0.516	0.475	584.6125	0.17
Rollers	2010	51	120	0.983879	0.827	7.50147	3.91429	0.005	0.56	0.516	527.6279	0.154
Rollers	2010	121	175	0.511697	0.43	5.60543	3.00505	0.005	0.264	0.243	524.1952	0.153
Rollers	2010	176	250	0.616159	0.518	7.34127	2.19572	0.005	0.268	0.247	526.2539	0.153
Rollers	2010	251	500	0.682816	0.574	7.52047	4.92169	0.005	0.313	0.288	533.878	0.155
Rollers	2011	6	15	1.599963	1.344	5.5647	5.18315	0.005	0.508	0.467	583.1085	0.17
Rollers	2011	16	25	1.599963	1.344	5.5647	5.18315	0.005	0.508	0.467	583.1085	0.17
Rollers	2011	26	50	1.599963	1.344	5.5647	5.18315	0.005	0.508	0.467	583.1085	0.17
Rollers	2011	51	120	0.924436	0.777	7.13388	3.86451	0.005	0.533	0.491	525.9391	0.153
Rollers	2011	121	175	0.498798	0.419	5.44712	3.00845	0.005	0.257	0.237	522.9396	0.153
Rollers	2011	176	250	0.556319	0.467	6.69107	2.03431	0.005	0.242	0.222	524.8924	0.153
Rollers	2011	251	500	0.597293	0.502	6.64358	4.46947	0.005	0.275	0.253	529.5965	0.155
Rollers	2012	6	15	1.624226	1.365	5.568	5.26844	0.005	0.511	0.471	581.6678	0.17
Rollers	2012	16	25	1.624226	1.365	5.568	5.26844	0.005	0.511	0.471	581.6678	0.17
Rollers	2012	26	50	1.624226	1.365	5.568	5.26844	0.005	0.511	0.471	581.6678	0.17
Rollers	2012	51	120	0.924087	0.776	7.08604	3.87893	0.005	0.534	0.491	524.5269	0.153
Rollers	2012	121	175	0.497788	0.418	5.38313	3.02294	0.005	0.255	0.235	521.5511	0.153
Rollers	2012	176	250	0.555818	0.467	6.64215	2.02691	0.005	0.241	0.222	523.5608	0.153
Rollers	2012	251	500	0.604557	0.508	6.66671	4.53336	0.005	0.278	0.256	528.1357	0.155
Rollers	2013	6	15	1.5981	1.343	5.50162	5.27142	0.005	0.5	0.46	578.8662	0.17
Rollers	2013	16	25	1.5981	1.343	5.50162	5.27142	0.005	0.5	0.46	578.8662	0.17
Rollers	2013	26	50	1.5981	1.343	5.50162	5.27142	0.005	0.5	0.46	578.8662	0.17
Rollers	2013	51	120	0.873627	0.734	6.74964	3.84356	0.005	0.504	0.464	521.8163	0.153
Rollers	2013	121	175	0.468308	0.394	5.11335	3.00794	0.005	0.238	0.219	519.0689	0.153
Rollers	2013	176	250	0.495332	0.416	5.94235	1.86858	0.005	0.213	0.196	520.4083	0.153
Rollers	2013	251	500	0.470274	0.395	5.43748	3.53436	0.005	0.213	0.196	524.7654	0.154
Rollers	2014	6	15	1.556684	1.308	5.39309	5.24275	0.005	0.484	0.445	575.7953	0.17
Rollers	2014	16	25	1.556684	1.308	5.39309	5.24275	0.005	0.484	0.445	575.7953	0.17
Rollers	2014	26	50	1.556684	1.308	5.39309	5.24275	0.005	0.484	0.445	575.7953	0.17
Rollers	2014	51	120	0.827072	0.695	6.39036	3.80915	0.005	0.476	0.438	518.7866	0.153
Rollers	2014	121	175	0.43778	0.368	4.72375	2.99804	0.005	0.219	0.202	516.591	0.153
Rollers	2014	176	250	0.453642	0.381	5.40344	1.75988	0.005	0.191	0.176	517.8111	0.153
Rollers	2014	251	500	0.449616	0.378	5.18322	3.3182	0.005	0.202	0.185	522.0518	0.154
Rollers	2015	6	15	1.559602	1.31	5.36547	5.29043	0.005	0.481	0.443	569.9207	0.17
Rollers	2015	16	25	1.559602	1.31	5.36547	5.29043	0.005	0.481	0.443	569.9207	0.17
Rollers	2015	26	50	1.559602	1.31	5.36547	5.29043	0.005	0.481	0.443	569.9207	0.17
Rollers	2015	51	120	0.813228	0.683	6.27158	3.80891	0.005	0.467	0.43	513.5052	0.153
Rollers	2015	121	175	0.433087	0.364	4.63035	3.00605	0.005	0.215	0.198	511.3935	0.153
Rollers	2015	176	250	0.41293	0.347	4.93191	1.65049	0.005	0.171	0.157	512.8234	0.153
Rollers	2015	251	500	0.441373	0.371	5.03147	3.24549	0.005	0.195	0.179	517.2848	0.154
Rollers	2016	6	15	1.498736	1.259	5.2356	5.23066	0.005	0.459	0.423	563.9722	0.17
Rollers	2016	16	25	1.498736	1.259	5.2356	5.23066	0.005	0.459	0.423	563.9722	0.17
Rollers	2016	26	50	1.498736	1.259	5.2356	5.23066	0.005	0.459	0.423	563.9722	0.17
Rollers	2016	51	120	0.747631	0.628	5.80563	3.75537	0.005	0.428	0.393	508.1987	0.153
Rollers	2016	121	175	0.402004	0.338	4.23872	2.99334	0.005	0.197	0.181	505.9041	0.153
Rollers	2016	176	250	0.366563	0.308	4.39492	1.50673	0.005	0.15	0.138	507.6939	0.153
Rollers	2016	251	500	0.397483	0.334	4.45617	2.95647	0.005	0.173	0.159	513.4154	0.155
Rollers	2017	6	15	1.425352	1.198	5.09771	5.14727	0.005	0.436	0.401	555.0199	0.17
Rollers	2017	16	25	1.425352	1.198	5.09771	5.14727	0.005	0.436	0.401	555.0199	0.17
Rollers	2017	26	50	1.425352	1.198	5.09771	5.14727	0.005	0.436	0.401	555.0199	0.17
Rollers	2017	51	120	0.690109	0.58	5.4114	3.71315	0.005	0.392	0.361	500.1525	0.153
Rollers	2017	121	175	0.373471	0.314	3.87384	2.98069	0.005	0.18	0.166	497.9088	0.153
Rollers	2017	176	250	0.326364	0.274	3.92097	1.40849	0.005	0.129	0.119	499.7021	0.153
Rollers	2017	251	500	0.353236	0.297	3.84047	2.68487	0.005	0.15	0.138	505.8318	0.155
Rollers	2018	6	15	1.26668	1.064	4.8416	4.92335	0.005	0.387	0.356	546.2905	0.17
Rollers	2018	16	25	1.26668	1.064	4.8416	4.92335	0.005	0.387	0.356	546.2905	0.17
Rollers	2018	26	50	1.26668	1.064	4.8416	4.92335	0.005	0.387	0.356	546.2905	0.17
Rollers	2018	51	120	0.572467	0.481	4.65049	3.60981	0.005	0.32	0.294	492.2118	0.153
Rollers	2018	121	175	0.315632	0.265	3.18126	2.94895	0.005	0.147	0.135	490.1805	0.153
Rollers	2018	176	250	0.251419	0.211	2.99492	1.24341	0.005	0.094	0.086	491.6643	0.153
Rollers	2018	251	500	0.291314	0.245	3.09814	2.23145	0.005	0.119	0.11	497.9962	0.155
Rollers	2019	6	15	1.156606	0.972	4.64491	4.77841	0.005	0.349	0.321	537.546	0.17
Rollers	2019	16	25	1.156606	0.972	4.64491	4.77841	0.005	0.349	0.321	537.546	0.17
Rollers	2019	26	50	1.156606	0.972	4.64491	4.77841	0.005	0.349	0.321	537.546	0.17
Rollers	2019	51	120	0.502836	0.423	4.17949	3.55726	0.005	0.275	0.253	484.3362	0.153
Rollers	2019	121	175	0.27475	0.231	2.69941	2.93251	0.005	0.124	0.114	482.4531	0.153
Rollers	2019	176	250	0.250477	0.21	2.88327	1.24854	0.005	0.092	0.084	483.7769	0.153
Rollers	2019	251	500	0.278634	0.234	2.90839	2.10142	0.005	0.111	0.102	489.9774	0.155
Rollers	2020	6	15	1.102095	0.926	4.53426	4.72504	0.005	0.329	0.303	525.8798	0.17
Rollers	2020	16	25	1.102095	0.926	4.53426	4.72504	0.005	0.329	0.303	525.8798	0.17
Rollers	2020	26	50	1.102095	0.926	4.53426	4.72504	0.005	0.329	0.303	525.8798	0.17
Rollers	2020	51	120	0.462004	0.388	3.88153	3.53135	0.005	0.247	0.228	473.8594	0.153
Rollers	2020	121	175	0.256128	0.215	2.45176	2.93333	0.005	0.113	0.104	471.9177	0.153
Rollers	2020	176	250	0.248138	0.209	2.75095	1.25343	0.005	0.089	0.082	473.3669	0.153
Rollers	2020	251	500	0.279691	0.235	2.82823	2.11346	0.005	0.109	0.101	479.3254	0.155

Rollers	2021	6	15	1.008559	0.847	4.35097	4.59681	0.005	0.294	0.27	525.7908	0.17
Rollers	2021	16	25	1.008559	0.847	4.35097	4.59681	0.005	0.294	0.27	525.7908	0.17
Rollers	2021	26	50	1.008559	0.847	4.35097	4.59681	0.005	0.294	0.27	525.7908	0.17
Rollers	2021	51	120	0.42061	0.353	3.5889	3.50719	0.005	0.219	0.202	473.9012	0.153
Rollers	2021	121	175	0.229571	0.193	2.11691	2.9256	0.005	0.097	0.09	471.9799	0.153
Rollers	2021	176	250	0.23384	0.196	2.49332	1.22849	0.005	0.081	0.075	473.4704	0.153
Rollers	2021	251	500	0.26246	0.221	2.58936	1.94995	0.005	0.1	0.092	479.3294	0.155
Rollers	2022	6	15	0.878567	0.738	4.12773	4.40241	0.005	0.25	0.23	525.691	0.17
Rollers	2022	16	25	0.878567	0.738	4.12773	4.40241	0.005	0.25	0.23	525.691	0.17
Rollers	2022	26	50	0.878567	0.738	4.12773	4.40241	0.005	0.25	0.23	525.691	0.17
Rollers	2022	51	120	0.369089	0.31	3.21896	3.46973	0.005	0.186	0.171	473.9291	0.153
Rollers	2022	121	175	0.195547	0.164	1.71408	2.91331	0.005	0.079	0.072	471.9475	0.153
Rollers	2022	176	250	0.221959	0.187	2.2116	1.22821	0.005	0.077	0.071	473.5135	0.153
Rollers	2022	251	500	0.259221	0.218	2.46341	1.95495	0.005	0.097	0.089	478.9817	0.155
Rollers	2023	6	15	0.786211	0.661	3.9211	4.25236	0.005	0.212	0.195	525.8616	0.17
Rollers	2023	16	25	0.786211	0.661	3.9211	4.25236	0.005	0.212	0.195	525.8616	0.17
Rollers	2023	26	50	0.786211	0.661	3.9211	4.25236	0.005	0.212	0.195	525.8616	0.17
Rollers	2023	51	120	0.341189	0.287	3.00302	3.45461	0.005	0.165	0.152	473.9363	0.153
Rollers	2023	121	175	0.1784	0.15	1.4833	2.90949	0.005	0.068	0.062	471.9351	0.153
Rollers	2023	176	250	0.223864	0.188	2.17272	1.23448	0.005	0.076	0.07	473.5164	0.153
Rollers	2023	251	500	0.25159	0.211	2.29003	1.95626	0.005	0.093	0.085	478.3028	0.155
Rollers	2024	6	15	0.738433	0.62	3.82449	4.20667	0.005	0.192	0.177	525.9565	0.17
Rollers	2024	16	25	0.738433	0.62	3.82449	4.20667	0.005	0.192	0.177	525.9565	0.17
Rollers	2024	26	50	0.738433	0.62	3.82449	4.20667	0.005	0.192	0.177	525.9565	0.17
Rollers	2024	51	120	0.323417	0.272	2.843	3.45055	0.005	0.15	0.138	474.0072	0.153
Rollers	2024	121	175	0.168235	0.141	1.32428	2.91426	0.005	0.061	0.056	472.012	0.153
Rollers	2024	176	250	0.213553	0.179	1.97675	1.21417	0.005	0.07	0.064	473.512	0.153
Rollers	2024	251	500	0.24978	0.21	2.21612	1.96121	0.005	0.09	0.083	477.9001	0.155
Rollers	2025	6	15	0.677074	0.569	3.68893	4.12543	0.005	0.167	0.154	526.1406	0.17
Rollers	2025	16	25	0.677074	0.569	3.68893	4.12543	0.005	0.167	0.154	526.1406	0.17
Rollers	2025	26	50	0.677074	0.569	3.68893	4.12543	0.005	0.167	0.154	526.1406	0.17
Rollers	2025	51	120	0.303987	0.255	2.69137	3.44432	0.005	0.135	0.125	473.851	0.153
Rollers	2025	121	175	0.150791	0.127	1.10088	2.90859	0.005	0.049	0.045	471.9696	0.153
Rollers	2025	176	250	0.205768	0.173	1.78252	1.21477	0.005	0.066	0.06	473.6813	0.153
Rollers	2025	251	500	0.251787	0.212	2.19998	1.96754	0.005	0.09	0.083	477.5732	0.154
Rollers	2030	6	15	1.543	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Rollers	2030	16	25	3.377	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Rollers	2030	26	50	5.638	0.587	3.48	4.784	0.007	0.073	0.073	568.299	0.053
Rollers	2030	51	120	6.528	0.299	1.95	3.639	0.006	0.066	0.066	568.299	0.027
Rollers	2030	121	175	8.923	0.223	0.907	3.203	0.006	0.042	0.042	568.299	0.02
Rollers	2030	176	250	11.047	0.195	0.745	1.099	0.006	0.024	0.024	568.299	0.017
Rollers	2030	251	500	15.637	0.193	0.697	1.056	0.005	0.023	0.023	568.299	0.017
Rollers	2035	6	15	1.543	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Rollers	2035	16	25	3.377	0.685	4.332	2.34	0.007	0.161	0.161	568.3	0.061
Rollers	2035	26	50	4.867	0.507	3.28	4.711	0.007	0.038	0.038	568.299	0.045
Rollers	2035	51	120	5.632	0.258	1.65	3.629	0.006	0.035	0.035	568.299	0.023
Rollers	2035	121	175	7.351	0.184	0.523	3.204	0.006	0.023	0.023	568.299	0.016
Rollers	2035	176	250	9.79	0.173	0.465	1.091	0.006	0.016	0.016	568.299	0.015
Rollers	2035	251	500	13.949	0.172	0.442	1.048	0.005	0.016	0.016	568.3	0.015
Rollers	2040	6	15	1.543	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Rollers	2040	16	25	3.377	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Rollers	2040	26	50	4.508	0.469	3.207	4.682	0.007	0.024	0.024	568.299	0.042
Rollers	2040	51	120	5.228	0.24	1.525	3.625	0.006	0.021	0.021	568.299	0.021
Rollers	2040	121	175	6.731	0.168	0.373	3.205	0.006	0.015	0.015	568.299	0.015
Rollers	2040	176	250	9.355	0.165	0.348	1.092	0.006	0.012	0.012	568.299	0.014
Rollers	2040	251	500	13.378	0.165	0.341	1.048	0.005	0.012	0.012	568.299	0.014
Rough Terrain Forklifts	1990	26	50	13.299	5.191	8.098	10.416	0.871	1.348	1.348	568.299	0.468
Rough Terrain Forklifts	1990	51	120	11.91	2.52	15.753	6.008	0.791	1.432	1.432	568.299	0.227
Rough Terrain Forklifts	1990	121	175	19.775	2.092	15.888	5.422	0.758	1.178	1.178	568.299	0.188
Rough Terrain Forklifts	1990	176	250	27.042	2.092	15.888	5.422	0.758	1.178	1.178	568.299	0.188
Rough Terrain Forklifts	1990	251	500	35.607	1.834	14.986	12.637	0.662	0.998	0.998	568.299	0.165
Rough Terrain Forklifts	2000	26	50	11.216	4.378	7.041	9.045	0.066	0.919	0.919	568.3	0.395
Rough Terrain Forklifts	2000	51	120	8.517	1.802	10.225	4.574	0.06	0.881	0.881	568.299	0.162
Rough Terrain Forklifts	2000	121	175	11.484	1.215	9.36	3.676	0.057	0.511	0.511	568.3	0.109
Rough Terrain Forklifts	2000	176	250	13.186	1.02	9.021	2.927	0.057	0.418	0.418	568.299	0.092
Rough Terrain Forklifts	2000	251	500	18.049	0.929	8.59	4.415	0.05	0.37	0.37	568.299	0.083
Rough Terrain Forklifts	2005	26	50	9.835	3.839	6.528	8.285	0.066	0.844	0.844	568.299	0.346
Rough Terrain Forklifts	2005	51	120	7.351	1.555	8.677	4.289	0.06	0.82	0.82	568.299	0.14
Rough Terrain Forklifts	2005	121	175	9.61	1.016	7.941	3.403	0.057	0.447	0.447	568.3	0.091
Rough Terrain Forklifts	2005	176	250	9.418	0.728	7.52	1.995	0.057	0.289	0.289	568.299	0.065
Rough Terrain Forklifts	2005	251	500	12.496	0.643	6.82	2.406	0.05	0.258	0.258	568.299	0.058
Rough Terrain Forklifts	2010	26	50	1.514602	1.273	5.57504	4.9076	0.005	0.495	0.455	583.8316	0.17
Rough Terrain Forklifts	2010	51	120	0.607871	0.511	5.81073	3.47103	0.005	0.386	0.355	525.5318	0.153
Rough Terrain Forklifts	2010	121	175	0.37661	0.316	4.78775	2.9137	0.005	0.212	0.195	524.1127	0.153
Rough Terrain Forklifts	2010	176	250	0.759196	0.638	7.87723	2.86785	0.005	0.351	0.323	527.6921	0.154
Rough Terrain Forklifts	2010	251	500	0.386691	0.325	5.79984	1.82955	0.005	0.168	0.155	518.8116	0.151
Rough Terrain Forklifts	2011	26	50	1.444446	1.214	5.52279	4.83823	0.005	0.48	0.442	582.3751	0.17
Rough Terrain Forklifts	2011	51	120	0.549079	0.461	5.4371	3.4365	0.005	0.352	0.324	524.0504	0.153
Rough Terrain Forklifts	2011	121	175	0.339518	0.285	4.45534	2.87624	0.005	0.193	0.177	522.735	0.153
Rough Terrain Forklifts	2011	176	250	0.686556	0.577	7.1588	2.63351	0.005	0.317	0.292	525.8441	0.153
Rough Terrain Forklifts	2011	251	500	0.390538	0.328	5.81691	1.84589	0.005	0.17	0.156	517.5182	0.151
Rough Terrain Forklifts	2012	26	50	1.441034	1.211	5.49331	4.88018	0.005	0.476	0.438	580.9231	0.17
Rough Terrain Forklifts	2012	51	120	0.530399	0.446	5.29115	3.43501	0.005	0.34	0.312	522.6299	0.153
Rough Terrain Forklifts	2012	121	175	0.336361	0.283	4.38447	2.88643	0.005	0.189	0.174	521.4414	0.153
Rough Terrain Forklifts	2012	176	250	0.693119	0.582	7.11155	2.65596	0.005	0.319	0.293	524.4406	0.153
Rough Terrain Forklifts	2012	251	500	0.394706	0.332	5.83389	1.86253	0.005	0.171	0.157	516.2249	0.151
Rough Terrain Forklifts	2013	26	50	1.427232	1.199	5.34043	4.88715	0.005	0.454	0.417	578.2559	0.17
Rough Terrain Forklifts	2013	51	120	0.469882	0.395	4.92337	3.39906	0.005	0.299	0.275	519.906	0.153
Rough Terrain Forklifts	2013	121	175	0.283862	0.239	3.90677	2.86094	0.005	0.153	0.141	518.7027	0.153

Rough Terrain Forklifts	2013	176	250	0.418518	0.352	4.79966	1.88921	0.005	0.184	0.169	521.6392	0.153
Rough Terrain Forklifts	2013	251	500	0.334838	0.281	4.62017	1.86541	0.005	0.141	0.129	514.2815	0.151
Rough Terrain Forklifts	2014	26	50	1.40671	1.182	5.22634	4.88713	0.005	0.436	0.401	575.3526	0.17
Rough Terrain Forklifts	2014	51	120	0.417386	0.351	4.46728	3.36705	0.005	0.261	0.24	517.2602	0.153
Rough Terrain Forklifts	2014	121	175	0.263476	0.221	3.59442	2.85182	0.005	0.139	0.128	516.0907	0.153
Rough Terrain Forklifts	2014	176	250	0.221616	0.186	2.98369	1.21218	0.005	0.087	0.08	517.7663	0.153
Rough Terrain Forklifts	2014	251	500	0.202465	0.17	3.49973	0.95399	0.005	0.076	0.07	511.6567	0.151
Rough Terrain Forklifts	2015	26	50	1.414803	1.189	5.18984	4.93325	0.005	0.431	0.397	569.4875	0.17
Rough Terrain Forklifts	2015	51	120	0.401892	0.338	4.28003	3.36619	0.005	0.247	0.228	512.0859	0.153
Rough Terrain Forklifts	2015	121	175	0.25808	0.217	3.42042	2.85917	0.005	0.133	0.122	510.8541	0.153
Rough Terrain Forklifts	2015	176	250	0.166466	0.14	2.4626	1.01164	0.005	0.058	0.054	512.1638	0.153
Rough Terrain Forklifts	2015	251	500	0.207111	0.174	3.52067	0.95822	0.005	0.077	0.071	506.4349	0.151
Rough Terrain Forklifts	2016	26	50	1.378654	1.158	5.09924	4.91773	0.005	0.415	0.382	563.3598	0.17
Rough Terrain Forklifts	2016	51	120	0.358928	0.302	3.84005	3.34169	0.005	0.213	0.196	507.0659	0.153
Rough Terrain Forklifts	2016	121	175	0.248476	0.209	3.2087	2.865	0.005	0.124	0.114	505.596	0.153
Rough Terrain Forklifts	2016	176	250	0.171278	0.144	2.46843	1.0177	0.005	0.059	0.054	506.8956	0.153
Rough Terrain Forklifts	2016	251	500	0.211667	0.178	3.54169	0.96236	0.005	0.078	0.072	501.2134	0.151
Rough Terrain Forklifts	2017	26	50	1.318488	1.108	4.90253	4.83344	0.005	0.382	0.352	554.6234	0.17
Rough Terrain Forklifts	2017	51	120	0.322506	0.271	3.41759	3.31778	0.005	0.182	0.167	499.1682	0.153
Rough Terrain Forklifts	2017	121	175	0.231401	0.194	2.90167	2.86636	0.005	0.112	0.103	497.7766	0.153
Rough Terrain Forklifts	2017	176	250	0.175965	0.148	2.47389	1.02362	0.005	0.059	0.054	499.0007	0.153
Rough Terrain Forklifts	2017	251	500	0.216551	0.182	3.56771	0.96636	0.005	0.079	0.073	493.3362	0.151
Rough Terrain Forklifts	2018	26	50	1.273116	1.07	4.73469	4.76839	0.005	0.359	0.33	545.8693	0.17
Rough Terrain Forklifts	2018	51	120	0.264415	0.222	2.84496	3.26976	0.005	0.136	0.125	491.2107	0.153
Rough Terrain Forklifts	2018	121	175	0.194786	0.164	2.34168	2.84245	0.005	0.088	0.081	489.9869	0.153
Rough Terrain Forklifts	2018	176	250	0.181003	0.152	2.48748	1.02948	0.005	0.06	0.055	491.0997	0.153
Rough Terrain Forklifts	2018	251	500	0.172771	0.145	2.70063	0.95802	0.005	0.06	0.055	485.9543	0.151
Rough Terrain Forklifts	2019	26	50	1.200779	1.009	4.55745	4.67405	0.005	0.328	0.301	537.3287	0.17
Rough Terrain Forklifts	2019	51	120	0.240277	0.202	2.6222	3.25848	0.005	0.117	0.107	483.3105	0.153
Rough Terrain Forklifts	2019	121	175	0.177689	0.149	2.05752	2.84092	0.005	0.075	0.069	482.1188	0.153
Rough Terrain Forklifts	2019	176	250	0.130153	0.109	1.63905	0.97423	0.005	0.036	0.033	483.0882	0.153
Rough Terrain Forklifts	2019	251	500	0.138302	0.116	1.96109	0.95034	0.005	0.043	0.039	477.2539	0.151
Rough Terrain Forklifts	2020	26	50	1.188595	0.999	4.4946	4.68594	0.005	0.316	0.291	525.6222	0.17
Rough Terrain Forklifts	2020	51	120	0.225188	0.189	2.45218	3.25575	0.005	0.103	0.094	472.9842	0.153
Rough Terrain Forklifts	2020	121	175	0.170092	0.143	1.86888	2.84466	0.005	0.068	0.063	471.7152	0.153
Rough Terrain Forklifts	2020	176	250	0.132727	0.112	1.60906	0.97848	0.005	0.037	0.034	472.5671	0.153
Rough Terrain Forklifts	2020	251	500	0.105484	0.089	1.30199	0.94184	0.005	0.028	0.026	465.7709	0.151
Rough Terrain Forklifts	2021	26	50	1.152538	0.968	4.41145	4.65658	0.005	0.304	0.279	525.3844	0.17
Rough Terrain Forklifts	2021	51	120	0.207836	0.175	2.28534	3.25191	0.005	0.089	0.081	473.11	0.153
Rough Terrain Forklifts	2021	121	175	0.154972	0.13	1.61661	2.8447	0.005	0.06	0.055	471.7575	0.153
Rough Terrain Forklifts	2021	176	250	0.136824	0.115	1.61186	0.98379	0.005	0.037	0.034	472.5469	0.153
Rough Terrain Forklifts	2021	251	500	0.109168	0.092	1.30199	0.94604	0.005	0.028	0.026	465.7442	0.151
Rough Terrain Forklifts	2022	26	50	0.93878	0.789	4.04131	4.3038	0.005	0.238	0.219	525.0151	0.17
Rough Terrain Forklifts	2022	51	120	0.18871	0.159	2.0983	3.24374	0.005	0.073	0.067	473.089	0.153
Rough Terrain Forklifts	2022	121	175	0.142314	0.12	1.40475	2.84439	0.005	0.051	0.047	471.6773	0.153
Rough Terrain Forklifts	2022	176	250	0.140994	0.118	1.61688	0.98924	0.005	0.037	0.034	472.5408	0.153
Rough Terrain Forklifts	2022	251	500	0.081218	0.068	0.55798	0.93709	0.005	0.009	0.008	466.5598	0.151
Rough Terrain Forklifts	2023	26	50	0.82158	0.69	3.85338	4.12519	0.005	0.204	0.187	524.8024	0.17
Rough Terrain Forklifts	2023	51	120	0.178416	0.15	1.9836	3.24217	0.005	0.064	0.059	473.1584	0.153
Rough Terrain Forklifts	2023	121	175	0.132417	0.111	1.21796	2.84289	0.005	0.043	0.04	471.6217	0.153
Rough Terrain Forklifts	2023	176	250	0.137509	0.116	1.47399	0.98987	0.005	0.034	0.032	472.7784	0.153
Rough Terrain Forklifts	2023	251	500	0.082146	0.069	0.55845	0.93788	0.005	0.009	0.008	466.554	0.151
Rough Terrain Forklifts	2024	26	50	0.678189	0.57	3.65343	3.91822	0.005	0.166	0.152	524.9235	0.17
Rough Terrain Forklifts	2024	51	120	0.172725	0.145	1.91392	3.24468	0.005	0.058	0.054	473.0631	0.153
Rough Terrain Forklifts	2024	121	175	0.122467	0.103	1.04413	2.83416	0.005	0.039	0.035	471.5346	0.153
Rough Terrain Forklifts	2024	176	250	0.141528	0.119	1.48012	0.99524	0.005	0.035	0.032	472.8527	0.153
Rough Terrain Forklifts	2024	251	500	0.078846	0.066	0.47582	0.93746	0.005	0.009	0.008	466.5479	0.151
Rough Terrain Forklifts	2025	26	50	0.542352	0.456	3.47668	3.74002	0.005	0.128	0.118	525.027	0.17
Rough Terrain Forklifts	2025	51	120	0.16354	0.137	1.82053	3.23971	0.005	0.051	0.047	473.0366	0.153
Rough Terrain Forklifts	2025	121	175	0.103861	0.087	0.78628	2.82091	0.005	0.03	0.028	471.4745	0.152
Rough Terrain Forklifts	2025	176	250	0.145736	0.122	1.48888	1.00073	0.005	0.035	0.033	472.9267	0.153
Rough Terrain Forklifts	2025	251	500	0.081817	0.069	0.47663	0.94151	0.005	0.009	0.008	466.5414	0.151
Rough Terrain Forklifts	2030	26	50	1.404	0.548	3.359	5.031	0.007	0.039	0.039	568.299	0.049
Rough Terrain Forklifts	2030	51	120	1.321	0.279	1.671	3.725	0.006	0.034	0.034	568.299	0.025
Rough Terrain Forklifts	2030	121	175	1.898	0.2	0.537	3.291	0.006	0.023	0.023	568.299	0.018
Rough Terrain Forklifts	2030	176	250	2.47	0.191	0.463	1.121	0.006	0.016	0.016	568.299	0.017
Rough Terrain Forklifts	2030	251	500	3.702	0.19	0.443	1.07	0.005	0.016	0.016	568.3	0.017
Rough Terrain Forklifts	2035	26	50	1.335	0.521	3.267	5.011	0.007	0.022	0.022	568.299	0.047
Rough Terrain Forklifts	2035	51	120	1.24	0.262	1.53	3.722	0.006	0.02	0.02	568.299	0.023
Rough Terrain Forklifts	2035	121	175	1.742	0.184	0.364	3.292	0.006	0.015	0.015	568.299	0.016
Rough Terrain Forklifts	2035	176	250	2.346	0.181	0.334	1.121	0.006	0.012	0.012	568.299	0.016
Rough Terrain Forklifts	2035	251	500	3.524	0.181	0.331	1.071	0.005	0.012	0.012	568.3	0.016
Rough Terrain Forklifts	2040	26	50	1.331	0.519	3.228	5.01	0.007	0.017	0.017	568.3	0.046
Rough Terrain Forklifts	2040	51	120	1.222	0.258	1.485	3.722	0.006	0.016	0.016	568.299	0.023
Rough Terrain Forklifts	2040	121	175	1.687	0.178	0.303	3.292	0.006	0.012	0.012	568.3	0.016
Rough Terrain Forklifts	2040	176	250	2.296	0.177	0.292	1.121	0.006	0.011	0.011	568.299	0.016
Rough Terrain Forklifts	2040	251	500	3.449	0.177	0.292	1.071	0.005	0.011	0.011	568.299	0.016
Rubber Tired Dozers	1990	121	175	6.172	1.886	14.831	5.29	0.758	1.059	1.059	568.299	0.17
Rubber Tired Dozers	1990	176	250	8.746	1.886	14.831	5.29	0.758	1.059	1.059	568.299	0.17
Rubber Tired Dozers	1990	251	500	11.084	1.655	13.986	12.26	0.662	0.899	0.899	568.299	0.149
Rubber Tired Dozers	1990	501	750	16.688	1.655	13.986	12.26	1.018	0.915	0.915	568.3	0.149
Rubber Tired Dozers	1990	751	1000	24.619	1.645	13.986	12.26	1.018	0.903	0.903	568.299	0.148
Rubber Tired Dozers	2000	121	175	4.761	1.454	10.881	4.295	0.057	0.624	0.624	568.299	0.131
Rubber Tired Dozers	2000	176	250	6.043	1.303	10.625	3.733	0.057	0.548	0.548	568.299	0.117
Rubber Tired Dozers	2000	251	500	7.775	1.161	10.023	6.982	0.05	0.474	0.474	568.299	0.104
Rubber Tired Dozers	2000	501	750	11.706	1.161	10.023	6.982	0.052	0.474	0.474	568.3	0.104
Rubber Tired Dozers	2000	751	1000	17.842	1.192	10.456	7.415	0.052	0.451	0.451	568.3	0.107
Rubber Tired Dozers	2005	121	175	4.21	1.286	9.666	4.026	0.057	0.567	0.567	568.299	0.116
Rubber Tired Dozers	2005	176	250	4.912	1.059	9.344	2.99	0.057	0.437	0.437	568.299	0.095

Rubber Tired Dozers	2005	251	500	6.277	0.937	8.574	5.159	0.05	0.38	0.38	568.299	0.084
Rubber Tired Dozers	2005	501	750	9.496	0.942	8.694	5.15	0.052	0.382	0.382	568.299	0.085
Rubber Tired Dozers	2005	751	1000	14.937	0.998	9.444	5.524	0.052	0.369	0.369	568.299	0.09
Rubber Tired Dozers	2010	121	175	1.12265	0.943	9.78349	4.17063	0.005	0.555	0.511	526.3128	0.153
Rubber Tired Dozers	2010	176	250	0.840919	0.707	8.22344	2.68761	0.005	0.394	0.362	527.9126	0.154
Rubber Tired Dozers	2010	251	500	0.88356	0.742	8.70703	6.7191	0.005	0.406	0.374	533.1476	0.155
Rubber Tired Dozers	2010	501	750	0.619996	0.521	7.42352	3.1214	0.005	0.269	0.248	525.7054	0.153
Rubber Tired Dozers	2010	751	1000	12.178	0.814	8.149	4.027	0.005	0.29	0.29	568.299	0.073
Rubber Tired Dozers	2011	121	175	1.128595	0.948	9.7992	4.18594	0.005	0.557	0.513	524.9639	0.153
Rubber Tired Dozers	2011	176	250	0.852039	0.716	8.24976	2.69892	0.005	0.396	0.364	526.5967	0.154
Rubber Tired Dozers	2011	251	500	0.878525	0.738	8.60406	6.65601	0.005	0.402	0.37	532.0871	0.155
Rubber Tired Dozers	2011	501	750	0.62921	0.529	7.4622	3.13084	0.005	0.272	0.25	524.3841	0.153
Rubber Tired Dozers	2011	751	1000	11.693	0.781	7.805	3.772	0.005	0.276	0.276	568.299	0.07
Rubber Tired Dozers	2012	121	175	1.133798	0.953	9.81194	4.1998	0.005	0.559	0.515	523.6318	0.153
Rubber Tired Dozers	2012	176	250	0.862577	0.725	8.27234	2.70943	0.005	0.398	0.366	525.281	0.154
Rubber Tired Dozers	2012	251	500	0.883165	0.742	8.58436	6.62489	0.005	0.401	0.369	530.6589	0.155
Rubber Tired Dozers	2012	501	750	0.635938	0.534	7.48052	3.13648	0.005	0.274	0.252	523.0626	0.153
Rubber Tired Dozers	2012	751	1000	11.228	0.75	7.474	3.531	0.005	0.262	0.262	568.299	0.067
Rubber Tired Dozers	2013	121	175	1.138698	0.957	9.82334	4.21297	0.005	0.561	0.516	520.9836	0.153
Rubber Tired Dozers	2013	176	250	0.859983	0.723	8.10695	2.71092	0.005	0.395	0.363	522.6456	0.154
Rubber Tired Dozers	2013	251	500	0.864011	0.726	8.33658	6.42295	0.005	0.39	0.359	527.9093	0.155
Rubber Tired Dozers	2013	501	750	0.641687	0.539	7.49129	3.14069	0.005	0.275	0.253	520.4266	0.153
Rubber Tired Dozers	2013	751	1000	10.78	0.72	7.155	3.306	0.005	0.249	0.249	568.299	0.065
Rubber Tired Dozers	2014	121	175	1.143391	0.961	9.83401	4.22564	0.005	0.563	0.518	518.335	0.153
Rubber Tired Dozers	2014	176	250	0.858402	0.721	7.97218	2.71199	0.005	0.392	0.361	520.0105	0.154
Rubber Tired Dozers	2014	251	500	0.841688	0.707	8.05819	6.16471	0.005	0.376	0.346	524.6758	0.155
Rubber Tired Dozers	2014	501	750	0.610646	0.513	7.14705	2.75605	0.005	0.258	0.237	517.7903	0.153
Rubber Tired Dozers	2014	751	1000	10.347	0.691	6.849	3.096	0.005	0.236	0.236	568.3	0.062
Rubber Tired Dozers	2015	121	175	1.147937	0.965	9.84425	4.23794	0.005	0.564	0.519	513.0549	0.153
Rubber Tired Dozers	2015	176	250	0.866859	0.728	7.9837	2.7204	0.005	0.394	0.362	514.7359	0.154
Rubber Tired Dozers	2015	251	500	0.842228	0.708	7.99736	6.10151	0.005	0.373	0.343	519.1472	0.155
Rubber Tired Dozers	2015	501	750	0.616719	0.518	7.15777	2.76062	0.005	0.259	0.238	512.5253	0.153
Rubber Tired Dozers	2015	751	1000	9.895	0.661	6.556	2.901	0.005	0.222	0.222	568.299	0.059
Rubber Tired Dozers	2016	121	175	1.152013	0.968	9.85328	4.24901	0.005	0.566	0.52	507.7744	0.153
Rubber Tired Dozers	2016	176	250	0.875531	0.736	7.99508	2.72943	0.005	0.395	0.364	509.4615	0.154
Rubber Tired Dozers	2016	251	500	0.819146	0.688	7.71034	5.82829	0.005	0.359	0.33	513.3109	0.155
Rubber Tired Dozers	2016	501	750	0.622662	0.523	7.16821	2.7651	0.005	0.26	0.239	507.2601	0.153
Rubber Tired Dozers	2016	751	1000	9.45	0.631	6.277	2.723	0.005	0.208	0.208	568.3	0.057
Rubber Tired Dozers	2017	121	175	1.074198	0.903	9.12915	4.14895	0.005	0.525	0.483	499.4096	0.153
Rubber Tired Dozers	2017	176	250	0.840865	0.707	7.67081	2.65514	0.005	0.375	0.345	501.5475	0.154
Rubber Tired Dozers	2017	251	500	0.787455	0.662	7.33345	5.52569	0.005	0.341	0.313	505.8493	0.155
Rubber Tired Dozers	2017	501	750	0.625767	0.526	7.17226	2.76746	0.005	0.26	0.239	499.3665	0.153
Rubber Tired Dozers	2017	751	1000	9.018	0.602	6.013	2.56	0.005	0.195	0.195	568.299	0.054
Rubber Tired Dozers	2018	121	175	0.954751	0.802	8.02079	3.98965	0.005	0.46	0.424	491.4921	0.153
Rubber Tired Dozers	2018	176	250	0.796398	0.669	7.20787	2.51156	0.005	0.35	0.322	493.6337	0.154
Rubber Tired Dozers	2018	251	500	0.711175	0.598	6.50184	4.98205	0.005	0.3	0.276	498.1862	0.155
Rubber Tired Dozers	2018	501	750	0.602699	0.506	6.72652	2.75902	0.005	0.248	0.228	491.4726	0.153
Rubber Tired Dozers	2018	751	1000	8.6	0.574	5.764	2.413	0.005	0.183	0.183	568.299	0.051
Rubber Tired Dozers	2019	121	175	0.90312	0.759	7.52037	3.94854	0.005	0.433	0.398	483.5585	0.153
Rubber Tired Dozers	2019	176	250	0.774882	0.651	6.92923	2.45855	0.005	0.338	0.311	485.172	0.154
Rubber Tired Dozers	2019	251	500	0.680848	0.572	6.14335	4.74309	0.005	0.283	0.26	490.383	0.155
Rubber Tired Dozers	2019	501	750	0.541107	0.455	6.12249	2.59814	0.005	0.218	0.201	483.5786	0.153
Rubber Tired Dozers	2019	751	1000	8.196	0.547	5.528	2.281	0.005	0.171	0.171	568.299	0.049
Rubber Tired Dozers	2020	121	175	0.864425	0.726	7.18525	3.89288	0.005	0.411	0.378	473.0116	0.153
Rubber Tired Dozers	2020	176	250	0.737248	0.619	6.50332	2.37104	0.005	0.318	0.293	474.7928	0.154
Rubber Tired Dozers	2020	251	500	0.636621	0.535	5.64089	4.41134	0.005	0.259	0.238	479.7569	0.155
Rubber Tired Dozers	2020	501	750	0.543245	0.456	6.12255	2.60108	0.005	0.218	0.201	473.0562	0.153
Rubber Tired Dozers	2020	751	1000	7.811	0.522	5.306	2.164	0.005	0.16	0.16	568.299	0.047
Rubber Tired Dozers	2021	121	175	0.822557	0.691	6.79037	3.84814	0.005	0.386	0.355	472.9751	0.153
Rubber Tired Dozers	2021	176	250	0.714624	0.6	6.29617	2.31719	0.005	0.306	0.281	474.7984	0.154
Rubber Tired Dozers	2021	251	500	0.585817	0.492	5.081	4.04107	0.005	0.232	0.214	478.9868	0.155
Rubber Tired Dozers	2021	501	750	0.545338	0.458	6.12254	2.60396	0.005	0.218	0.201	473.0459	0.153
Rubber Tired Dozers	2021	751	1000	7.448	0.497	5.095	2.057	0.005	0.15	0.15	568.299	0.044
Rubber Tired Dozers	2022	121	175	0.714312	0.6	5.80781	3.75194	0.005	0.326	0.3	473.9122	0.153
Rubber Tired Dozers	2022	176	250	0.571708	0.48	5.04648	2.05563	0.005	0.24	0.22	474.6166	0.154
Rubber Tired Dozers	2022	251	500	0.565033	0.475	4.80775	3.89489	0.005	0.22	0.202	479.3107	0.155
Rubber Tired Dozers	2022	501	750	0.547387	0.46	6.12245	2.60677	0.005	0.218	0.201	473.035	0.153
Rubber Tired Dozers	2022	751	1000	7.106	0.475	4.896	1.961	0.005	0.14	0.14	568.299	0.042
Rubber Tired Dozers	2023	121	175	0.700073	0.588	5.65638	3.7664	0.005	0.316	0.291	473.9009	0.153
Rubber Tired Dozers	2023	176	250	0.467601	0.393	4.09011	1.78266	0.005	0.184	0.169	474.5967	0.153
Rubber Tired Dozers	2023	251	500	0.531484	0.447	4.40835	3.68617	0.005	0.202	0.185	479.4678	0.155
Rubber Tired Dozers	2023	501	750	0.502999	0.423	5.33389	2.59131	0.005	0.196	0.18	473.0234	0.153
Rubber Tired Dozers	2023	751	1000	6.786	0.453	4.709	1.874	0.005	0.131	0.131	568.299	0.04
Rubber Tired Dozers	2024	121	175	0.633623	0.532	5.0144	3.69636	0.005	0.279	0.257	473.5147	0.153
Rubber Tired Dozers	2024	176	250	0.474702	0.399	4.0904	1.79685	0.005	0.184	0.17	474.5854	0.153
Rubber Tired Dozers	2024	251	500	0.495724	0.417	4.03046	3.45746	0.005	0.182	0.168	479.3938	0.155
Rubber Tired Dozers	2024	501	750	0.506146	0.425	5.33372	2.59604	0.005	0.196	0.18	473.0111	0.153
Rubber Tired Dozers	2024	751	1000	6.485	0.433	4.532	1.796	0.005	0.123	0.123	568.299	0.039
Rubber Tired Dozers	2025	121	175	0.548636	0.461	4.22886	3.61238	0.005	0.23	0.212	474.1029	0.153
Rubber Tired Dozers	2025	176	250	0.442605	0.372	3.80547	1.72032	0.005	0.167	0.153	474.5734	0.153
Rubber Tired Dozers	2025	251	500	0.436562	0.367	3.36957	2.95895	0.005	0.151	0.139	479.0915	0.155
Rubber Tired Dozers	2025	501	750	0.509225	0.428	5.33346	2.60066	0.005	0.196	0.18	472.9981	0.153
Rubber Tired Dozers	2025	751	1000	6.203	0.414	4.365	1.725	0.005	0.115	0.115	568.299	0.037
Rubber Tired Dozers	2030	121	175	1.303	0.398	2.034	3.496	0.006	0.111	0.111	568.299	0.035
Rubber Tired Dozers	2030	176	250	1.556	0.335	1.828	1.322	0.006	0.069	0.069	568.299	0.03
Rubber Tired Dozers	2030	251	500	2.16	0.322	1.658	1.401	0.005	0.064	0.064	568.299	0.029
Rubber Tired Dozers	2030	501	750	3.261	0.323	1.694	1.401	0.005	0.064	0.064	568.299	0.029
Rubber Tired Dozers	2030	751	1000	5.063	0.338	3.676	1.465	0.005	0.082	0.082	568.299	0.03
Rubber Tired Dozers	2035	121	175	1.054	0.322	1.345	3.481	0.006	0.071	0.071	568.299	0.029

Rubber Tired Dozers	2035	176	250	1.326	0.286	1.203	1.262	0.006	0.046	0.046	568.299	0.025
Rubber Tired Dozers	2035	251	500	1.868	0.279	1.107	1.279	0.005	0.043	0.043	568.3	0.025
Rubber Tired Dozers	2035	501	750	2.816	0.279	1.126	1.279	0.005	0.043	0.043	568.299	0.025
Rubber Tired Dozers	2035	751	1000	4.306	0.287	3.204	1.312	0.005	0.06	0.06	568.299	0.025
Rubber Tired Dozers	2040	121	175	0.9	0.275	0.903	3.47	0.006	0.045	0.045	568.299	0.024
Rubber Tired Dozers	2040	176	250	1.176	0.253	0.81	1.225	0.006	0.031	0.031	568.299	0.022
Rubber Tired Dozers	2040	251	500	1.672	0.249	0.758	1.198	0.005	0.029	0.029	568.299	0.022
Rubber Tired Dozers	2040	501	750	2.519	0.25	0.767	1.198	0.005	0.029	0.029	568.3	0.022
Rubber Tired Dozers	2040	751	1000	3.814	0.254	2.91	1.218	0.005	0.045	0.045	568.3	0.023
Rubber Tired Loaders	1990	16	25	5.92	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Rubber Tired Loaders	1990	26	50	23.869	4.848	7.964	9.805	0.871	1.279	1.279	568.299	0.437
Rubber Tired Loaders	1990	51	120	22.055	2.368	14.978	5.728	0.791	1.345	1.345	568.299	0.213
Rubber Tired Loaders	1990	121	175	30.1	1.791	14.294	5.094	0.758	0.995	0.995	568.299	0.161
Rubber Tired Loaders	1990	176	250	42.179	1.791	14.294	5.094	0.758	0.995	0.995	568.3	0.161
Rubber Tired Loaders	1990	251	500	59.295	1.583	13.545	11.282	0.662	0.851	0.851	568.3	0.142
Rubber Tired Loaders	1990	501	750	121.471	1.583	13.545	11.282	1.018	0.867	0.867	568.299	0.142
Rubber Tired Loaders	1990	751	1000	147.851	1.575	13.545	11.282	1.018	0.858	0.858	568.299	0.142
Rubber Tired Loaders	2000	16	25	5.105	1.908	6.326	4.438	0.065	0.555	0.555	568.299	0.172
Rubber Tired Loaders	2000	26	50	21.853	4.439	7.065	9.15	0.066	0.928	0.928	568.299	0.4
Rubber Tired Loaders	2000	51	120	17.155	1.842	10.433	4.652	0.06	0.896	0.896	568.299	0.166
Rubber Tired Loaders	2000	121	175	20.951	1.246	9.552	3.765	0.057	0.526	0.526	568.299	0.112
Rubber Tired Loaders	2000	176	250	24.776	1.052	9.216	3.019	0.057	0.433	0.433	568.299	0.094
Rubber Tired Loaders	2000	251	500	35.779	0.955	8.766	4.797	0.05	0.381	0.381	568.299	0.086
Rubber Tired Loaders	2000	501	750	73.296	0.955	8.766	4.797	0.052	0.381	0.381	568.299	0.086
Rubber Tired Loaders	2000	751	1000	95.549	1.018	9.342	5.369	0.052	0.372	0.372	568.299	0.091
Rubber Tired Loaders	2005	16	25	2.273	0.849	5.321	2.519	0.065	0.333	0.333	568.299	0.076
Rubber Tired Loaders	2005	26	50	19.43	3.947	6.59	8.471	0.066	0.86	0.86	568.299	0.356
Rubber Tired Loaders	2005	51	120	14.973	1.608	8.954	4.379	0.06	0.841	0.841	568.3	0.145
Rubber Tired Loaders	2005	121	175	17.677	1.052	8.183	3.496	0.057	0.464	0.464	568.299	0.094
Rubber Tired Loaders	2005	176	250	18.23	0.774	7.781	2.143	0.057	0.31	0.31	568.3	0.069
Rubber Tired Loaders	2005	251	500	25.602	0.683	7.066	2.836	0.05	0.275	0.275	568.3	0.061
Rubber Tired Loaders	2005	501	750	53.332	0.695	7.236	2.831	0.052	0.278	0.278	568.299	0.062
Rubber Tired Loaders	2005	751	1000	74.257	0.791	8.232	3.279	0.052	0.275	0.275	568.299	0.071
Rubber Tired Loaders	2010	16	25	2.807425	2.359	6.29919	7.88269	0.005	0.734	0.675	581.9969	0.169
Rubber Tired Loaders	2010	26	50	2.807425	2.359	6.29919	7.88269	0.005	0.734	0.675	581.9969	0.169
Rubber Tired Loaders	2010	51	120	1.132276	0.951	7.85298	4.28386	0.005	0.68	0.626	519.5038	0.151
Rubber Tired Loaders	2010	121	175	0.772004	0.649	7.01127	3.56499	0.005	0.387	0.356	523.9006	0.152
Rubber Tired Loaders	2010	176	250	0.475737	0.4	5.94632	1.50852	0.005	0.199	0.183	522.3501	0.152
Rubber Tired Loaders	2010	251	500	0.495122	0.416	5.66307	2.61599	0.005	0.211	0.194	521.885	0.152
Rubber Tired Loaders	2010	501	750	0.454547	0.382	5.06362	2.10254	0.005	0.197	0.181	507.2864	0.148
Rubber Tired Loaders	2010	751	1000	0.464861	0.391	6.63966	1.45926	0.005	0.187	0.172	523.2526	0.152
Rubber Tired Loaders	2011	16	25	2.679774	2.252	6.24779	7.77095	0.005	0.711	0.654	581.4262	0.17
Rubber Tired Loaders	2011	26	50	2.679774	2.252	6.24779	7.77095	0.005	0.711	0.654	581.4262	0.17
Rubber Tired Loaders	2011	51	120	1.113092	0.935	7.68957	4.28739	0.005	0.671	0.618	517.9363	0.151
Rubber Tired Loaders	2011	121	175	0.757164	0.636	6.81375	3.57219	0.005	0.378	0.348	522.5315	0.152
Rubber Tired Loaders	2011	176	250	0.481296	0.404	5.87694	1.50155	0.005	0.197	0.181	520.9732	0.152
Rubber Tired Loaders	2011	251	500	0.501144	0.421	5.5868	2.56846	0.005	0.209	0.192	520.154	0.152
Rubber Tired Loaders	2011	501	750	0.472712	0.397	5.09397	2.12943	0.005	0.2	0.184	505.881	0.148
Rubber Tired Loaders	2011	751	1000	0.476526	0.4	6.69396	1.47057	0.005	0.191	0.176	521.9232	0.152
Rubber Tired Loaders	2012	16	25	2.730745	2.295	6.30427	7.96233	0.005	0.724	0.666	579.9785	0.17
Rubber Tired Loaders	2012	26	50	2.730745	2.295	6.30427	7.96233	0.005	0.724	0.666	579.9785	0.17
Rubber Tired Loaders	2012	51	120	1.113822	0.936	7.65616	4.31845	0.005	0.671	0.617	516.6239	0.151
Rubber Tired Loaders	2012	121	175	0.765409	0.643	6.79567	3.60616	0.005	0.38	0.349	521.0995	0.152
Rubber Tired Loaders	2012	176	250	0.492248	0.414	5.85805	1.51119	0.005	0.198	0.182	519.646	0.152
Rubber Tired Loaders	2012	251	500	0.515336	0.433	5.58714	2.59983	0.005	0.211	0.194	518.7236	0.152
Rubber Tired Loaders	2012	501	750	0.485752	0.408	5.07921	2.14848	0.005	0.201	0.185	504.6824	0.148
Rubber Tired Loaders	2012	751	1000	0.48616	0.409	6.73245	1.47877	0.005	0.194	0.178	520.592	0.152
Rubber Tired Loaders	2013	16	25	2.60616	2.19	6.18494	7.83573	0.005	0.695	0.64	577.0156	0.17
Rubber Tired Loaders	2013	26	50	2.60616	2.19	6.18494	7.83573	0.005	0.695	0.64	577.0156	0.17
Rubber Tired Loaders	2013	51	120	1.087575	0.914	7.47698	4.31523	0.005	0.654	0.602	513.9368	0.151
Rubber Tired Loaders	2013	121	175	0.750707	0.631	6.6063	3.60722	0.005	0.369	0.339	518.3787	0.152
Rubber Tired Loaders	2013	176	250	0.496511	0.417	5.75293	1.5142	0.005	0.196	0.181	516.9736	0.152
Rubber Tired Loaders	2013	251	500	0.517428	0.435	5.4738	2.55447	0.005	0.208	0.191	515.9429	0.152
Rubber Tired Loaders	2013	501	750	0.49047	0.412	4.99146	2.0823	0.005	0.199	0.183	502.8589	0.148
Rubber Tired Loaders	2013	751	1000	0.484243	0.407	6.66719	1.45163	0.005	0.193	0.178	517.9506	0.152
Rubber Tired Loaders	2014	16	25	2.51646	2.115	6.10324	7.7699	0.005	0.676	0.622	573.5218	0.169
Rubber Tired Loaders	2014	26	50	2.51646	2.115	6.10324	7.7699	0.005	0.676	0.622	573.5218	0.169
Rubber Tired Loaders	2014	51	120	1.032758	0.868	7.12932	4.26762	0.005	0.619	0.569	510.0099	0.151
Rubber Tired Loaders	2014	121	175	0.720145	0.605	6.27196	3.58536	0.005	0.35	0.322	515.7685	0.152
Rubber Tired Loaders	2014	176	250	0.483874	0.407	5.49539	1.48551	0.005	0.187	0.172	514.2167	0.152
Rubber Tired Loaders	2014	251	500	0.501158	0.421	5.19438	2.40656	0.005	0.196	0.18	512.5095	0.151
Rubber Tired Loaders	2014	501	750	0.483251	0.406	4.81047	1.94616	0.005	0.19	0.175	499.6952	0.148
Rubber Tired Loaders	2014	751	1000	0.492279	0.414	6.69249	1.45724	0.005	0.195	0.179	515.307	0.152
Rubber Tired Loaders	2015	16	25	2.508512	2.108	6.11232	7.83443	0.005	0.675	0.621	567.672	0.169
Rubber Tired Loaders	2015	26	50	2.508512	2.108	6.11232	7.83443	0.005	0.675	0.621	567.672	0.169
Rubber Tired Loaders	2015	51	120	1.018295	0.856	7.01153	4.27362	0.005	0.606	0.558	505.0231	0.151
Rubber Tired Loaders	2015	121	175	0.708161	0.595	6.09735	3.58815	0.005	0.341	0.313	510.4677	0.152
Rubber Tired Loaders	2015	176	250	0.482642	0.406	5.36927	1.47986	0.005	0.183	0.169	508.9127	0.152
Rubber Tired Loaders	2015	251	500	0.494223	0.415	5.0195	2.33208	0.005	0.19	0.174	506.3723	0.151
Rubber Tired Loaders	2015	501	750	0.469822	0.395	4.55578	1.78908	0.005	0.179	0.165	495.31	0.148
Rubber Tired Loaders	2015	751	1000	0.499538	0.42	6.71262	1.46167	0.005	0.197	0.181	510.0449	0.152
Rubber Tired Loaders	2016	16	25	2.445921	2.055	6.05258	7.79111	0.005	0.66	0.607	561.9032	0.169
Rubber Tired Loaders	2016	26	50	2.445921	2.055	6.05258	7.79111	0.005	0.66	0.607	561.9032	0.169
Rubber Tired Loaders	2016	51	120	0.955142	0.803	6.58334	4.21236	0.005	0.565	0.52	499.5935	0.151
Rubber Tired Loaders	2016	121	175	0.67267	0.565	5.72558	3.56236	0.005	0.319	0.294	505.1308	0.152
Rubber Tired Loaders	2016	176	250	0.468005	0.393	5.1151	1.45212	0.005	0.174	0.16	503.6542	0.152
Rubber Tired Loaders	2016	251	500	0.465473	0.391	4.62743	2.15506	0.005	0.174	0.16	500.4314	0.151
Rubber Tired Loaders	2016	501	750	0.443728	0.373	4.17165	1.70263	0.005	0.164	0.151	491.9183	0.148
Rubber Tired Loaders	2016	751	1000	0.505153	0.424	6.72411	1.46404	0.005	0.198	0.182	504.7801	0.152

Rubber Tired Loaders	2017	16	25	2.32856	1.957	5.95377	7.65953	0.005	0.633	0.582	553.5831	0.17
Rubber Tired Loaders	2017	26	50	2.32856	1.957	5.95377	7.65953	0.005	0.633	0.582	553.5831	0.17
Rubber Tired Loaders	2017	51	120	0.900842	0.757	6.23569	4.17083	0.005	0.53	0.487	491.8531	0.151
Rubber Tired Loaders	2017	121	175	0.620654	0.522	5.19525	3.5175	0.005	0.289	0.266	497.3533	0.152
Rubber Tired Loaders	2017	176	250	0.443532	0.373	4.75473	1.4172	0.005	0.162	0.149	495.9499	0.152
Rubber Tired Loaders	2017	251	500	0.439436	0.369	4.25314	2.06046	0.005	0.16	0.147	492.2764	0.151
Rubber Tired Loaders	2017	501	750	0.436922	0.367	4.05049	1.70044	0.005	0.16	0.147	484.3661	0.148
Rubber Tired Loaders	2017	751	1000	0.493245	0.414	6.55319	1.45641	0.005	0.192	0.176	496.8966	0.152
Rubber Tired Loaders	2018	16	25	2.100538	1.765	5.67925	7.29915	0.005	0.576	0.53	545.0529	0.17
Rubber Tired Loaders	2018	26	50	2.100538	1.765	5.67925	7.29915	0.005	0.576	0.53	545.0529	0.17
Rubber Tired Loaders	2018	51	120	0.779856	0.655	5.47032	4.04742	0.005	0.452	0.416	484.0931	0.151
Rubber Tired Loaders	2018	121	175	0.533198	0.448	4.36814	3.42332	0.005	0.242	0.223	489.5114	0.152
Rubber Tired Loaders	2018	176	250	0.396861	0.333	4.13133	1.34644	0.005	0.14	0.129	487.9023	0.152
Rubber Tired Loaders	2018	251	500	0.397312	0.334	3.72607	1.86807	0.005	0.14	0.128	484.5709	0.151
Rubber Tired Loaders	2018	501	750	0.393495	0.331	3.5437	1.55549	0.005	0.14	0.129	476.5663	0.148
Rubber Tired Loaders	2018	751	1000	0.399711	0.336	5.67315	1.21289	0.005	0.154	0.142	488.4037	0.152
Rubber Tired Loaders	2019	16	25	1.906195	1.602	5.43193	6.97769	0.005	0.518	0.476	536.2254	0.17
Rubber Tired Loaders	2019	26	50	1.906195	1.602	5.43193	6.97769	0.005	0.518	0.476	536.2254	0.17
Rubber Tired Loaders	2019	51	120	0.707701	0.595	5.00611	3.97887	0.005	0.402	0.37	475.8636	0.151
Rubber Tired Loaders	2019	121	175	0.482139	0.405	3.85918	3.38084	0.005	0.213	0.196	481.7364	0.152
Rubber Tired Loaders	2019	176	250	0.368194	0.309	3.74452	1.30248	0.005	0.126	0.116	480.0997	0.152
Rubber Tired Loaders	2019	251	500	0.363843	0.306	3.28755	1.7248	0.005	0.123	0.113	477.0415	0.151
Rubber Tired Loaders	2019	501	750	0.348958	0.293	3.01875	1.45157	0.005	0.118	0.109	471.1874	0.149
Rubber Tired Loaders	2019	751	1000	0.384887	0.323	5.45926	1.20834	0.005	0.146	0.134	480.523	0.152
Rubber Tired Loaders	2020	16	25	1.761913	1.48	5.25369	6.76793	0.005	0.474	0.436	524.6967	0.17
Rubber Tired Loaders	2020	26	50	1.761913	1.48	5.25369	6.76793	0.005	0.474	0.436	524.6967	0.17
Rubber Tired Loaders	2020	51	120	0.661113	0.556	4.68644	3.94839	0.005	0.367	0.338	465.6735	0.151
Rubber Tired Loaders	2020	121	175	0.450696	0.379	3.51735	3.36809	0.005	0.194	0.178	471.2135	0.152
Rubber Tired Loaders	2020	176	250	0.345399	0.29	3.42116	1.26885	0.005	0.114	0.104	469.5127	0.152
Rubber Tired Loaders	2020	251	500	0.343959	0.289	3.01666	1.6304	0.005	0.112	0.103	466.7831	0.151
Rubber Tired Loaders	2020	501	750	0.329462	0.277	2.76722	1.39991	0.005	0.107	0.099	462.193	0.149
Rubber Tired Loaders	2020	751	1000	0.370676	0.311	5.25309	1.20366	0.005	0.139	0.127	469.9352	0.152
Rubber Tired Loaders	2021	16	25	1.577419	1.325	4.97419	6.44855	0.005	0.409	0.376	524.5505	0.17
Rubber Tired Loaders	2021	26	50	1.577419	1.325	4.97419	6.44855	0.005	0.409	0.376	524.5505	0.17
Rubber Tired Loaders	2021	51	120	0.592559	0.498	4.21491	3.8917	0.005	0.316	0.291	466.4213	0.151
Rubber Tired Loaders	2021	121	175	0.411896	0.346	3.11886	3.35381	0.005	0.171	0.157	471.0804	0.152
Rubber Tired Loaders	2021	176	250	0.316703	0.266	2.9977	1.24034	0.005	0.1	0.092	469.5642	0.152
Rubber Tired Loaders	2021	251	500	0.314488	0.264	2.61037	1.52922	0.005	0.097	0.09	467.9277	0.151
Rubber Tired Loaders	2021	501	750	0.322962	0.271	2.64092	1.39703	0.005	0.102	0.094	462.0548	0.149
Rubber Tired Loaders	2021	751	1000	0.350105	0.294	4.97489	1.2055	0.005	0.128	0.118	471.2577	0.152
Rubber Tired Loaders	2022	16	25	1.402643	1.179	4.74817	6.20445	0.005	0.354	0.326	524.7914	0.17
Rubber Tired Loaders	2022	26	50	1.402643	1.179	4.74817	6.20445	0.005	0.354	0.326	524.7914	0.17
Rubber Tired Loaders	2022	51	120	0.523774	0.44	3.7684	3.83931	0.005	0.267	0.245	466.4936	0.151
Rubber Tired Loaders	2022	121	175	0.350975	0.295	2.5181	3.30208	0.005	0.136	0.125	470.9274	0.152
Rubber Tired Loaders	2022	176	250	0.269035	0.226	2.34693	1.188	0.005	0.079	0.072	469.9041	0.152
Rubber Tired Loaders	2022	251	500	0.281674	0.237	2.17525	1.441	0.005	0.081	0.075	468.1288	0.151
Rubber Tired Loaders	2022	501	750	0.27713	0.233	2.0971	1.31524	0.005	0.08	0.074	463.8194	0.15
Rubber Tired Loaders	2022	751	1000	0.229104	0.193	3.61655	1.16216	0.005	0.074	0.069	472.8577	0.153
Rubber Tired Loaders	2023	16	25	1.248748	1.049	4.52113	5.97233	0.005	0.304	0.279	524.304	0.17
Rubber Tired Loaders	2023	26	50	1.248748	1.049	4.52113	5.97233	0.005	0.304	0.279	524.304	0.17
Rubber Tired Loaders	2023	51	120	0.490267	0.412	3.51183	3.82678	0.005	0.238	0.219	466.5584	0.151
Rubber Tired Loaders	2023	121	175	0.320411	0.269	2.19586	3.29198	0.005	0.118	0.108	470.6601	0.152
Rubber Tired Loaders	2023	176	250	0.249759	0.21	2.05963	1.17136	0.005	0.069	0.063	469.824	0.152
Rubber Tired Loaders	2023	251	500	0.258421	0.217	1.86629	1.38396	0.005	0.069	0.064	468.466	0.152
Rubber Tired Loaders	2023	501	750	0.269537	0.226	1.92719	1.32307	0.005	0.074	0.069	464.5553	0.15
Rubber Tired Loaders	2023	751	1000	0.229405	0.193	3.52792	1.17379	0.005	0.071	0.065	472.3032	0.153
Rubber Tired Loaders	2024	16	25	1.200513	1.009	4.46751	5.98698	0.005	0.286	0.263	524.2299	0.17
Rubber Tired Loaders	2024	26	50	1.200513	1.009	4.46751	5.98698	0.005	0.286	0.263	524.2299	0.17
Rubber Tired Loaders	2024	51	120	0.472864	0.397	3.33895	3.83209	0.005	0.22	0.203	466.8084	0.151
Rubber Tired Loaders	2024	121	175	0.292737	0.246	1.88365	3.28823	0.005	0.1	0.092	470.3567	0.152
Rubber Tired Loaders	2024	176	250	0.234511	0.197	1.80598	1.1607	0.005	0.06	0.056	469.7875	0.152
Rubber Tired Loaders	2024	251	500	0.249195	0.209	1.70166	1.3518	0.005	0.063	0.058	468.5133	0.152
Rubber Tired Loaders	2024	501	750	0.268468	0.226	1.88137	1.33327	0.005	0.072	0.066	464.8656	0.15
Rubber Tired Loaders	2024	751	1000	0.238754	0.201	3.54358	1.19144	0.005	0.071	0.066	472.3454	0.153
Rubber Tired Loaders	2025	16	25	1.142731	0.96	4.34846	5.9413	0.005	0.259	0.238	523.9076	0.169
Rubber Tired Loaders	2025	26	50	1.142731	0.96	4.34846	5.9413	0.005	0.259	0.238	523.9076	0.169
Rubber Tired Loaders	2025	51	120	0.418779	0.352	2.97026	3.79086	0.005	0.179	0.165	466.8982	0.151
Rubber Tired Loaders	2025	121	175	0.266202	0.224	1.59023	3.28059	0.005	0.084	0.077	470.4594	0.152
Rubber Tired Loaders	2025	176	250	0.211073	0.177	1.44207	1.1417	0.005	0.048	0.045	469.8711	0.152
Rubber Tired Loaders	2025	251	500	0.22979	0.193	1.43264	1.2763	0.005	0.053	0.048	469.1434	0.152
Rubber Tired Loaders	2025	501	750	0.252566	0.212	1.65408	1.33262	0.005	0.064	0.059	465.0523	0.15
Rubber Tired Loaders	2025	751	1000	0.196905	0.165	3.08852	1.12172	0.005	0.052	0.048	472.4559	0.153
Rubber Tired Loaders	2030	16	25	1.834	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Rubber Tired Loaders	2030	26	50	3.121	0.634	3.5	5.181	0.007	0.062	0.062	568.3	0.057
Rubber Tired Loaders	2030	51	120	2.953	0.317	1.875	3.759	0.006	0.056	0.056	568.299	0.028
Rubber Tired Loaders	2030	121	175	3.898	0.232	0.787	3.312	0.006	0.036	0.036	568.299	0.02
Rubber Tired Loaders	2030	176	250	4.951	0.21	0.655	1.138	0.006	0.022	0.022	568.299	0.018
Rubber Tired Loaders	2030	251	500	7.812	0.208	0.619	1.085	0.005	0.021	0.021	568.299	0.018
Rubber Tired Loaders	2030	501	750	16.018	0.208	0.627	1.085	0.005	0.022	0.022	568.299	0.018
Rubber Tired Loaders	2030	751	1000	20.168	0.214	2.722	1.099	0.005	0.039	0.039	568.299	0.019
Rubber Tired Loaders	2035	16	25	1.834	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Rubber Tired Loaders	2035	26	50	2.833	0.575	3.337	5.126	0.007	0.035	0.035	568.299	0.051
Rubber Tired Loaders	2035	51	120	2.663	0.286	1.639	3.751	0.006	0.033	0.033	568.299	0.025
Rubber Tired Loaders	2035	121	175	3.376	0.2	0.481	3.312	0.006	0.022	0.022	568.299	0.018
Rubber Tired Loaders	2035	176	250	4.514	0.191	0.434	1.129	0.006	0.015	0.015	568.299	0.017
Rubber Tired Loaders	2035	251	500	7.156	0.191	0.416	1.076	0.005	0.015	0.015	568.299	0.017
Rubber Tired Loaders	2035	501	750	14.669	0.191	0.421	1.076	0.005	0.015	0.015	568.299	0.017
Rubber Tired Loaders	2035	751	1000	18.204	0.193	2.584	1.082	0.005	0.03	0.03	568.299	0.017
Rubber Tired Loaders	2040	16	25	1.834	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061

Rubber Tired Loaders	2040	26	50	2.684	0.545	3.283	5.102	0.007	0.024	0.024	568.3	0.049
Rubber Tired Loaders	2040	51	120	2.53	0.271	1.543	3.748	0.006	0.022	0.022	568.3	0.024
Rubber Tired Loaders	2040	121	175	3.172	0.188	0.365	3.314	0.006	0.016	0.016	568.299	0.017
Rubber Tired Loaders	2040	176	250	4.375	0.185	0.346	1.128	0.006	0.013	0.013	568.299	0.016
Rubber Tired Loaders	2040	251	500	6.953	0.185	0.338	1.076	0.005	0.013	0.013	568.3	0.016
Rubber Tired Loaders	2040	501	750	14.247	0.185	0.34	1.076	0.005	0.013	0.013	568.299	0.016
Rubber Tired Loaders	2040	751	1000	17.496	0.186	2.522	1.076	0.005	0.026	0.026	568.299	0.016
Scrapers	1990	51	120	7.335	2.413	15.182	5.806	0.791	1.373	1.373	568.299	0.217
Scrapers	1990	121	175	8.743	1.823	14.491	5.174	0.758	1.017	1.017	568.299	0.164
Scrapers	1990	176	250	12.369	1.823	14.491	5.174	0.758	1.017	1.017	568.299	0.164
Scrapers	1990	251	500	16.73	1.607	13.709	11.673	0.662	0.867	0.867	568.299	0.145
Scrapers	1990	501	750	28.902	1.607	13.709	11.673	1.018	0.883	0.883	568.299	0.145
Scrapers	2000	51	120	6.006	1.975	11.177	4.906	0.06	0.949	0.949	568.299	0.178
Scrapers	2000	121	175	6.456	1.346	10.226	4.046	0.057	0.572	0.572	568.299	0.121
Scrapers	2000	176	250	8.023	1.183	9.944	3.423	0.057	0.493	0.493	568.299	0.106
Scrapers	2000	251	500	11.061	1.062	9.42	6.04	0.05	0.43	0.43	568.299	0.095
Scrapers	2000	501	750	19.108	1.062	9.42	6.04	0.052	0.43	0.43	568.299	0.095
Scrapers	2005	51	120	5.36	1.763	9.807	4.636	0.06	0.901	0.901	568.299	0.159
Scrapers	2005	121	175	5.592	1.166	8.934	3.76	0.057	0.514	0.514	568.299	0.105
Scrapers	2005	176	250	6.251	0.921	8.58	2.602	0.057	0.377	0.377	568.299	0.083
Scrapers	2005	251	500	8.477	0.814	7.854	4.07	0.05	0.331	0.331	568.3	0.073
Scrapers	2005	501	750	14.794	0.822	7.99	4.063	0.052	0.333	0.333	568.299	0.074
Scrapers	2010	51	120	0.828186	0.696	7.09453	3.97834	0.005	0.507	0.466	537.9051	0.157
Scrapers	2010	121	175	0.907518	0.763	8.55764	3.83189	0.005	0.444	0.408	532.551	0.155
Scrapers	2010	176	250	0.939807	0.79	9.42837	3.25278	0.005	0.434	0.399	520.9381	0.152
Scrapers	2010	251	500	0.595043	0.5	6.75544	4.1939	0.005	0.272	0.25	525.1553	0.153
Scrapers	2010	501	750	0.454495	0.382	5.53444	3.13671	0.005	0.209	0.192	525.522	0.153
Scrapers	2011	51	120	0.831534	0.699	7.06921	4.00655	0.005	0.509	0.469	536.4691	0.157
Scrapers	2011	121	175	0.907072	0.762	8.51777	3.84357	0.005	0.444	0.409	531.1835	0.155
Scrapers	2011	176	250	0.933155	0.784	9.34756	3.22574	0.005	0.43	0.396	519.6705	0.152
Scrapers	2011	251	500	0.590447	0.496	6.64672	4.14563	0.005	0.268	0.246	523.9083	0.153
Scrapers	2011	501	750	0.45862	0.385	5.48614	3.14165	0.005	0.208	0.191	524.1241	0.153
Scrapers	2012	51	120	0.847004	0.712	7.11199	4.04661	0.005	0.519	0.477	535.1238	0.157
Scrapers	2012	121	175	0.915185	0.769	8.53485	3.8659	0.005	0.448	0.412	529.8158	0.155
Scrapers	2012	176	250	0.935111	0.786	9.33173	3.22909	0.005	0.43	0.396	518.3695	0.152
Scrapers	2012	251	500	0.596548	0.501	6.64299	4.16192	0.005	0.269	0.247	522.6784	0.153
Scrapers	2012	501	750	0.468161	0.393	5.49999	3.16628	0.005	0.209	0.193	522.7621	0.153
Scrapers	2013	51	120	0.850862	0.715	7.08801	4.06971	0.005	0.523	0.482	532.4144	0.157
Scrapers	2013	121	175	0.895558	0.753	8.33026	3.85136	0.005	0.438	0.403	527.0754	0.155
Scrapers	2013	176	250	0.923168	0.776	9.20338	3.18463	0.005	0.423	0.389	515.7585	0.152
Scrapers	2013	251	500	0.590637	0.496	6.51716	4.08663	0.005	0.264	0.242	520.0884	0.153
Scrapers	2013	501	750	0.462466	0.389	5.3398	3.09865	0.005	0.204	0.187	520.1031	0.153
Scrapers	2014	51	120	0.855598	0.719	7.0654	4.09983	0.005	0.526	0.484	529.9445	0.157
Scrapers	2014	121	175	0.85473	0.718	7.90715	3.80661	0.005	0.419	0.385	524.1709	0.155
Scrapers	2014	176	250	0.882887	0.742	8.81494	3.06131	0.005	0.403	0.371	512.8529	0.152
Scrapers	2014	251	500	0.569739	0.479	6.23299	3.89824	0.005	0.251	0.231	517.3608	0.153
Scrapers	2014	501	750	0.438954	0.369	5.01248	2.84564	0.005	0.19	0.174	517.3937	0.153
Scrapers	2015	51	120	0.869823	0.731	7.10509	4.13678	0.005	0.535	0.492	524.5601	0.157
Scrapers	2015	121	175	0.849601	0.714	7.76471	3.80865	0.005	0.415	0.382	518.8294	0.155
Scrapers	2015	176	250	0.868271	0.73	8.66317	3.00753	0.005	0.395	0.364	507.5699	0.152
Scrapers	2015	251	500	0.561967	0.472	6.08577	3.788	0.005	0.246	0.226	511.9471	0.153
Scrapers	2015	501	750	0.427981	0.36	4.83862	2.68469	0.005	0.182	0.167	512.0837	0.153
Scrapers	2016	51	120	0.883537	0.742	7.14312	4.17273	0.005	0.543	0.5	519.1668	0.157
Scrapers	2016	121	175	0.818244	0.688	7.3844	3.78062	0.005	0.397	0.365	513.4363	0.155
Scrapers	2016	176	250	0.814194	0.684	8.10864	2.8398	0.005	0.367	0.338	502.255	0.151
Scrapers	2016	251	500	0.538344	0.452	5.75749	3.60633	0.005	0.232	0.213	506.3503	0.153
Scrapers	2016	501	750	0.404454	0.34	4.48425	2.48181	0.005	0.167	0.154	506.6381	0.153
Scrapers	2017	51	120	0.896722	0.753	7.17946	4.20744	0.005	0.551	0.507	511.1123	0.157
Scrapers	2017	121	175	0.748819	0.629	6.67066	3.70478	0.005	0.359	0.331	505.3309	0.155
Scrapers	2017	176	250	0.74607	0.627	7.39867	2.64676	0.005	0.333	0.306	494.5231	0.152
Scrapers	2017	251	500	0.505877	0.425	5.33951	3.33699	0.005	0.214	0.197	498.4571	0.153
Scrapers	2017	501	750	0.386598	0.325	4.21648	2.29479	0.005	0.156	0.143	498.6929	0.153
Scrapers	2018	51	120	0.881019	0.74	7.03577	4.20429	0.005	0.543	0.499	502.8288	0.157
Scrapers	2018	121	175	0.640866	0.539	5.64105	3.56847	0.005	0.303	0.279	497.3396	0.155
Scrapers	2018	176	250	0.662403	0.557	6.56304	2.40704	0.005	0.29	0.267	486.9908	0.152
Scrapers	2018	251	500	0.439318	0.369	4.56771	2.82811	0.005	0.18	0.166	490.7734	0.153
Scrapers	2018	501	750	0.349618	0.294	3.74582	1.96493	0.005	0.135	0.124	490.5775	0.153
Scrapers	2019	51	120	0.854498	0.718	6.84136	4.19661	0.005	0.525	0.483	494.1	0.156
Scrapers	2019	121	175	0.606989	0.51	5.26356	3.53297	0.005	0.283	0.261	489.2546	0.155
Scrapers	2019	176	250	0.596624	0.501	5.83102	2.23321	0.005	0.257	0.236	479.0317	0.152
Scrapers	2019	251	500	0.40804	0.343	4.15646	2.59466	0.005	0.163	0.15	482.7319	0.153
Scrapers	2019	501	750	0.329384	0.277	3.43103	1.82903	0.005	0.123	0.113	482.5963	0.153
Scrapers	2020	51	120	0.834143	0.701	6.6767	4.19756	0.005	0.51	0.469	483.745	0.156
Scrapers	2020	121	175	0.568453	0.478	4.86851	3.50114	0.005	0.262	0.241	478.6077	0.155
Scrapers	2020	176	250	0.531032	0.446	5.089	2.06469	0.005	0.223	0.205	468.9883	0.152
Scrapers	2020	251	500	0.380326	0.32	3.78254	2.40063	0.005	0.148	0.136	472.1751	0.153
Scrapers	2020	501	750	0.311991	0.262	3.12592	1.72502	0.005	0.113	0.104	471.7776	0.153
Scrapers	2021	51	120	0.837922	0.704	6.65882	4.21819	0.005	0.512	0.471	483.7128	0.156
Scrapers	2021	121	175	0.514014	0.432	4.34133	3.45599	0.005	0.232	0.213	478.654	0.155
Scrapers	2021	176	250	0.464853	0.391	4.36706	1.88374	0.005	0.189	0.174	469.1258	0.152
Scrapers	2021	251	500	0.356021	0.299	3.44481	2.25454	0.005	0.134	0.123	472.4636	0.153
Scrapers	2021	501	750	0.298025	0.25	2.88702	1.65772	0.005	0.105	0.097	471.7859	0.153
Scrapers	2022	51	120	0.809995	0.681	6.45548	4.20484	0.005	0.494	0.454	483.4481	0.156
Scrapers	2022	121	175	0.463814	0.39	3.83296	3.41662	0.005	0.204	0.187	478.7411	0.155
Scrapers	2022	176	250	0.406319	0.341	3.66905	1.74265	0.005	0.16	0.147	469.2686	0.152
Scrapers	2022	251	500	0.313802	0.264	2.87856	2.05212	0.005	0.112	0.103	473.2304	0.153
Scrapers	2022	501	750	0.266627	0.224	2.47537	1.50816	0.005	0.09	0.083	471.2788	0.152
Scrapers	2023	51	120	0.7496	0.63	6.02603	4.14443	0.005	0.458	0.421	483.0296	0.156
Scrapers	2023	121	175	0.430003	0.361	3.47913	3.39533	0.005	0.184	0.169	478.6814	0.155

Scrapers	2023	176	250	0.37772	0.317	3.2838	1.67839	0.005	0.144	0.133	469.5597	0.152
Scrapers	2023	251	500	0.301363	0.253	2.66611	1.97527	0.005	0.105	0.096	473.1772	0.153
Scrapers	2023	501	750	0.26361	0.222	2.38587	1.51295	0.005	0.087	0.08	471.2953	0.152
Scrapers	2024	51	120	0.683919	0.575	5.63222	4.09486	0.005	0.414	0.381	482.7009	0.156
Scrapers	2024	121	175	0.399992	0.336	3.15631	3.37249	0.005	0.166	0.153	478.8089	0.155
Scrapers	2024	176	250	0.358714	0.301	3.01379	1.62739	0.005	0.133	0.122	469.3521	0.152
Scrapers	2024	251	500	0.291137	0.245	2.47694	1.92055	0.005	0.098	0.09	472.8455	0.153
Scrapers	2024	501	750	0.253257	0.213	2.18653	1.46065	0.005	0.081	0.074	471.4291	0.152
Scrapers	2025	51	120	0.673967	0.566	5.50259	4.09423	0.005	0.405	0.372	482.3629	0.156
Scrapers	2025	121	175	0.34526	0.29	2.63098	3.3209	0.005	0.137	0.126	478.9476	0.155
Scrapers	2025	176	250	0.346529	0.291	2.80326	1.60249	0.005	0.125	0.115	469.4459	0.152
Scrapers	2025	251	500	0.257328	0.216	2.05051	1.7318	0.005	0.081	0.074	472.5394	0.153
Scrapers	2025	501	750	0.218534	0.184	1.71287	1.33825	0.005	0.064	0.059	472.115	0.153
Scrapers	2030	51	120	1.248	0.41	2.384	3.866	0.006	0.111	0.111	568.299	0.037
Scrapers	2030	121	175	1.445	0.301	1.32	3.389	0.006	0.068	0.068	568.299	0.027
Scrapers	2030	176	250	1.794	0.264	1.149	1.206	0.006	0.042	0.042	568.299	0.023
Scrapers	2030	251	500	2.697	0.259	1.057	1.184	0.005	0.04	0.04	568.299	0.023
Scrapers	2030	501	750	4.666	0.259	1.075	1.184	0.005	0.04	0.04	568.299	0.023
Scrapers	2035	51	120	1.058	0.348	1.943	3.842	0.006	0.064	0.064	568.299	0.031
Scrapers	2035	121	175	1.199	0.25	0.824	3.382	0.006	0.04	0.04	568.299	0.022
Scrapers	2035	176	250	1.553	0.229	0.717	1.175	0.006	0.026	0.026	568.299	0.02
Scrapers	2035	251	500	2.356	0.226	0.674	1.123	0.005	0.025	0.025	568.3	0.02
Scrapers	2035	501	750	4.075	0.226	0.682	1.123	0.005	0.025	0.025	568.299	0.02
Scrapers	2040	51	120	0.962	0.316	1.715	3.833	0.006	0.04	0.04	568.299	0.028
Scrapers	2040	121	175	1.063	0.221	0.549	3.381	0.006	0.026	0.026	568.299	0.02
Scrapers	2040	176	250	1.425	0.21	0.498	1.159	0.006	0.018	0.018	568.3	0.018
Scrapers	2040	251	500	2.175	0.209	0.475	1.1	0.005	0.017	0.017	568.299	0.018
Scrapers	2040	501	750	3.76	0.209	0.48	1.1	0.005	0.017	0.017	568.299	0.018
Signal Boards	1990	6	15	2.838	1.804	9.999	4.999	1.049	0.975	0.975	568.299	0.162
Signal Boards	1990	26	50	33.688	3.65	7.518	7.626	0.871	1.035	1.035	568.299	0.329
Signal Boards	1990	51	120	41.675	2.037	13.738	5.201	0.791	1.095	1.095	568.3	0.183
Signal Boards	1990	121	175	54.982	1.395	12.364	4.603	0.758	0.728	0.728	568.3	0.125
Signal Boards	1990	176	250	90.827	1.685	14.94	5.563	0.917	0.88	0.88	686.695	0.152
Signal Boards	2000	6	15	2.085	1.325	7.675	4.257	0.079	0.61	0.61	568.299	0.119
Signal Boards	2000	26	50	31.608	3.424	6.709	7.268	0.066	0.765	0.765	568.299	0.309
Signal Boards	2000	51	120	33.68	1.646	9.835	4.338	0.06	0.756	0.756	568.299	0.148
Signal Boards	2000	121	175	43.484	1.103	8.941	3.53	0.057	0.447	0.447	568.299	0.099
Signal Boards	2000	176	250	59.587	1.105	10.385	3.359	0.069	0.438	0.438	686.695	0.099
Signal Boards	2005	6	15	1.168	0.742	4.981	3.469	0.079	0.35	0.35	568.299	0.066
Signal Boards	2005	26	50	27.711	3.002	6.227	6.663	0.066	0.704	0.704	568.299	0.27
Signal Boards	2005	51	120	28.596	1.398	8.234	4	0.06	0.695	0.695	568.299	0.126
Signal Boards	2005	121	175	35.881	0.91	7.528	3.185	0.057	0.383	0.383	568.3	0.082
Signal Boards	2005	176	250	41.93	0.778	8.577	2.245	0.069	0.303	0.303	686.695	0.07
Signal Boards	2010	6	15	1.04	0.661	4.142	3.469	0.008	0.155	0.155	568.299	0.059
Signal Boards	2010	26	50	21.63	2.343	5.792	6.009	0.007	0.571	0.571	568.299	0.211
Signal Boards	2010	51	120	21.667	1.059	6.693	3.811	0.006	0.56	0.56	568.299	0.095
Signal Boards	2010	121	175	27.641	0.701	5.958	3.102	0.006	0.311	0.311	568.299	0.063
Signal Boards	2010	176	250	29.698	0.551	6.749	1.651	0.007	0.212	0.212	686.695	0.049
Signal Boards	2011	6	15	1.04	0.661	4.142	3.469	0.008	0.156	0.156	568.299	0.059
Signal Boards	2011	26	50	20.109	2.178	5.698	5.834	0.007	0.541	0.541	568.299	0.196
Signal Boards	2011	51	120	20.187	0.986	6.327	3.774	0.006	0.535	0.535	568.299	0.089
Signal Boards	2011	121	175	25.933	0.658	5.615	3.09	0.006	0.298	0.298	568.299	0.059
Signal Boards	2011	176	250	27.264	0.506	6.272	1.548	0.007	0.19	0.19	686.695	0.045
Signal Boards	2012	6	15	1.04	0.661	4.142	3.469	0.008	0.16	0.16	568.299	0.059
Signal Boards	2012	26	50	18.413	1.995	5.596	5.632	0.007	0.508	0.508	568.299	0.18
Signal Boards	2012	51	120	18.605	0.909	5.923	3.733	0.006	0.498	0.498	568.299	0.082
Signal Boards	2012	121	175	24.082	0.611	5.246	3.077	0.006	0.275	0.275	568.3	0.055
Signal Boards	2012	176	250	25.308	0.469	5.81	1.483	0.007	0.171	0.171	686.695	0.042
Signal Boards	2013	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2013	26	50	16.687	1.808	5.362	5.427	0.007	0.465	0.465	568.299	0.163
Signal Boards	2013	51	120	17.043	0.833	5.532	3.694	0.006	0.456	0.456	568.299	0.075
Signal Boards	2013	121	175	22.253	0.564	4.903	3.067	0.006	0.252	0.252	568.3	0.05
Signal Boards	2013	176	250	23.66	0.439	5.369	1.439	0.007	0.156	0.156	686.695	0.039
Signal Boards	2014	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2014	26	50	15.005	1.625	5.139	5.231	0.007	0.422	0.422	568.299	0.146
Signal Boards	2014	51	120	15.539	0.759	5.186	3.658	0.006	0.414	0.414	568.299	0.068
Signal Boards	2014	121	175	20.512	0.52	4.582	3.058	0.006	0.228	0.228	568.299	0.046
Signal Boards	2014	176	250	22.034	0.408	4.857	1.402	0.007	0.141	0.141	686.695	0.036
Signal Boards	2015	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2015	26	50	13.489	1.461	4.943	5.068	0.007	0.382	0.382	568.299	0.131
Signal Boards	2015	51	120	14.067	0.687	4.791	3.624	0.006	0.371	0.371	568.299	0.062
Signal Boards	2015	121	175	18.694	0.474	4.136	3.052	0.006	0.205	0.205	568.299	0.042
Signal Boards	2015	176	250	20.523	0.38	4.365	1.371	0.007	0.127	0.127	686.695	0.034
Signal Boards	2016	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2016	26	50	12.061	1.306	4.761	4.921	0.007	0.343	0.343	568.299	0.117
Signal Boards	2016	51	120	12.653	0.618	4.414	3.594	0.006	0.33	0.33	568.299	0.055
Signal Boards	2016	121	175	16.949	0.43	3.708	3.047	0.006	0.183	0.183	568.299	0.038
Signal Boards	2016	176	250	19.106	0.354	3.894	1.344	0.007	0.114	0.114	686.695	0.031
Signal Boards	2017	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2017	26	50	10.695	1.158	4.59	4.785	0.007	0.306	0.306	568.299	0.104
Signal Boards	2017	51	120	11.32	0.553	4.059	3.566	0.006	0.29	0.29	568.299	0.049
Signal Boards	2017	121	175	15.322	0.388	3.305	3.044	0.006	0.161	0.161	568.299	0.035
Signal Boards	2017	176	250	17.83	0.33	3.452	1.323	0.007	0.101	0.101	686.695	0.029
Signal Boards	2018	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2018	26	50	9.4	1.018	4.427	4.657	0.007	0.27	0.27	568.299	0.091
Signal Boards	2018	51	120	10.078	0.492	3.723	3.541	0.006	0.252	0.252	568.299	0.044
Signal Boards	2018	121	175	13.836	0.351	2.93	3.043	0.006	0.141	0.141	568.299	0.031
Signal Boards	2018	176	250	16.678	0.309	3.04	1.306	0.007	0.09	0.09	686.695	0.027
Signal Boards	2019	6	15	1.04	0.661	4.142	3.47	0.008	0.161	0.161	568.299	0.059



Signal Boards	2019	26	50	8.189	0.887	4.272	4.538	0.007	0.236	0.236	568.3	0.08
Signal Boards	2019	51	120	8.938	0.437	3.41	3.519	0.006	0.216	0.216	568.299	0.039
Signal Boards	2019	121	175	12.677	0.321	2.601	3.043	0.006	0.125	0.125	568.299	0.029
Signal Boards	2019	176	250	15.682	0.291	2.676	1.292	0.007	0.08	0.08	686.695	0.026
Signal Boards	2020	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2020	26	50	7.28	0.788	4.132	4.448	0.007	0.206	0.206	568.299	0.071
Signal Boards	2020	51	120	8.081	0.395	3.134	3.504	0.006	0.187	0.187	568.299	0.035
Signal Boards	2020	121	175	11.756	0.298	2.309	3.043	0.006	0.11	0.11	568.299	0.026
Signal Boards	2020	176	250	14.813	0.274	2.35	1.281	0.007	0.071	0.071	686.695	0.024
Signal Boards	2021	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2021	26	50	6.598	0.714	4.002	4.38	0.007	0.179	0.179	568.299	0.064
Signal Boards	2021	51	120	7.434	0.363	2.889	3.493	0.006	0.162	0.162	568.299	0.032
Signal Boards	2021	121	175	10.965	0.278	2.043	3.043	0.006	0.098	0.098	568.299	0.025
Signal Boards	2021	176	250	14.033	0.26	2.053	1.273	0.007	0.063	0.063	686.695	0.023
Signal Boards	2022	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.3	0.059
Signal Boards	2022	26	50	6.047	0.655	3.88	4.325	0.007	0.154	0.154	568.299	0.059
Signal Boards	2022	51	120	6.908	0.337	2.668	3.484	0.006	0.141	0.141	568.299	0.03
Signal Boards	2022	121	175	10.249	0.26	1.801	3.044	0.006	0.086	0.086	568.299	0.023
Signal Boards	2022	176	250	13.317	0.247	1.782	1.266	0.007	0.055	0.055	686.695	0.022
Signal Boards	2023	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2023	26	50	5.57	0.603	3.767	4.282	0.007	0.132	0.132	568.299	0.054
Signal Boards	2023	51	120	6.449	0.315	2.472	3.478	0.006	0.122	0.122	568.299	0.028
Signal Boards	2023	121	175	9.619	0.244	1.602	3.045	0.006	0.075	0.075	568.299	0.022
Signal Boards	2023	176	250	12.678	0.235	1.562	1.263	0.007	0.048	0.048	686.695	0.021
Signal Boards	2024	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2024	26	50	5.168	0.559	3.662	4.247	0.007	0.114	0.114	568.299	0.05
Signal Boards	2024	51	120	6.055	0.296	2.315	3.474	0.006	0.105	0.105	568.299	0.026
Signal Boards	2024	121	175	9.047	0.229	1.427	3.047	0.006	0.065	0.065	568.299	0.02
Signal Boards	2024	176	250	12.079	0.224	1.37	1.259	0.007	0.041	0.041	686.695	0.02
Signal Boards	2025	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2025	26	50	4.819	0.522	3.561	4.217	0.007	0.098	0.098	568.299	0.047
Signal Boards	2025	51	120	5.705	0.278	2.179	3.47	0.006	0.089	0.089	568.299	0.025
Signal Boards	2025	121	175	8.5	0.215	1.262	3.049	0.006	0.055	0.055	568.299	0.019
Signal Boards	2025	176	250	11.509	0.213	1.192	1.257	0.007	0.035	0.035	686.695	0.019
Signal Boards	2030	6	15	1.04	0.661	4.142	3.47	0.008	0.161	0.161	568.299	0.059
Signal Boards	2030	26	50	3.631	0.393	3.193	4.099	0.007	0.04	0.04	568.299	0.035
Signal Boards	2030	51	120	4.366	0.213	1.657	3.451	0.006	0.035	0.035	568.3	0.019
Signal Boards	2030	121	175	6.201	0.157	0.586	3.048	0.006	0.024	0.024	568.299	0.014
Signal Boards	2030	176	250	9.484	0.176	0.594	1.255	0.007	0.019	0.019	686.695	0.015
Signal Boards	2035	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2035	26	50	3.294	0.356	3.082	4.067	0.007	0.02	0.02	568.299	0.032
Signal Boards	2035	51	120	3.929	0.192	1.482	3.445	0.006	0.018	0.018	568.299	0.017
Signal Boards	2035	121	175	5.439	0.138	0.372	3.048	0.006	0.014	0.014	568.299	0.012
Signal Boards	2035	176	250	8.75	0.162	0.401	1.254	0.007	0.014	0.014	686.695	0.014
Signal Boards	2040	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2040	26	50	3.289	0.356	3.037	4.074	0.007	0.014	0.014	568.299	0.032
Signal Boards	2040	51	120	3.848	0.188	1.428	3.447	0.006	0.013	0.013	568.299	0.016
Signal Boards	2040	121	175	5.177	0.131	0.296	3.05	0.006	0.011	0.011	568.299	0.011
Signal Boards	2040	176	250	8.473	0.157	0.341	1.255	0.007	0.012	0.012	686.695	0.014
Skid Steer Loaders	1990	16	25	4.928	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Skid Steer Loaders	1990	26	50	18.4	4.466	7.821	9.113	0.871	1.202	1.202	568.299	0.403
Skid Steer Loaders	1990	51	120	15.551	2.252	14.506	5.536	0.791	1.262	1.262	568.299	0.203
Skid Steer Loaders	2000	16	25	4.659	2.092	6.403	4.777	0.065	0.568	0.568	568.299	0.188
Skid Steer Loaders	2000	26	50	15.338	3.723	6.733	7.849	0.066	0.816	0.816	568.299	0.335
Skid Steer Loaders	2000	51	120	10.902	1.579	9.028	4.162	0.06	0.779	0.779	568.299	0.142
Skid Steer Loaders	2005	16	25	3.352	1.505	5.913	3.709	0.065	0.461	0.461	568.299	0.135
Skid Steer Loaders	2005	26	50	12.458	3.024	6.068	6.864	0.066	0.716	0.716	568.3	0.272
Skid Steer Loaders	2005	51	120	9.248	1.339	7.653	3.988	0.06	0.712	0.712	568.299	0.12
Skid Steer Loaders	2010	16	25	1.189544	1	5.29745	4.48486	0.005	0.435	0.401	586.3356	0.171
Skid Steer Loaders	2010	26	50	1.189544	1	5.29745	4.48486	0.005	0.435	0.401	586.3356	0.171
Skid Steer Loaders	2010	51	120	0.504832	0.424	5.19396	3.40768	0.005	0.344	0.317	525.6915	0.153
Skid Steer Loaders	2011	16	25	1.055747	0.887	5.2163	4.32754	0.005	0.402	0.37	584.7285	0.171
Skid Steer Loaders	2011	26	50	1.055747	0.887	5.2163	4.32754	0.005	0.402	0.37	584.7285	0.171
Skid Steer Loaders	2011	51	120	0.460213	0.387	4.88341	3.38539	0.005	0.316	0.291	524.0915	0.153
Skid Steer Loaders	2012	16	25	1.031332	0.867	5.12974	4.33156	0.005	0.388	0.357	583.1258	0.171
Skid Steer Loaders	2012	26	50	1.031332	0.867	5.12974	4.33156	0.005	0.388	0.357	583.1258	0.171
Skid Steer Loaders	2012	51	120	0.443294	0.372	4.73478	3.38462	0.005	0.303	0.279	522.5357	0.153
Skid Steer Loaders	2013	16	25	0.908612	0.763	4.84472	4.17576	0.005	0.337	0.31	580.0144	0.171
Skid Steer Loaders	2013	26	50	0.908612	0.763	4.84472	4.17576	0.005	0.337	0.31	580.0144	0.171
Skid Steer Loaders	2013	51	120	0.404938	0.34	4.44237	3.36337	0.005	0.271	0.249	519.6388	0.153
Skid Steer Loaders	2014	16	25	0.790746	0.664	4.54075	4.01585	0.005	0.286	0.263	577.0757	0.171
Skid Steer Loaders	2014	26	50	0.790746	0.664	4.54075	4.01585	0.005	0.286	0.263	577.0757	0.171
Skid Steer Loaders	2014	51	120	0.361873	0.304	4.0133	3.33829	0.005	0.235	0.216	517.0621	0.153
Skid Steer Loaders	2015	16	25	0.760751	0.639	4.43612	4.00436	0.005	0.267	0.246	571.4195	0.171
Skid Steer Loaders	2015	26	50	0.760751	0.639	4.43612	4.00436	0.005	0.267	0.246	571.4195	0.171
Skid Steer Loaders	2015	51	120	0.349713	0.294	3.8106	3.33751	0.005	0.22	0.203	511.595	0.153
Skid Steer Loaders	2016	16	25	0.713135	0.599	4.26784	3.95661	0.005	0.241	0.221	565.2281	0.17
Skid Steer Loaders	2016	26	50	0.713135	0.599	4.26784	3.95661	0.005	0.241	0.221	565.2281	0.17
Skid Steer Loaders	2016	51	120	0.325064	0.273	3.53439	3.32767	0.005	0.197	0.182	506.2971	0.153
Skid Steer Loaders	2017	16	25	0.676461	0.568	4.11272	3.91907	0.005	0.217	0.2	556.7144	0.171
Skid Steer Loaders	2017	26	50	0.676461	0.568	4.11272	3.91907	0.005	0.217	0.2	556.7144	0.171
Skid Steer Loaders	2017	51	120	0.303772	0.255	3.28618	3.31863	0.005	0.177	0.162	498.3256	0.153
Skid Steer Loaders	2018	16	25	0.579635	0.487	3.88962	3.78725	0.005	0.178	0.164	547.5575	0.17
Skid Steer Loaders	2018	26	50	0.579635	0.487	3.88962	3.78725	0.005	0.178	0.164	547.5575	0.17
Skid Steer Loaders	2018	51	120	0.256853	0.216	2.86	3.28204	0.005	0.14	0.129	490.0935	0.153
Skid Steer Loaders	2019	16	25	0.531282	0.446	3.75009	3.73957	0.005	0.154	0.141	539.2667	0.171
Skid Steer Loaders	2019	26	50	0.531282	0.446	3.75009	3.73957	0.005	0.154	0.141	539.2667	0.171
Skid Steer Loaders	2019	51	120	0.2373	0.199	2.65586	3.27736	0.005	0.122	0.112	482.3844	0.153
Skid Steer Loaders	2020	16	25	0.522771	0.439	3.69113	3.76397	0.005	0.145	0.133	527.7577	0.171

Skid Steer Loaders	2020	26	50	0.522771	0.439	3.69113	3.76397	0.005	0.145	0.133	527.7577	0.171
Skid Steer Loaders	2020	51	120	0.224183	0.188	2.5046	3.2771	0.005	0.108	0.1	471.9075	0.153
Skid Steer Loaders	2021	16	25	0.486515	0.409	3.57304	3.73158	0.005	0.126	0.116	527.4501	0.171
Skid Steer Loaders	2021	26	50	0.486515	0.409	3.57304	3.73158	0.005	0.126	0.116	527.4501	0.171
Skid Steer Loaders	2021	51	120	0.211817	0.178	2.36588	3.27687	0.005	0.096	0.089	471.9774	0.153
Skid Steer Loaders	2022	16	25	0.434318	0.365	3.43256	3.65597	0.005	0.103	0.095	527.2726	0.171
Skid Steer Loaders	2022	26	50	0.434318	0.365	3.43256	3.65597	0.005	0.103	0.095	527.2726	0.171
Skid Steer Loaders	2022	51	120	0.195311	0.164	2.18922	3.27037	0.005	0.081	0.075	472.4321	0.153
Skid Steer Loaders	2023	16	25	0.420524	0.353	3.37057	3.65358	0.005	0.093	0.086	527.4231	0.171
Skid Steer Loaders	2023	26	50	0.420524	0.353	3.37057	3.65358	0.005	0.093	0.086	527.4231	0.171
Skid Steer Loaders	2023	51	120	0.182613	0.153	2.03854	3.26613	0.005	0.069	0.063	472.656	0.153
Skid Steer Loaders	2024	16	25	0.415881	0.349	3.34552	3.67076	0.005	0.089	0.082	527.8005	0.171
Skid Steer Loaders	2024	26	50	0.415881	0.349	3.34552	3.67076	0.005	0.089	0.082	527.8005	0.171
Skid Steer Loaders	2024	51	120	0.174841	0.147	1.94841	3.26403	0.005	0.063	0.058	472.847	0.153
Skid Steer Loaders	2025	16	25	0.406183	0.341	3.30934	3.6601	0.005	0.084	0.077	527.8608	0.171
Skid Steer Loaders	2025	26	50	0.406183	0.341	3.30934	3.6601	0.005	0.084	0.077	527.8608	0.171
Skid Steer Loaders	2025	51	120	0.166357	0.14	1.86736	3.25156	0.005	0.057	0.052	472.6295	0.153
Skid Steer Loaders	2030	16	25	1.526	0.685	4.332	2.34	0.007	0.162	0.162	568.299	0.061
Skid Steer Loaders	2030	26	50	1.694	0.411	3.128	4.386	0.007	0.018	0.018	568.299	0.037
Skid Steer Loaders	2030	51	120	1.478	0.214	1.477	3.538	0.006	0.017	0.017	568.299	0.019
Skid Steer Loaders	2035	16	25	1.526	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Skid Steer Loaders	2035	26	50	1.694	0.411	3.097	4.39	0.007	0.015	0.015	568.299	0.037
Skid Steer Loaders	2035	51	120	1.459	0.211	1.442	3.54	0.006	0.014	0.014	568.299	0.019
Skid Steer Loaders	2040	16	25	1.526	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Skid Steer Loaders	2040	26	50	1.696	0.411	3.093	4.392	0.007	0.014	0.014	568.299	0.037
Skid Steer Loaders	2040	51	120	1.456	0.211	1.435	3.54	0.006	0.013	0.013	568.3	0.019
Surfacing Equipment	1990	26	50	8.011	4.203	7.726	8.629	0.871	1.147	1.147	568.299	0.379
Surfacing Equipment	1990	51	120	18.985	2.203	14.403	5.473	0.791	1.214	1.214	568.299	0.198
Surfacing Equipment	1990	121	175	19.781	1.707	13.91	4.883	0.758	0.927	0.927	568.3	0.154
Surfacing Equipment	1990	176	250	31.103	1.707	13.91	4.883	0.758	0.927	0.927	568.299	0.154
Surfacing Equipment	1990	251	500	45.625	1.526	13.316	9.66	0.662	0.805	0.805	568.299	0.137
Surfacing Equipment	1990	501	750	71.58	1.526	13.316	9.66	1.018	0.82	0.82	568.299	0.137
Surfacing Equipment	2000	26	50	6.689	3.509	6.755	7.426	0.066	0.779	0.779	568.299	0.316
Surfacing Equipment	2000	51	120	14.399	1.671	9.991	4.385	0.06	0.768	0.768	568.299	0.15
Surfacing Equipment	2000	121	175	13.132	1.133	9.132	3.583	0.057	0.458	0.458	568.299	0.102
Surfacing Equipment	2000	176	250	17.689	0.97	8.84	2.937	0.057	0.385	0.385	568.299	0.087
Surfacing Equipment	2000	251	500	26.875	0.899	8.551	4.584	0.05	0.347	0.347	568.299	0.081
Surfacing Equipment	2000	501	750	42.164	0.899	8.551	4.584	0.052	0.347	0.347	568.299	0.081
Surfacing Equipment	2005	26	50	6.001	3.148	6.318	6.936	0.066	0.727	0.727	568.3	0.284
Surfacing Equipment	2005	51	120	12.568	1.458	8.636	4.122	0.06	0.718	0.718	568.299	0.131
Surfacing Equipment	2005	121	175	11.032	0.952	7.874	3.316	0.057	0.402	0.402	568.3	0.085
Surfacing Equipment	2005	176	250	13.31	0.73	7.529	2.16	0.057	0.29	0.29	568.299	0.065
Surfacing Equipment	2005	251	500	19.448	0.65	6.988	3.023	0.05	0.26	0.26	568.299	0.058
Surfacing Equipment	2005	501	750	31.164	0.664	7.132	3.019	0.052	0.262	0.262	568.299	0.059
Surfacing Equipment	2010	26	50	1.528976	1.285	5.66618	4.99949	0.005	0.479	0.44	593.0498	0.173
Surfacing Equipment	2010	51	120	0.730908	0.614	6.16537	3.59404	0.005	0.437	0.402	524.0289	0.153
Surfacing Equipment	2010	121	175	0.662829	0.557	6.60554	3.09066	0.005	0.318	0.292	522.4909	0.152
Surfacing Equipment	2010	176	250	0.488779	0.411	6.37687	1.7501	0.005	0.212	0.195	530.3611	0.154
Surfacing Equipment	2010	251	500	0.29849	0.251	4.43284	1.5491	0.005	0.144	0.133	522.9659	0.152
Surfacing Equipment	2010	501	750	0.208991	0.176	3.5514	1.09654	0.005	0.112	0.103	524.8847	0.153
Surfacing Equipment	2011	26	50	1.476255	1.24	5.62022	4.95391	0.005	0.467	0.43	590.2612	0.172
Surfacing Equipment	2011	51	120	0.710662	0.597	5.98734	3.58797	0.005	0.427	0.393	522.8446	0.153
Surfacing Equipment	2011	121	175	0.6472	0.544	6.46356	3.07389	0.005	0.312	0.287	521.1883	0.152
Surfacing Equipment	2011	176	250	0.481299	0.404	6.2863	1.72048	0.005	0.207	0.191	529.0217	0.154
Surfacing Equipment	2011	251	500	0.289572	0.243	4.26701	1.48634	0.005	0.136	0.125	520.4212	0.152
Surfacing Equipment	2011	501	750	0.214952	0.181	3.56055	1.10325	0.005	0.113	0.104	523.5482	0.153
Surfacing Equipment	2012	26	50	1.500607	1.261	5.63914	5.03037	0.005	0.473	0.435	588.7118	0.172
Surfacing Equipment	2012	51	120	0.709653	0.596	5.94999	3.59999	0.005	0.426	0.392	521.4233	0.153
Surfacing Equipment	2012	121	175	0.653605	0.549	6.48747	3.0893	0.005	0.315	0.29	519.886	0.152
Surfacing Equipment	2012	176	250	0.481696	0.405	6.22653	1.72816	0.005	0.207	0.191	527.6815	0.154
Surfacing Equipment	2012	251	500	0.290035	0.244	4.20283	1.49574	0.005	0.134	0.124	519.0487	0.152
Surfacing Equipment	2012	501	750	0.210249	0.177	3.45723	1.04051	0.005	0.109	0.1	521.0672	0.152
Surfacing Equipment	2013	26	50	1.455428	1.223	5.53803	4.99596	0.005	0.457	0.421	585.7193	0.172
Surfacing Equipment	2013	51	120	0.69949	0.588	5.8163	3.60266	0.005	0.415	0.382	518.7481	0.153
Surfacing Equipment	2013	121	175	0.588968	0.495	5.94134	3.00889	0.005	0.286	0.263	518.4738	0.152
Surfacing Equipment	2013	176	250	0.441295	0.371	5.8812	1.62196	0.005	0.187	0.172	524.5301	0.154
Surfacing Equipment	2013	251	500	0.288988	0.243	4.09243	1.50462	0.005	0.131	0.121	516.1488	0.152
Surfacing Equipment	2013	501	750	0.215353	0.181	3.46124	1.04387	0.005	0.11	0.101	518.3853	0.152
Surfacing Equipment	2014	26	50	1.358041	1.141	5.42525	4.87668	0.005	0.434	0.399	582.7249	0.172
Surfacing Equipment	2014	51	120	0.665267	0.559	5.52029	3.58043	0.005	0.391	0.36	516.3377	0.153
Surfacing Equipment	2014	121	175	0.561853	0.472	5.71146	3.01212	0.005	0.273	0.251	515.8203	0.152
Surfacing Equipment	2014	176	250	0.364211	0.306	5.10182	1.43363	0.005	0.149	0.137	521.4518	0.154
Surfacing Equipment	2014	251	500	0.2821	0.237	3.8952	1.50147	0.005	0.125	0.115	513.6157	0.152
Surfacing Equipment	2014	501	750	0.206755	0.174	3.28435	1.02007	0.005	0.103	0.095	516.3212	0.153
Surfacing Equipment	2015	26	50	1.223408	1.028	5.25471	4.69178	0.005	0.402	0.37	576.7706	0.172
Surfacing Equipment	2015	51	120	0.651534	0.547	5.37414	3.57496	0.005	0.378	0.348	510.1417	0.152
Surfacing Equipment	2015	121	175	0.568	0.477	5.73307	3.02727	0.005	0.276	0.254	510.5481	0.152
Surfacing Equipment	2015	176	250	0.36864	0.31	5.11205	1.44156	0.005	0.151	0.139	516.058	0.154
Surfacing Equipment	2015	251	500	0.286581	0.241	3.90037	1.51303	0.005	0.126	0.116	508.3985	0.152
Surfacing Equipment	2015	501	750	0.211433	0.178	3.28678	1.02353	0.005	0.104	0.096	511.1157	0.153
Surfacing Equipment	2016	26	50	1.243319	1.045	5.27275	4.7626	0.005	0.406	0.374	570.8145	0.172
Surfacing Equipment	2016	51	120	0.621267	0.522	5.05142	3.54977	0.005	0.349	0.321	505.0873	0.152
Surfacing Equipment	2016	121	175	0.544572	0.458	5.45794	3.00649	0.005	0.265	0.244	504.5576	0.152
Surfacing Equipment	2016	176	250	0.365495	0.307	5.04791	1.42946	0.005	0.148	0.136	510.7058	0.154
Surfacing Equipment	2016	251	500	0.258417	0.217	3.46816	1.42484	0.005	0.111	0.102	502.4709	0.152
Surfacing Equipment	2016	501	750	0.192579	0.162	2.87955	0.99966	0.005	0.093	0.085	506.967	0.153
Surfacing Equipment	2017	26	50	1.10469	0.928	5.0643	4.60324	0.006	0.365	0.336	564.4772	0.173
Surfacing Equipment	2017	51	120	0.604716	0.508	4.94212	3.55587	0.005	0.337	0.31	498.36	0.153
Surfacing Equipment	2017	121	175	0.541755	0.455	5.39296	3.00273	0.005	0.264	0.243	496.2741	0.152

Surfacing Equipment	2017	176	250	0.325463	0.273	4.46793	1.3431	0.005	0.129	0.119	501.8465	0.154
Surfacing Equipment	2017	251	500	0.242435	0.204	3.10636	1.3962	0.005	0.103	0.094	496.885	0.152
Surfacing Equipment	2017	501	750	0.190932	0.16	2.76955	1.00272	0.005	0.09	0.083	499.7117	0.153
Surfacing Equipment	2018	26	50	0.927049	0.779	4.81982	4.35302	0.006	0.32	0.294	555.7363	0.173
Surfacing Equipment	2018	51	120	0.49279	0.414	4.28388	3.48871	0.005	0.268	0.247	491.3172	0.153
Surfacing Equipment	2018	121	175	0.44632	0.375	4.47527	2.97609	0.005	0.215	0.198	488.4406	0.152
Surfacing Equipment	2018	176	250	0.286758	0.241	3.98866	1.234	0.005	0.113	0.104	494.1388	0.154
Surfacing Equipment	2018	251	500	0.187325	0.157	2.20389	1.22557	0.005	0.076	0.07	487.8722	0.152
Surfacing Equipment	2018	501	750	0.169556	0.142	2.26863	0.99347	0.005	0.078	0.072	488.86	0.152
Surfacing Equipment	2019	26	50	0.765383	0.643	4.41999	4.0998	0.006	0.25	0.23	547.0462	0.173
Surfacing Equipment	2019	51	120	0.42278	0.355	3.82306	3.44856	0.005	0.226	0.208	484.0757	0.153
Surfacing Equipment	2019	121	175	0.425034	0.357	4.23866	2.97177	0.005	0.204	0.187	479.6717	0.152
Surfacing Equipment	2019	176	250	0.257694	0.217	3.39993	1.21576	0.005	0.101	0.093	486.8417	0.154
Surfacing Equipment	2019	251	500	0.173135	0.145	1.89944	1.2143	0.005	0.068	0.063	481.8965	0.152
Surfacing Equipment	2019	501	750	0.168821	0.142	2.17879	0.99372	0.005	0.076	0.07	480.166	0.152
Surfacing Equipment	2020	26	50	0.637406	0.536	4.23906	3.93357	0.006	0.216	0.199	535.5275	0.173
Surfacing Equipment	2020	51	120	0.392345	0.33	3.61216	3.43932	0.005	0.206	0.19	473.8188	0.153
Surfacing Equipment	2020	121	175	0.365927	0.307	3.67232	2.93068	0.005	0.175	0.161	469.2079	0.152
Surfacing Equipment	2020	176	250	0.252128	0.212	3.22243	1.21774	0.005	0.097	0.089	476.4261	0.154
Surfacing Equipment	2020	251	500	0.173203	0.146	1.83755	1.21902	0.005	0.067	0.062	471.6331	0.153
Surfacing Equipment	2020	501	750	0.168871	0.142	2.09374	0.99569	0.005	0.074	0.068	469.6252	0.152
Surfacing Equipment	2021	26	50	0.60314	0.507	4.18875	3.93231	0.006	0.204	0.188	535.784	0.173
Surfacing Equipment	2021	51	120	0.370907	0.312	3.46112	3.43619	0.005	0.191	0.175	474.0906	0.153
Surfacing Equipment	2021	121	175	0.307112	0.258	3.09858	2.91895	0.005	0.145	0.134	469.1687	0.152
Surfacing Equipment	2021	176	250	0.245986	0.207	2.99364	1.21854	0.005	0.092	0.085	476.8023	0.154
Surfacing Equipment	2021	251	500	0.167588	0.141	1.75282	1.20226	0.005	0.064	0.058	471.7484	0.153
Surfacing Equipment	2021	501	750	0.148862	0.125	1.59712	0.99181	0.005	0.062	0.057	470.4087	0.152
Surfacing Equipment	2022	26	50	0.509163	0.428	3.9114	3.77243	0.006	0.154	0.142	535.8364	0.173
Surfacing Equipment	2022	51	120	0.34882	0.293	3.24974	3.40936	0.005	0.175	0.161	473.6362	0.153
Surfacing Equipment	2022	121	175	0.283918	0.239	2.70137	2.90957	0.005	0.13	0.12	469.1259	0.152
Surfacing Equipment	2022	176	250	0.233135	0.196	2.66709	1.21737	0.005	0.085	0.078	476.9511	0.154
Surfacing Equipment	2022	251	500	0.157417	0.132	1.5573	1.16047	0.005	0.057	0.053	470.5248	0.152
Surfacing Equipment	2022	501	750	0.136805	0.115	1.35503	0.98819	0.005	0.052	0.048	470.4004	0.152
Surfacing Equipment	2023	26	50	0.51987	0.437	3.92432	3.83184	0.006	0.155	0.143	535.9295	0.173
Surfacing Equipment	2023	51	120	0.321277	0.27	3.05811	3.39556	0.005	0.157	0.144	474.4698	0.153
Surfacing Equipment	2023	121	175	0.267066	0.224	2.45516	2.91383	0.005	0.119	0.11	470.0141	0.152
Surfacing Equipment	2023	176	250	0.22795	0.192	2.50162	1.21946	0.005	0.082	0.075	476.9606	0.154
Surfacing Equipment	2023	251	500	0.156473	0.131	1.47556	1.16329	0.005	0.056	0.051	470.3746	0.152
Surfacing Equipment	2023	501	750	0.119512	0.1	1.08063	0.98543	0.005	0.04	0.037	472.4466	0.153
Surfacing Equipment	2024	26	50	0.396453	0.333	3.72069	3.66193	0.006	0.116	0.107	536.0304	0.173
Surfacing Equipment	2024	51	120	0.29879	0.251	2.8828	3.3893	0.005	0.142	0.131	475.3806	0.154
Surfacing Equipment	2024	121	175	0.271298	0.228	2.46372	2.92962	0.005	0.12	0.111	470.0767	0.152
Surfacing Equipment	2024	176	250	0.209166	0.176	2.23638	1.18272	0.005	0.071	0.065	477.096	0.154
Surfacing Equipment	2024	251	500	0.159183	0.134	1.47769	1.16767	0.005	0.056	0.051	470.2521	0.152
Surfacing Equipment	2024	501	750	0.112194	0.094	0.94669	0.98493	0.005	0.034	0.032	472.9833	0.153
Surfacing Equipment	2025	26	50	0.279239	0.235	3.57642	3.53733	0.006	0.082	0.075	536.14	0.173
Surfacing Equipment	2025	51	120	0.276433	0.232	2.6591	3.38535	0.005	0.124	0.114	476.7656	0.154
Surfacing Equipment	2025	121	175	0.222452	0.187	1.9987	2.92602	0.005	0.094	0.087	471.0403	0.152
Surfacing Equipment	2025	176	250	0.176026	0.148	1.74736	1.14337	0.005	0.055	0.051	477.11	0.154
Surfacing Equipment	2025	251	500	0.152175	0.128	1.3268	1.16861	0.005	0.051	0.047	470.2827	0.152
Surfacing Equipment	2025	501	750	0.101486	0.085	0.76806	0.9776	0.005	0.027	0.025	470.5508	0.152
Surfacing Equipment	2030	26	50	0.988	0.518	3.4	4.295	0.007	0.075	0.075	568.299	0.046
Surfacing Equipment	2030	51	120	2.281	0.264	1.959	3.492	0.006	0.068	0.068	568.299	0.023
Surfacing Equipment	2030	121	175	2.286	0.197	0.939	3.071	0.006	0.043	0.043	568.299	0.017
Surfacing Equipment	2030	176	250	3.134	0.172	0.789	1.064	0.006	0.026	0.026	568.299	0.015
Surfacing Equipment	2030	251	500	5.062	0.169	0.738	1.032	0.005	0.025	0.025	568.299	0.015
Surfacing Equipment	2030	501	750	7.953	0.169	0.749	1.032	0.005	0.025	0.025	568.299	0.015
Surfacing Equipment	2035	26	50	0.836	0.439	3.193	4.221	0.007	0.041	0.041	568.299	0.039
Surfacing Equipment	2035	51	120	1.954	0.226	1.659	3.482	0.006	0.038	0.038	568.299	0.02
Surfacing Equipment	2035	121	175	1.887	0.162	0.567	3.072	0.006	0.025	0.025	568.299	0.014
Surfacing Equipment	2035	176	250	2.725	0.149	0.497	1.05	0.006	0.016	0.016	568.299	0.013
Surfacing Equipment	2035	251	500	4.436	0.148	0.471	1.018	0.005	0.016	0.016	568.299	0.013
Surfacing Equipment	2035	501	750	6.967	0.148	0.477	1.018	0.005	0.016	0.016	568.3	0.013
Surfacing Equipment	2040	26	50	0.753	0.395	3.114	4.183	0.007	0.025	0.025	568.299	0.035
Surfacing Equipment	2040	51	120	1.782	0.206	1.521	3.477	0.006	0.024	0.024	568.299	0.018
Surfacing Equipment	2040	121	175	1.691	0.146	0.397	3.073	0.006	0.017	0.017	568.299	0.013
Surfacing Equipment	2040	176	250	2.566	0.14	0.37	1.047	0.006	0.013	0.013	568.299	0.012
Surfacing Equipment	2040	251	500	4.197	0.14	0.358	1.015	0.005	0.012	0.012	568.299	0.012
Surfacing Equipment	2040	501	750	6.59	0.14	0.361	1.015	0.005	0.013	0.013	568.299	0.012
Sweepers/Scrubbers	1990	6	15	4.971	1.804	9.999	5	0.833	0.968	0.968	568.299	0.162
Sweepers/Scrubbers	1990	16	25	10.019	2.213	6.92	5	0.679	0.735	0.735	568.299	0.199
Sweepers/Scrubbers	1990	26	50	32.867	4.512	7.836	9.199	0.692	1.202	1.202	568.299	0.407
Sweepers/Scrubbers	1990	51	120	39.044	2.254	14.467	5.53	0.628	1.259	1.259	568.299	0.203
Sweepers/Scrubbers	1990	121	175	48.318	1.505	12.813	4.861	0.602	0.818	0.818	568.299	0.135
Sweepers/Scrubbers	1990	176	250	56.322	1.505	12.813	4.861	0.602	0.818	0.818	568.299	0.135
Sweepers/Scrubbers	2000	6	15	2.886	1.047	7.362	4.258	0.079	0.428	0.428	568.299	0.094
Sweepers/Scrubbers	2000	16	25	4.933	1.089	6.325	4.438	0.064	0.442	0.442	568.299	0.098
Sweepers/Scrubbers	2000	26	50	30.182	4.144	6.934	8.622	0.065	0.882	0.882	568.299	0.373
Sweepers/Scrubbers	2000	51	120	29.565	1.706	9.702	4.394	0.059	0.84	0.84	568.299	0.154
Sweepers/Scrubbers	2000	121	175	37.084	1.155	8.929	3.49	0.057	0.481	0.481	568.299	0.104
Sweepers/Scrubbers	2000	176	250	34.578	0.924	8.516	2.598	0.057	0.371	0.371	568.3	0.083
Sweepers/Scrubbers	2005	6	15	1.951	0.708	4.985	3.469	0.079	0.35	0.35	568.299	0.063
Sweepers/Scrubbers	2005	16	25	3.505	0.774	5.326	2.526	0.064	0.323	0.323	568.299	0.069
Sweepers/Scrubbers	2005	26	50	28.008	3.845	6.52	8.25	0.065	0.844	0.844	568.299	0.346
Sweepers/Scrubbers	2005	51	120	27.009	1.559	8.538	4.253	0.059	0.826	0.826	568.299	0.14
Sweepers/Scrubbers	2005	121	175	32.779	1.021	7.851	3.349	0.057	0.45	0.45	568.3	0.092
Sweepers/Scrubbers	2005	176	250	25.002	0.668	7.318	1.76	0.057	0.258	0.258	568.299	0.06
Sweepers/Scrubbers	2010	6	15	2.154395	1.81	5.8263	6.34286	0.005	0.615	0.566	583.6982	0.17
Sweepers/Scrubbers	2010	16	25	2.154395	1.81	5.8263	6.34286	0.005	0.615	0.566	583.6982	0.17

Sweepers/Scrubbers	2010	26	50	2.154395	1.81	5.8263	6.34286	0.005	0.615	0.566	583.6982	0.17
Sweepers/Scrubbers	2010	51	120	1.093749	0.919	7.68967	4.10149	0.005	0.657	0.604	526.7953	0.153
Sweepers/Scrubbers	2010	121	175	1.189152	0.999	10.3895	4.21032	0.005	0.578	0.532	525.6912	0.153
Sweepers/Scrubbers	2010	176	250	0.69332	0.583	7.47446	2.35018	0.005	0.319	0.294	522.3625	0.152
Sweepers/Scrubbers	2011	6	15	2.104606	1.768	5.80317	6.34227	0.005	0.606	0.557	582.239	0.17
Sweepers/Scrubbers	2011	16	25	2.104606	1.768	5.80317	6.34227	0.005	0.606	0.557	582.239	0.17
Sweepers/Scrubbers	2011	26	50	2.104606	1.768	5.80317	6.34227	0.005	0.606	0.557	582.239	0.17
Sweepers/Scrubbers	2011	51	120	1.070043	0.899	7.49949	4.08877	0.005	0.651	0.599	525.4783	0.153
Sweepers/Scrubbers	2011	121	175	1.134336	0.953	9.92737	4.14616	0.005	0.554	0.509	524.377	0.153
Sweepers/Scrubbers	2011	176	250	0.623199	0.524	7.01091	2.16425	0.005	0.284	0.261	521.0566	0.152
Sweepers/Scrubbers	2012	6	15	2.177617	1.83	5.85015	6.54958	0.005	0.621	0.571	580.7797	0.17
Sweepers/Scrubbers	2012	16	25	2.177617	1.83	5.85015	6.54958	0.005	0.621	0.571	580.7797	0.17
Sweepers/Scrubbers	2012	26	50	2.177617	1.83	5.85015	6.54958	0.005	0.621	0.571	580.7797	0.17
Sweepers/Scrubbers	2012	51	120	1.078889	0.907	7.50259	4.12474	0.005	0.659	0.606	524.1613	0.153
Sweepers/Scrubbers	2012	121	175	1.141423	0.959	9.95689	4.16243	0.005	0.558	0.513	523.0627	0.153
Sweepers/Scrubbers	2012	176	250	0.63315	0.532	7.05573	2.17716	0.005	0.286	0.264	519.7507	0.152
Sweepers/Scrubbers	2013	6	15	2.124198	1.785	5.78778	6.54294	0.005	0.608	0.559	577.8612	0.17
Sweepers/Scrubbers	2013	16	25	2.124198	1.785	5.78778	6.54294	0.005	0.608	0.559	577.8612	0.17
Sweepers/Scrubbers	2013	26	50	2.124198	1.785	5.78778	6.54294	0.005	0.608	0.559	577.8612	0.17
Sweepers/Scrubbers	2013	51	120	1.019559	0.857	7.14773	4.07918	0.005	0.626	0.576	521.5273	0.153
Sweepers/Scrubbers	2013	121	175	1.122038	0.943	9.76352	4.12302	0.005	0.547	0.503	520.4343	0.153
Sweepers/Scrubbers	2013	176	250	0.590836	0.496	6.66337	2.05413	0.005	0.263	0.242	517.1389	0.152
Sweepers/Scrubbers	2014	6	15	2.103399	1.767	5.75157	6.59249	0.005	0.603	0.555	574.9427	0.17
Sweepers/Scrubbers	2014	16	25	2.103399	1.767	5.75157	6.59249	0.005	0.603	0.555	574.9427	0.17
Sweepers/Scrubbers	2014	26	50	2.103399	1.767	5.75157	6.59249	0.005	0.603	0.555	574.9427	0.17
Sweepers/Scrubbers	2014	51	120	0.990916	0.833	6.93387	4.07085	0.005	0.61	0.562	518.8933	0.153
Sweepers/Scrubbers	2014	121	175	1.041854	0.875	9.10792	4.04161	0.005	0.503	0.463	517.8058	0.153
Sweepers/Scrubbers	2014	176	250	0.600544	0.505	6.70399	2.06593	0.005	0.265	0.244	514.5271	0.152
Sweepers/Scrubbers	2015	6	15	2.151059	1.807	5.77191	6.75408	0.005	0.611	0.562	569.1058	0.17
Sweepers/Scrubbers	2015	16	25	2.151059	1.807	5.77191	6.75408	0.005	0.611	0.562	569.1058	0.17
Sweepers/Scrubbers	2015	26	50	2.151059	1.807	5.77191	6.75408	0.005	0.611	0.562	569.1058	0.17
Sweepers/Scrubbers	2015	51	120	0.991855	0.833	6.8863	4.09682	0.005	0.61	0.561	513.6254	0.153
Sweepers/Scrubbers	2015	121	175	0.998266	0.839	8.69682	3.98239	0.005	0.479	0.441	512.5489	0.153
Sweepers/Scrubbers	2015	176	250	0.610252	0.513	6.7446	2.07774	0.005	0.268	0.246	509.3035	0.152
Sweepers/Scrubbers	2016	6	15	2.119969	1.781	5.72609	6.78514	0.005	0.603	0.555	563.2688	0.17
Sweepers/Scrubbers	2016	16	25	2.119969	1.781	5.72609	6.78514	0.005	0.603	0.555	563.2688	0.17
Sweepers/Scrubbers	2016	26	50	2.119969	1.781	5.72609	6.78514	0.005	0.603	0.555	563.2688	0.17
Sweepers/Scrubbers	2016	51	120	0.931404	0.783	6.45405	4.05916	0.005	0.571	0.525	508.3574	0.153
Sweepers/Scrubbers	2016	121	175	0.887319	0.746	7.78746	3.83865	0.005	0.419	0.385	507.292	0.153
Sweepers/Scrubbers	2016	176	250	0.61965	0.521	6.78244	2.08905	0.005	0.27	0.248	504.0799	0.152
Sweepers/Scrubbers	2017	6	15	2.037349	1.712	5.62558	6.7185	0.005	0.582	0.535	554.5133	0.17
Sweepers/Scrubbers	2017	16	25	2.037349	1.712	5.62558	6.7185	0.005	0.582	0.535	554.5133	0.17
Sweepers/Scrubbers	2017	26	50	2.037349	1.712	5.62558	6.7185	0.005	0.582	0.535	554.5133	0.17
Sweepers/Scrubbers	2017	51	120	0.857444	0.72	6.0202	4.01005	0.005	0.52	0.479	500.4555	0.153
Sweepers/Scrubbers	2017	121	175	0.845582	0.711	7.42433	3.78429	0.005	0.395	0.363	499.4066	0.153
Sweepers/Scrubbers	2017	176	250	0.610026	0.513	6.50894	2.08973	0.005	0.264	0.243	496.2444	0.152
Sweepers/Scrubbers	2018	6	15	1.838607	1.545	5.39866	6.4442	0.005	0.531	0.488	545.7578	0.17
Sweepers/Scrubbers	2018	16	25	1.838607	1.545	5.39866	6.4442	0.005	0.531	0.488	545.7578	0.17
Sweepers/Scrubbers	2018	26	50	1.838607	1.545	5.39866	6.4442	0.005	0.531	0.488	545.7578	0.17
Sweepers/Scrubbers	2018	51	120	0.713411	0.599	5.13595	3.88173	0.005	0.428	0.394	492.5536	0.153
Sweepers/Scrubbers	2018	121	175	0.700892	0.589	6.07101	3.58832	0.005	0.32	0.294	491.5213	0.153
Sweepers/Scrubbers	2018	176	250	0.415916	0.349	4.30158	1.60478	0.005	0.169	0.156	488.409	0.152
Sweepers/Scrubbers	2019	6	15	1.703052	1.431	5.22487	6.26782	0.005	0.491	0.452	537.0023	0.17
Sweepers/Scrubbers	2019	16	25	1.703052	1.431	5.22487	6.26782	0.005	0.491	0.452	537.0023	0.17
Sweepers/Scrubbers	2019	26	50	1.703052	1.431	5.22487	6.26782	0.005	0.491	0.452	537.0023	0.17
Sweepers/Scrubbers	2019	51	120	0.654062	0.55	4.77259	3.84602	0.005	0.387	0.356	484.6516	0.153
Sweepers/Scrubbers	2019	121	175	0.62277	0.523	5.30082	3.4491	0.005	0.277	0.255	483.6359	0.153
Sweepers/Scrubbers	2019	176	250	0.279258	0.235	2.86598	1.23013	0.005	0.099	0.091	480.5735	0.152
Sweepers/Scrubbers	2020	6	15	1.599203	1.344	5.09515	6.1554	0.005	0.463	0.426	525.3284	0.17
Sweepers/Scrubbers	2020	16	25	1.599203	1.344	5.09515	6.1554	0.005	0.463	0.426	525.3284	0.17
Sweepers/Scrubbers	2020	26	50	1.599203	1.344	5.09515	6.1554	0.005	0.463	0.426	525.3284	0.17
Sweepers/Scrubbers	2020	51	120	0.618762	0.52	4.4821	3.82752	0.005	0.36	0.331	474.1157	0.153
Sweepers/Scrubbers	2020	121	175	0.549287	0.462	4.60809	3.35909	0.005	0.237	0.218	473.1221	0.153
Sweepers/Scrubbers	2020	176	250	0.246498	0.207	2.4856	1.13655	0.005	0.079	0.073	470.1263	0.152
Sweepers/Scrubbers	2021	6	15	1.450842	1.219	4.84946	5.89996	0.005	0.412	0.379	525.3284	0.17
Sweepers/Scrubbers	2021	16	25	1.450842	1.219	4.84946	5.89996	0.005	0.412	0.379	525.3284	0.17
Sweepers/Scrubbers	2021	26	50	1.450842	1.219	4.84946	5.89996	0.005	0.412	0.379	525.3284	0.17
Sweepers/Scrubbers	2021	51	120	0.523878	0.44	3.96194	3.75746	0.005	0.291	0.268	474.1157	0.153
Sweepers/Scrubbers	2021	121	175	0.457963	0.385	3.70723	3.24726	0.005	0.187	0.172	473.1221	0.153
Sweepers/Scrubbers	2021	176	250	0.195441	0.164	1.75821	1.1084	0.005	0.055	0.051	470.1263	0.152
Sweepers/Scrubbers	2022	6	15	1.199805	1.008	4.49049	5.45118	0.005	0.335	0.308	525.3284	0.17
Sweepers/Scrubbers	2022	16	25	1.199805	1.008	4.49049	5.45118	0.005	0.335	0.308	525.3284	0.17
Sweepers/Scrubbers	2022	26	50	1.199805	1.008	4.49049	5.45118	0.005	0.335	0.308	525.3284	0.17
Sweepers/Scrubbers	2022	51	120	0.443216	0.372	3.47218	3.69196	0.005	0.232	0.214	474.1157	0.153
Sweepers/Scrubbers	2022	121	175	0.382446	0.321	3.00243	3.22176	0.005	0.145	0.133	473.1221	0.153
Sweepers/Scrubbers	2022	176	250	0.181362	0.152	1.60484	1.10147	0.005	0.05	0.046	470.1263	0.152
Sweepers/Scrubbers	2023	6	15	0.903476	0.759	4.12735	4.97095	0.005	0.248	0.229	525.3284	0.17
Sweepers/Scrubbers	2023	16	25	0.903476	0.759	4.12735	4.97095	0.005	0.248	0.229	525.3284	0.17
Sweepers/Scrubbers	2023	26	50	0.903476	0.759	4.12735	4.97095	0.005	0.248	0.229	525.3284	0.17
Sweepers/Scrubbers	2023	51	120	0.417244	0.351	3.28536	3.69499	0.005	0.21	0.193	474.1157	0.153
Sweepers/Scrubbers	2023	121	175	0.347747	0.292	2.60853	3.22298	0.005	0.126	0.116	473.1221	0.153
Sweepers/Scrubbers	2023	176	250	0.188622	0.158	1.61028	1.11413	0.005	0.05	0.046	470.1263	0.152
Sweepers/Scrubbers	2024	6	15	0.887865	0.746	4.0788	5.00321	0.005	0.239	0.219	525.3284	0.17
Sweepers/Scrubbers	2024	16	25	0.887865	0.746	4.0788	5.00321	0.005	0.239	0.219	525.3284	0.17
Sweepers/Scrubbers	2024	26	50	0.887865	0.746	4.0788	5.00321	0.005	0.239	0.219	525.3284	0.17
Sweepers/Scrubbers	2024	51	120	0.395131	0.332	3.09846	3.69288	0.005	0.188	0.173	474.1157	0.153
Sweepers/Scrubbers	2024	121	175	0.316819	0.266	2.2533	3.23374	0.005	0.107	0.099	473.1221	0.153
Sweepers/Scrubbers	2024	176	250	0.195631	0.164	1.61357	1.12729	0.005	0.051	0.046	470.1263	0.152
Sweepers/Scrubbers	2025	6	15	0.740656</								

Sweepers/Scrubbers	2025	16	25	0.740656	0.622	3.85568	4.76791	0.005	0.191	0.176	525.3284	0.17
Sweepers/Scrubbers	2025	26	50	0.740656	0.622	3.85568	4.76791	0.005	0.191	0.176	525.3284	0.17
Sweepers/Scrubbers	2025	51	120	0.360743	0.303	2.81733	3.66402	0.005	0.16	0.147	474.1157	0.153
Sweepers/Scrubbers	2025	121	175	0.25385	0.213	1.63811	3.201	0.005	0.072	0.066	473.1221	0.153
Sweepers/Scrubbers	2025	176	250	0.202235	0.17	1.61588	1.14005	0.005	0.051	0.047	470.1263	0.152
Sweepers/Scrubbers	2030	6	15	1.624	0.589	4.142	3.47	0.008	0.161	0.161	568.299	0.053
Sweepers/Scrubbers	2030	16	25	3.103	0.685	4.332	2.34	0.007	0.161	0.161	568.299	0.061
Sweepers/Scrubbers	2030	26	50	3.714	0.509	3.294	4.947	0.007	0.026	0.026	568.299	0.046
Sweepers/Scrubbers	2030	51	120	4.528	0.261	1.569	3.703	0.006	0.023	0.023	568.299	0.023
Sweepers/Scrubbers	2030	121	175	6.02	0.187	0.431	3.275	0.006	0.017	0.017	568.299	0.016
Sweepers/Scrubbers	2030	176	250	6.813	0.182	0.37	1.116	0.006	0.013	0.013	568.299	0.016
Sweepers/Scrubbers	2035	6	15	1.624	0.589	4.142	3.47	0.008	0.161	0.161	568.299	0.053
Sweepers/Scrubbers	2035	16	25	3.103	0.685	4.332	2.34	0.007	0.161	0.161	568.3	0.061
Sweepers/Scrubbers	2035	26	50	3.681	0.505	3.214	4.929	0.007	0.017	0.017	568.299	0.045
Sweepers/Scrubbers	2035	51	120	4.386	0.253	1.486	3.698	0.006	0.016	0.016	568.299	0.022
Sweepers/Scrubbers	2035	121	175	5.628	0.175	0.313	3.271	0.006	0.012	0.012	568.299	0.015
Sweepers/Scrubbers	2035	176	250	6.501	0.173	0.294	1.114	0.006	0.011	0.011	568.299	0.015
Sweepers/Scrubbers	2040	6	15	1.624	0.589	4.142	3.47	0.008	0.161	0.161	568.3	0.053
Sweepers/Scrubbers	2040	16	25	3.103	0.685	4.332	2.34	0.007	0.161	0.161	568.299	0.061
Sweepers/Scrubbers	2040	26	50	3.675	0.504	3.203	4.925	0.007	0.016	0.016	568.3	0.045
Sweepers/Scrubbers	2040	51	120	4.354	0.251	1.469	3.697	0.006	0.015	0.015	568.299	0.022
Sweepers/Scrubbers	2040	121	175	5.537	0.172	0.284	3.27	0.006	0.011	0.011	568.299	0.015
Sweepers/Scrubbers	2040	176	250	6.454	0.172	0.284	1.114	0.006	0.011	0.011	568.299	0.015
Tractors/Loaders/Backhoe	1990	16	25	5.699	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Tractors/Loaders/Backhoe	1990	26	50	23.587	4.787	7.939	9.698	0.871	1.267	1.267	568.299	0.431
Tractors/Loaders/Backhoe	1990	51	120	19.595	2.333	14.779	5.659	0.791	1.327	1.327	568.299	0.21
Tractors/Loaders/Backhoe	1990	121	175	28.833	1.751	14.021	5.008	0.758	0.974	0.974	568.299	0.158
Tractors/Loaders/Backhoe	1990	176	250	48.841	1.751	14.021	5.008	0.758	0.974	0.974	568.299	0.158
Tractors/Loaders/Backhoe	1990	251	500	86.854	1.551	13.298	10.967	0.758	0.834	0.834	568.3	0.139
Tractors/Loaders/Backhoe	1990	501	750	130.281	1.551	13.298	10.967	1.139	0.85	0.85	568.299	0.139
Tractors/Loaders/Backhoe	2000	16	25	5.225	2.029	6.391	4.66	0.065	0.57	0.57	568.299	0.183
Tractors/Loaders/Backhoe	2000	26	50	21.043	4.271	6.964	8.855	0.066	0.903	0.903	568.299	0.385
Tractors/Loaders/Backhoe	2000	51	120	14.597	1.738	9.784	4.448	0.06	0.862	0.862	568.299	0.156
Tractors/Loaders/Backhoe	2000	121	175	19.393	1.178	9.027	3.534	0.057	0.494	0.494	568.299	0.106
Tractors/Loaders/Backhoe	2000	176	250	26.283	0.942	8.625	2.634	0.057	0.38	0.38	568.299	0.085
Tractors/Loaders/Backhoe	2000	251	500	48.341	0.863	8.225	3.629	0.057	0.339	0.339	568.299	0.077
Tractors/Loaders/Backhoe	2000	501	750	72.512	0.863	8.225	3.629	0.059	0.339	0.339	568.299	0.077
Tractors/Loaders/Backhoe	2005	16	25	3.067	1.191	5.648	3.137	0.065	0.404	0.404	568.299	0.107
Tractors/Loaders/Backhoe	2005	26	50	18.069	3.667	6.405	8.018	0.066	0.819	0.819	568.299	0.33
Tractors/Loaders/Backhoe	2005	51	120	12.595	1.499	8.325	4.22	0.06	0.802	0.802	568.299	0.135
Tractors/Loaders/Backhoe	2005	121	175	16.035	0.974	7.629	3.341	0.057	0.432	0.432	568.3	0.087
Tractors/Loaders/Backhoe	2005	176	250	18.392	0.659	7.181	1.774	0.057	0.256	0.256	568.3	0.059
Tractors/Loaders/Backhoe	2005	251	500	32.511	0.58	6.451	1.993	0.057	0.23	0.23	568.299	0.052
Tractors/Loaders/Backhoe	2005	501	750	49.91	0.594	6.656	1.99	0.059	0.234	0.234	568.299	0.053
Tractors/Loaders/Backhoe	2010	16	25	1.894649	1.592	5.63221	5.95576	0.005	0.561	0.516	569.9866	0.166
Tractors/Loaders/Backhoe	2010	26	50	1.894649	1.592	5.63221	5.95576	0.005	0.561	0.516	569.9866	0.166
Tractors/Loaders/Backhoe	2010	51	120	0.792369	0.666	6.31224	3.83197	0.005	0.504	0.464	533.5879	0.155
Tractors/Loaders/Backhoe	2010	121	175	0.559066	0.47	5.68573	3.20391	0.005	0.285	0.263	521.9624	0.152
Tractors/Loaders/Backhoe	2010	176	250	0.408454	0.343	5.58586	1.44044	0.005	0.178	0.163	522.8516	0.152
Tractors/Loaders/Backhoe	2010	251	500	0.391383	0.329	5.18517	2.07689	0.005	0.172	0.158	526.5923	0.153
Tractors/Loaders/Backhoe	2010	501	750	0.330642	0.278	4.39795	1.80487	0.005	0.153	0.141	517.4169	0.151
Tractors/Loaders/Backhoe	2011	16	25	1.788969	1.503	5.58613	5.86306	0.005	0.54	0.497	569.4176	0.166
Tractors/Loaders/Backhoe	2011	26	50	1.788969	1.503	5.58613	5.86306	0.005	0.54	0.497	569.4176	0.166
Tractors/Loaders/Backhoe	2011	51	120	0.766159	0.644	6.12981	3.83083	0.005	0.491	0.451	531.2907	0.155
Tractors/Loaders/Backhoe	2011	121	175	0.544391	0.457	5.49667	3.21464	0.005	0.277	0.255	520.8772	0.152
Tractors/Loaders/Backhoe	2011	176	250	0.400263	0.336	5.38873	1.41416	0.005	0.172	0.158	521.7143	0.152
Tractors/Loaders/Backhoe	2011	251	500	0.383321	0.322	4.98779	2.01155	0.005	0.167	0.154	525.0356	0.153
Tractors/Loaders/Backhoe	2011	501	750	0.337174	0.283	4.35896	1.80098	0.005	0.153	0.14	516.0241	0.151
Tractors/Loaders/Backhoe	2012	16	25	1.778006	1.494	5.57167	5.92961	0.005	0.537	0.494	568.1171	0.166
Tractors/Loaders/Backhoe	2012	26	50	1.778006	1.494	5.57167	5.92961	0.005	0.537	0.494	568.1171	0.166
Tractors/Loaders/Backhoe	2012	51	120	0.765477	0.643	6.07938	3.85825	0.005	0.49	0.45	529.8013	0.155
Tractors/Loaders/Backhoe	2012	121	175	0.55208	0.464	5.48812	3.24733	0.005	0.279	0.257	519.5807	0.152
Tractors/Loaders/Backhoe	2012	176	250	0.408595	0.343	5.3794	1.42415	0.005	0.173	0.159	520.5233	0.152
Tractors/Loaders/Backhoe	2012	251	500	0.391545	0.329	4.9585	2.03631	0.005	0.168	0.154	523.6066	0.153
Tractors/Loaders/Backhoe	2012	501	750	0.34578	0.291	4.30593	1.81138	0.005	0.153	0.141	514.6158	0.151
Tractors/Loaders/Backhoe	2013	16	25	1.710175	1.437	5.50692	5.8983	0.005	0.52	0.478	566.4101	0.167
Tractors/Loaders/Backhoe	2013	26	50	1.710175	1.437	5.50692	5.8983	0.005	0.52	0.478	566.4101	0.167
Tractors/Loaders/Backhoe	2013	51	120	0.736849	0.619	5.88177	3.85259	0.005	0.468	0.431	526.7149	0.155
Tractors/Loaders/Backhoe	2013	121	175	0.53894	0.453	5.32658	3.25593	0.005	0.269	0.248	516.748	0.152
Tractors/Loaders/Backhoe	2013	176	250	0.404183	0.34	5.22143	1.40715	0.005	0.168	0.155	517.9916	0.152
Tractors/Loaders/Backhoe	2013	251	500	0.386263	0.325	4.77348	1.98237	0.005	0.162	0.149	520.6472	0.153
Tractors/Loaders/Backhoe	2013	501	750	0.357231	0.3	4.31599	1.8218	0.005	0.155	0.143	511.8955	0.151
Tractors/Loaders/Backhoe	2014	16	25	1.58953	1.336	5.36869	5.77182	0.005	0.488	0.449	564.0421	0.167
Tractors/Loaders/Backhoe	2014	26	50	1.58953	1.336	5.36869	5.77182	0.005	0.488	0.449	564.0421	0.167
Tractors/Loaders/Backhoe	2014	51	120	0.692813	0.582	5.58081	3.82724	0.005	0.438	0.403	523.0168	0.155
Tractors/Loaders/Backhoe	2014	121	175	0.503298	0.423	4.93788	3.23863	0.005	0.248	0.228	513.8903	0.152
Tractors/Loaders/Backhoe	2014	176	250	0.389056	0.327	4.92175	1.37555	0.005	0.159	0.146	515.1747	0.152
Tractors/Loaders/Backhoe	2014	251	500	0.371559	0.312	4.48819	1.87787	0.005	0.152	0.14	517.1237	0.153
Tractors/Loaders/Backhoe	2014	501	750	0.362599	0.305	4.24344	1.8331	0.005	0.154	0.141	511.3367	0.151
Tractors/Loaders/Backhoe	2015	16	25	1.555682	1.307	5.32019	5.79091	0.005	0.477	0.439	558.7085	0.167
Tractors/Loaders/Backhoe	2015	26	50	1.555682	1.307	5.32019	5.79091	0.005	0.477	0.439	558.7085	0.167
Tractors/Loaders/Backhoe	2015	51	120	0.677539	0.569	5.4221	3.83198	0.005	0.424	0.39	517.3652	0.154
Tractors/Loaders/Backhoe	2015	121	175	0.501434	0.421	4.83599	3.2559	0.005	0.244	0.225	508.6819	0.152
Tractors/Loaders/Backhoe	2015	176	250	0.387795	0.326	4.7831	1.37366	0.005	0.155	0.143	509.6269	0.152
Tractors/Loaders/Backhoe	2015	251	500	0.371246	0.312	4.34833	1.88403	0.005	0.149	0.137	511.8685	0.153
Tractors/Loaders/Backhoe	2015	501	750	0.36596	0.308	4.1848	1.823	0.005	0.152	0.14	506.1469	0.151
Tractors/Loaders/Backhoe	2016	16	25	1.488115	1.25	5.21373	5.74113	0.005	0.455	0.418	553.3996	0.167
Tractors/Loaders/Backhoe	2016	26	50	1.488115	1.25	5.21373	5.74113	0.005	0.455	0.418	553.3996	0.167
Tractors/Loaders/Backhoe	2016	51	120	0.640315	0.538	5.14235	3.81146	0.005	0.396	0.364	511.3456	0.154

Tractors/Loaders/Backhoe	2016	121	175	0.46319	0.389	4.37945	3.23229	0.005	0.222	0.204	502.6294	0.152
Tractors/Loaders/Backhoe	2016	176	250	0.369743	0.311	4.42611	1.34719	0.005	0.145	0.133	504.4014	0.152
Tractors/Loaders/Backhoe	2016	251	500	0.337794	0.284	3.7866	1.78642	0.005	0.131	0.121	505.2698	0.152
Tractors/Loaders/Backhoe	2016	501	750	0.357237	0.3	4.0216	1.67424	0.005	0.144	0.133	500.955	0.151
Tractors/Loaders/Backhoe	2017	16	25	1.421071	1.194	5.10958	5.68921	0.005	0.433	0.398	544.9286	0.167
Tractors/Loaders/Backhoe	2017	26	50	1.421071	1.194	5.10958	5.68921	0.005	0.433	0.398	544.9286	0.167
Tractors/Loaders/Backhoe	2017	51	120	0.595595	0.5	4.8087	3.7818	0.005	0.362	0.333	502.7952	0.154
Tractors/Loaders/Backhoe	2017	121	175	0.420865	0.354	3.87876	3.19961	0.005	0.197	0.181	493.912	0.151
Tractors/Loaders/Backhoe	2017	176	250	0.346619	0.291	4.04062	1.30369	0.005	0.132	0.121	496.8449	0.152
Tractors/Loaders/Backhoe	2017	251	500	0.323689	0.272	3.48988	1.73851	0.005	0.122	0.112	497.1129	0.152
Tractors/Loaders/Backhoe	2017	501	750	0.35268	0.296	3.86196	1.64567	0.005	0.139	0.128	492.9529	0.151
Tractors/Loaders/Backhoe	2018	16	25	1.180685	0.992	4.76441	5.31043	0.005	0.363	0.334	536.1115	0.167
Tractors/Loaders/Backhoe	2018	26	50	1.180685	0.992	4.76441	5.31043	0.005	0.363	0.334	536.1115	0.167
Tractors/Loaders/Backhoe	2018	51	120	0.5003	0.42	4.15444	3.69155	0.005	0.294	0.271	494.1237	0.154
Tractors/Loaders/Backhoe	2018	121	175	0.353485	0.297	3.16806	3.13727	0.005	0.16	0.147	485.7754	0.151
Tractors/Loaders/Backhoe	2018	176	250	0.308076	0.259	3.45965	1.24197	0.005	0.112	0.103	489.4562	0.152
Tractors/Loaders/Backhoe	2018	251	500	0.264454	0.222	2.66877	1.44545	0.005	0.092	0.085	486.2939	0.151
Tractors/Loaders/Backhoe	2018	501	750	0.322751	0.271	3.40235	1.60068	0.005	0.124	0.114	485.0099	0.151
Tractors/Loaders/Backhoe	2019	16	25	1.095082	0.92	4.60928	5.20327	0.005	0.33	0.304	527.6843	0.167
Tractors/Loaders/Backhoe	2019	26	50	1.095082	0.92	4.60928	5.20327	0.005	0.33	0.304	527.6843	0.167
Tractors/Loaders/Backhoe	2019	51	120	0.437701	0.368	3.69257	3.63777	0.005	0.247	0.227	485.8548	0.154
Tractors/Loaders/Backhoe	2019	121	175	0.321856	0.27	2.78412	3.12158	0.005	0.14	0.129	477.9151	0.151
Tractors/Loaders/Backhoe	2019	176	250	0.291458	0.245	3.14683	1.22027	0.005	0.102	0.094	481.4206	0.152
Tractors/Loaders/Backhoe	2019	251	500	0.245176	0.206	2.34458	1.38918	0.005	0.082	0.075	479.0826	0.152
Tractors/Loaders/Backhoe	2019	501	750	0.311873	0.262	3.12046	1.6025	0.005	0.117	0.107	478.9216	0.152
Tractors/Loaders/Backhoe	2020	16	25	0.987255	0.83	4.39784	5.03491	0.005	0.288	0.265	515.874	0.167
Tractors/Loaders/Backhoe	2020	26	50	0.987255	0.83	4.39784	5.03491	0.005	0.288	0.265	515.874	0.167
Tractors/Loaders/Backhoe	2020	51	120	0.393883	0.331	3.32571	3.60147	0.005	0.21	0.193	475.1543	0.154
Tractors/Loaders/Backhoe	2020	121	175	0.29217	0.246	2.41467	3.10518	0.005	0.122	0.112	467.5132	0.151
Tractors/Loaders/Backhoe	2020	176	250	0.268036	0.225	2.73794	1.19592	0.005	0.09	0.083	470.4998	0.152
Tractors/Loaders/Backhoe	2020	251	500	0.230511	0.194	2.07976	1.35815	0.005	0.073	0.067	468.2447	0.151
Tractors/Loaders/Backhoe	2020	501	750	0.318709	0.268	3.11926	1.60984	0.005	0.117	0.108	468.6602	0.152
Tractors/Loaders/Backhoe	2021	16	25	0.899672	0.756	4.22643	4.90172	0.005	0.254	0.234	515.1213	0.167
Tractors/Loaders/Backhoe	2021	26	50	0.899672	0.756	4.22643	4.90172	0.005	0.254	0.234	515.1213	0.167
Tractors/Loaders/Backhoe	2021	51	120	0.35209	0.296	2.995	3.57072	0.005	0.177	0.162	475.3621	0.154
Tractors/Loaders/Backhoe	2021	121	175	0.263016	0.221	2.06221	3.0907	0.005	0.104	0.096	467.5285	0.151
Tractors/Loaders/Backhoe	2021	176	250	0.249239	0.209	2.36922	1.18606	0.005	0.08	0.074	470.5716	0.152
Tractors/Loaders/Backhoe	2021	251	500	0.213479	0.179	1.776	1.34147	0.005	0.064	0.059	469.3025	0.152
Tractors/Loaders/Backhoe	2021	501	750	0.294477	0.247	2.75417	1.43254	0.005	0.104	0.096	466.4564	0.151
Tractors/Loaders/Backhoe	2022	16	25	0.818675	0.688	4.03024	4.75954	0.005	0.218	0.2	514.4613	0.166
Tractors/Loaders/Backhoe	2022	26	50	0.818675	0.688	4.03024	4.75954	0.005	0.218	0.2	514.4613	0.166
Tractors/Loaders/Backhoe	2022	51	120	0.309669	0.26	2.64718	3.53551	0.005	0.142	0.131	475.8975	0.154
Tractors/Loaders/Backhoe	2022	121	175	0.237945	0.2	1.75274	3.07944	0.005	0.089	0.082	467.8004	0.151
Tractors/Loaders/Backhoe	2022	176	250	0.222521	0.187	1.94251	1.16248	0.005	0.067	0.062	470.1236	0.152
Tractors/Loaders/Backhoe	2022	251	500	0.190771	0.16	1.43694	1.28026	0.005	0.053	0.049	469.2562	0.152
Tractors/Loaders/Backhoe	2022	501	750	0.276438	0.232	2.4532	1.35272	0.005	0.094	0.087	466.6327	0.151
Tractors/Loaders/Backhoe	2023	16	25	0.738634	0.621	3.85698	4.62935	0.005	0.185	0.17	513.7962	0.166
Tractors/Loaders/Backhoe	2023	26	50	0.738634	0.621	3.85698	4.62935	0.005	0.185	0.17	513.7962	0.166
Tractors/Loaders/Backhoe	2023	51	120	0.284572	0.239	2.42607	3.52504	0.005	0.12	0.11	476.4307	0.154
Tractors/Loaders/Backhoe	2023	121	175	0.219196	0.184	1.52095	3.0777	0.005	0.077	0.07	468.821	0.152
Tractors/Loaders/Backhoe	2023	176	250	0.201205	0.169	1.58768	1.14809	0.005	0.058	0.053	469.7518	0.152
Tractors/Loaders/Backhoe	2023	251	500	0.180818	0.152	1.24708	1.27923	0.005	0.047	0.043	469.4652	0.152
Tractors/Loaders/Backhoe	2023	501	750	0.278685	0.234	2.41861	1.36081	0.005	0.095	0.087	466.6756	0.151
Tractors/Loaders/Backhoe	2024	16	25	0.701609	0.59	3.76811	4.60899	0.005	0.166	0.153	513.8517	0.166
Tractors/Loaders/Backhoe	2024	26	50	0.701609	0.59	3.76811	4.60899	0.005	0.166	0.153	513.8517	0.166
Tractors/Loaders/Backhoe	2024	51	120	0.270597	0.227	2.28795	3.5318	0.005	0.105	0.097	476.7313	0.154
Tractors/Loaders/Backhoe	2024	121	175	0.209421	0.176	1.37643	3.08913	0.005	0.068	0.063	469.4029	0.152
Tractors/Loaders/Backhoe	2024	176	250	0.199431	0.168	1.49113	1.15125	0.005	0.054	0.05	469.9143	0.152
Tractors/Loaders/Backhoe	2024	251	500	0.178929	0.15	1.16321	1.277	0.005	0.044	0.041	470.0841	0.152
Tractors/Loaders/Backhoe	2024	501	750	0.262816	0.221	2.21548	1.31051	0.005	0.085	0.079	466.6381	0.151
Tractors/Loaders/Backhoe	2025	16	25	0.654585	0.55	3.66186	4.55974	0.005	0.145	0.133	513.8025	0.166
Tractors/Loaders/Backhoe	2025	26	50	0.654585	0.55	3.66186	4.55974	0.005	0.145	0.133	513.8025	0.166
Tractors/Loaders/Backhoe	2025	51	120	0.248412	0.209	2.10918	3.52242	0.005	0.085	0.079	477.188	0.154
Tractors/Loaders/Backhoe	2025	121	175	0.192617	0.162	1.18039	3.08323	0.005	0.058	0.054	469.3289	0.152
Tractors/Loaders/Backhoe	2025	176	250	0.183368	0.154	1.23458	1.14554	0.005	0.047	0.044	470.5976	0.152
Tractors/Loaders/Backhoe	2025	251	500	0.171862	0.144	1.04575	1.23405	0.005	0.039	0.036	470.9102	0.152
Tractors/Loaders/Backhoe	2025	501	750	0.222943	0.187	1.64868	1.26139	0.005	0.067	0.062	466.4517	0.151
Tractors/Loaders/Backhoe	2030	16	25	1.765	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Tractors/Loaders/Backhoe	2030	26	50	2.657	0.539	3.299	4.966	0.007	0.033	0.033	568.299	0.048
Tractors/Loaders/Backhoe	2030	51	120	2.285	0.272	1.624	3.705	0.006	0.03	0.03	568.299	0.024
Tractors/Loaders/Backhoe	2030	121	175	3.178	0.193	0.485	3.273	0.006	0.02	0.02	568.299	0.017
Tractors/Loaders/Backhoe	2030	176	250	5.112	0.183	0.418	1.115	0.006	0.014	0.014	568.299	0.016
Tractors/Loaders/Backhoe	2030	251	500	10.236	0.182	0.403	1.066	0.006	0.014	0.014	568.299	0.016
Tractors/Loaders/Backhoe	2030	501	750	15.363	0.182	0.407	1.066	0.006	0.014	0.014	568.299	0.016
Tractors/Loaders/Backhoe	2035	16	25	1.765	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Tractors/Loaders/Backhoe	2035	26	50	2.538	0.515	3.244	4.949	0.007	0.022	0.022	568.299	0.046
Tractors/Loaders/Backhoe	2035	51	120	2.17	0.258	1.521	3.703	0.006	0.02	0.02	568.299	0.023
Tractors/Loaders/Backhoe	2035	121	175	2.956	0.179	0.348	3.275	0.006	0.015	0.015	568.299	0.016
Tractors/Loaders/Backhoe	2035	176	250	4.945	0.177	0.331	1.115	0.006	0.012	0.012	568.299	0.016
Tractors/Loaders/Backhoe	2035	251	500	9.922	0.177	0.326	1.066	0.006	0.012	0.012	568.299	0.015
Tractors/Loaders/Backhoe	2035	501	750	14.886	0.177	0.327	1.066	0.006	0.012	0.012	568.299	0.015
Tractors/Loaders/Backhoe	2040	16	25	1.765	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Tractors/Loaders/Backhoe	2040	26	50	2.506	0.508	3.22	4.946	0.007	0.018	0.018	568.299	0.045
Tractors/Loaders/Backhoe	2040	51	120	2.135	0.254	1.485	3.703	0.006	0.016	0.016	568.299	0.022
Tractors/Loaders/Backhoe	2040	121	175	2.891	0.175	0.305	3.276	0.006	0.012	0.012	568.299	0.015
Tractors/Loaders/Backhoe	2040	176	250	4.877	0.174	0.297	1.116	0.006	0.011	0.011	568.3	0.015
Tractors/Loaders/Backhoe	2040	251	500	9.794	0.174	0.297	1.066	0.006	0.011	0.011	568.299	0.015
Tractors/Loaders/Backhoe	2040	501	750	14.69	0.174	0.297	1.066	0.006	0.011			

Trenchers	1990	16	25	18.341	2.213	6.919	4.999	0.855	0.741	0.741	568.3	0.199
Trenchers	1990	26	50	37.589	4.535	7.849	9.232	0.871	1.215	1.215	568.3	0.409
Trenchers	1990	51	120	37.519	2.296	14.752	5.621	0.791	1.284	1.284	568.299	0.207
Trenchers	1990	121	175	63.364	1.748	14.125	5.014	0.758	0.96	0.96	568.299	0.157
Trenchers	1990	176	250	98.152	1.748	14.125	5.014	0.758	0.96	0.96	568.299	0.157
Trenchers	1990	251	500	121.775	1.553	13.45	10.572	0.662	0.827	0.827	568.299	0.14
Trenchers	1990	501	750	229.57	1.553	13.45	10.572	1.018	0.843	0.843	568.299	0.14
Trenchers	2000	6	15	2.824	1.325	7.675	4.257	0.079	0.61	0.61	568.299	0.119
Trenchers	2000	16	25	15.815	1.908	6.326	4.438	0.065	0.555	0.555	568.299	0.172
Trenchers	2000	26	50	34.945	4.216	7.029	8.713	0.066	0.89	0.89	568.299	0.38
Trenchers	2000	51	120	30.939	1.893	10.98	4.777	0.06	0.882	0.882	568.299	0.17
Trenchers	2000	121	175	46.959	1.296	10.057	3.969	0.057	0.541	0.541	568.299	0.116
Trenchers	2000	176	250	64.645	1.151	9.8	3.402	0.057	0.474	0.474	568.299	0.103
Trenchers	2000	251	500	81.678	1.042	9.354	6.221	0.05	0.416	0.416	568.299	0.094
Trenchers	2000	501	750	153.98	1.042	9.354	6.221	0.052	0.416	0.416	568.299	0.094
Trenchers	2005	6	15	1.582	0.742	4.981	3.469	0.079	0.35	0.35	568.299	0.066
Trenchers	2005	16	25	7.043	0.849	5.321	2.519	0.065	0.333	0.333	568.3	0.076
Trenchers	2005	26	50	32.497	3.921	6.674	8.33	0.066	0.849	0.849	568.299	0.353
Trenchers	2005	51	120	27.751	1.698	9.727	4.526	0.06	0.839	0.839	568.299	0.153
Trenchers	2005	121	175	40.799	1.126	8.861	3.695	0.057	0.487	0.487	568.299	0.101
Trenchers	2005	176	250	51.63	0.92	8.545	2.668	0.057	0.379	0.379	568.299	0.083
Trenchers	2005	251	500	63.694	0.812	7.903	4.395	0.05	0.332	0.332	568.299	0.073
Trenchers	2005	501	750	121.568	0.822	8.023	4.387	0.052	0.333	0.333	568.299	0.074
Trenchers	2010	6	15	1.531711	1.287	5.52761	5.11336	0.005	0.509	0.468	586.297	0.171
Trenchers	2010	16	25	1.531711	1.287	5.52761	5.11336	0.005	0.509	0.468	586.297	0.171
Trenchers	2010	26	50	1.531711	1.287	5.52761	5.11336	0.005	0.509	0.468	586.297	0.171
Trenchers	2010	51	120	1.099287	0.924	7.99924	4.07421	0.005	0.62	0.571	529.306	0.154
Trenchers	2010	121	175	0.922781	0.775	8.65095	3.7406	0.005	0.441	0.406	519.6876	0.151
Trenchers	2010	176	250	0.705197	0.593	7.86432	2.36576	0.005	0.314	0.288	527.3537	0.154
Trenchers	2010	251	500	0.380701	0.32	4.85363	2.10547	0.005	0.176	0.162	523.7828	0.152
Trenchers	2010	501	750	0.194919	0.164	3.20501	1.33412	0.005	0.113	0.104	525.788	0.153
Trenchers	2011	6	15	1.520162	1.277	5.52336	5.14932	0.005	0.507	0.467	585.033	0.171
Trenchers	2011	16	25	1.520162	1.277	5.52336	5.14932	0.005	0.507	0.467	585.033	0.171
Trenchers	2011	26	50	1.520162	1.277	5.52336	5.14932	0.005	0.507	0.467	585.033	0.171
Trenchers	2011	51	120	1.045215	0.878	7.67483	4.02646	0.005	0.598	0.55	527.7187	0.154
Trenchers	2011	121	175	0.916044	0.77	8.56359	3.73004	0.005	0.438	0.403	518.4008	0.151
Trenchers	2011	176	250	0.655301	0.551	7.41222	2.19702	0.005	0.29	0.267	525.9543	0.153
Trenchers	2011	251	500	0.372561	0.313	4.66474	2.04569	0.005	0.171	0.158	522.8418	0.153
Trenchers	2011	501	750	0.180473	0.152	2.67369	1.33856	0.005	0.097	0.089	525.691	0.153
Trenchers	2012	6	15	1.545009	1.298	5.53504	5.24421	0.005	0.512	0.471	583.5639	0.171
Trenchers	2012	16	25	1.545009	1.298	5.53504	5.24421	0.005	0.512	0.471	583.5639	0.171
Trenchers	2012	26	50	1.545009	1.298	5.53504	5.24421	0.005	0.512	0.471	583.5639	0.171
Trenchers	2012	51	120	1.052636	0.885	7.69459	4.05076	0.005	0.604	0.556	526.3562	0.154
Trenchers	2012	121	175	0.907539	0.763	8.45762	3.7162	0.005	0.436	0.401	517.1147	0.151
Trenchers	2012	176	250	0.662356	0.557	7.44867	2.20863	0.005	0.293	0.27	524.572	0.153
Trenchers	2012	251	500	0.369046	0.31	4.58546	2.03349	0.005	0.168	0.155	521.6264	0.153
Trenchers	2012	501	750	0.135931	0.114	2.04792	0.95532	0.005	0.069	0.064	524.8533	0.154
Trenchers	2013	6	15	1.53809	1.292	5.51013	5.2883	0.005	0.509	0.469	580.7693	0.171
Trenchers	2013	16	25	1.53809	1.292	5.51013	5.2883	0.005	0.509	0.469	580.7693	0.171
Trenchers	2013	26	50	1.53809	1.292	5.51013	5.2883	0.005	0.509	0.469	580.7693	0.171
Trenchers	2013	51	120	1.010936	0.849	7.45031	4.02389	0.005	0.582	0.536	523.4236	0.154
Trenchers	2013	121	175	0.916392	0.77	8.49431	3.73732	0.005	0.441	0.406	514.53	0.151
Trenchers	2013	176	250	0.626949	0.527	7.03951	2.13383	0.005	0.276	0.254	520.4335	0.153
Trenchers	2013	251	500	0.376293	0.316	4.60225	2.04997	0.005	0.17	0.156	519.043	0.153
Trenchers	2013	501	750	0.144323	0.121	2.05561	0.96183	0.005	0.07	0.065	522.2778	0.154
Trenchers	2014	6	15	1.508934	1.268	5.45539	5.29329	0.005	0.501	0.46	577.7275	0.171
Trenchers	2014	16	25	1.508934	1.268	5.45539	5.29329	0.005	0.501	0.46	577.7275	0.171
Trenchers	2014	26	50	1.508934	1.268	5.45539	5.29329	0.005	0.501	0.46	577.7275	0.171
Trenchers	2014	51	120	0.973633	0.818	7.2172	3.99876	0.005	0.563	0.518	520.7658	0.154
Trenchers	2014	121	175	0.824366	0.693	7.69921	3.66799	0.005	0.395	0.364	512.1475	0.151
Trenchers	2014	176	250	0.591196	0.497	6.48427	2.07009	0.005	0.258	0.237	517.7188	0.153
Trenchers	2014	251	500	0.364023	0.306	4.37019	2.03515	0.005	0.161	0.148	513.7439	0.152
Trenchers	2014	501	750	0.140019	0.118	1.825	0.96403	0.005	0.061	0.056	519.6576	0.154
Trenchers	2015	6	15	1.498018	1.259	5.40567	5.32346	0.005	0.493	0.454	571.6674	0.171
Trenchers	2015	16	25	1.498018	1.259	5.40567	5.32346	0.005	0.493	0.454	571.6674	0.171
Trenchers	2015	26	50	1.498018	1.259	5.40567	5.32346	0.005	0.493	0.454	571.6674	0.171
Trenchers	2015	51	120	0.972367	0.817	7.17857	4.01434	0.005	0.562	0.517	515.3955	0.154
Trenchers	2015	121	175	0.829448	0.697	7.67382	3.68389	0.005	0.396	0.364	506.9434	0.151
Trenchers	2015	176	250	0.597101	0.502	6.50988	2.0797	0.005	0.26	0.239	512.4325	0.153
Trenchers	2015	251	500	0.370644	0.311	4.38344	2.05093	0.005	0.163	0.15	508.3296	0.152
Trenchers	2015	501	750	0.135272	0.114	1.62336	0.96532	0.005	0.053	0.049	514.4002	0.154
Trenchers	2016	6	15	1.450442	1.219	5.29818	5.28497	0.005	0.475	0.437	565.9942	0.171
Trenchers	2016	16	25	1.450442	1.219	5.29818	5.28497	0.005	0.475	0.437	565.9942	0.171
Trenchers	2016	26	50	1.450442	1.219	5.29818	5.28497	0.005	0.475	0.437	565.9942	0.171
Trenchers	2016	51	120	0.937737	0.788	6.90219	3.98822	0.005	0.541	0.498	509.9027	0.154
Trenchers	2016	121	175	0.693219	0.582	6.50303	3.50717	0.005	0.328	0.302	501.7809	0.151
Trenchers	2016	176	250	0.58008	0.487	6.31168	2.03007	0.005	0.251	0.231	507.1448	0.153
Trenchers	2016	251	500	0.351818	0.296	4.09912	1.96649	0.005	0.15	0.138	504.4103	0.152
Trenchers	2016	501	750	0.142468	0.12	1.63008	0.97148	0.005	0.054	0.05	509.1433	0.154
Trenchers	2017	6	15	1.367315	1.149	5.16614	5.19682	0.005	0.449	0.413	557.4601	0.171
Trenchers	2017	16	25	1.367315	1.149	5.16614	5.19682	0.005	0.449	0.413	557.4601	0.171
Trenchers	2017	26	50	1.367315	1.149	5.16614	5.19682	0.005	0.449	0.413	557.4601	0.171
Trenchers	2017	51	120	0.906302	0.762	6.67876	3.96827	0.005	0.523	0.481	501.9916	0.154
Trenchers	2017	121	175	0.638299	0.536	5.92725	3.43391	0.005	0.3	0.276	493.7642	0.151
Trenchers	2017	176	250	0.577948	0.486	6.19428	2.03655	0.005	0.25	0.23	499.2281	0.153
Trenchers	2017	251	500	0.315778	0.265	3.44157	1.96603	0.005	0.129	0.119	497.0197	0.152
Trenchers	2017	501	750	0.135465	0.114	1.42958	0.97168	0.005	0.046	0.042	501.1831	0.154
Trenchers	2018	6	15	1.236195	1.039	4.95997	5.01831	0.005	0.409	0.377	548.3607	0.171
Trenchers	2018	16	25	1.236195	1.039	4.95997	5.01831	0.005	0.409	0.377	548.3607	0.171

Trenchers	2018	26	50	1.236195	1.039	4.95997	5.01831	0.005	0.409	0.377	548.3607	0.171
Trenchers	2018	51	120	0.78315	0.658	5.91527	3.85487	0.005	0.45	0.414	493.715	0.154
Trenchers	2018	121	175	0.559787	0.47	5.12742	3.33134	0.005	0.261	0.24	485.9254	0.151
Trenchers	2018	176	250	0.498602	0.419	5.29554	1.84856	0.005	0.212	0.195	491.5649	0.153
Trenchers	2018	251	500	0.30464	0.256	3.21114	1.97444	0.005	0.121	0.112	489.6281	0.152
Trenchers	2018	501	750	0.111849	0.094	1.02523	0.96632	0.005	0.029	0.026	494.6426	0.154
Trenchers	2019	6	15	1.136688	0.955	4.78464	4.89183	0.005	0.377	0.347	539.1037	0.171
Trenchers	2019	16	25	1.136688	0.955	4.78464	4.89183	0.005	0.377	0.347	539.1037	0.171
Trenchers	2019	26	50	1.136688	0.955	4.78464	4.89183	0.005	0.377	0.347	539.1037	0.171
Trenchers	2019	51	120	0.751452	0.631	5.69508	3.83677	0.005	0.431	0.396	485.3635	0.154
Trenchers	2019	121	175	0.547248	0.46	4.95976	3.34151	0.005	0.255	0.234	478.1294	0.151
Trenchers	2019	176	250	0.481784	0.405	5.04653	1.81019	0.005	0.203	0.187	484.1167	0.153
Trenchers	2019	251	500	0.302803	0.254	3.12824	1.98689	0.005	0.118	0.109	482.1648	0.153
Trenchers	2019	501	750	0.09296	0.078	0.70662	0.95644	0.005	0.015	0.014	484.5422	0.153
Trenchers	2020	6	15	1.076913	0.905	4.67651	4.8331	0.005	0.356	0.328	527.0962	0.17
Trenchers	2020	16	25	1.076913	0.905	4.67651	4.8331	0.005	0.356	0.328	527.0962	0.17
Trenchers	2020	26	50	1.076913	0.905	4.67651	4.8331	0.005	0.356	0.328	527.0962	0.17
Trenchers	2020	51	120	0.726229	0.61	5.51952	3.83272	0.005	0.413	0.38	475.1265	0.154
Trenchers	2020	121	175	0.500709	0.421	4.46042	3.32968	0.005	0.228	0.21	467.7348	0.151
Trenchers	2020	176	250	0.466499	0.392	4.8091	1.77405	0.005	0.195	0.179	473.5951	0.153
Trenchers	2020	251	500	0.276702	0.233	2.775	1.85932	0.005	0.105	0.097	470.6367	0.152
Trenchers	2020	501	750	0.083454	0.07	0.56006	0.95004	0.005	0.009	0.008	472.6556	0.153
Trenchers	2021	6	15	0.962829	0.809	4.45891	4.66576	0.005	0.313	0.288	527.0165	0.17
Trenchers	2021	16	25	0.962829	0.809	4.45891	4.66576	0.005	0.313	0.288	527.0165	0.17
Trenchers	2021	26	50	0.962829	0.809	4.45891	4.66576	0.005	0.313	0.288	527.0165	0.17
Trenchers	2021	51	120	0.661739	0.556	5.10594	3.78912	0.005	0.371	0.341	475.287	0.154
Trenchers	2021	121	175	0.483838	0.407	4.27237	3.30363	0.005	0.219	0.201	467.7343	0.151
Trenchers	2021	176	250	0.42408	0.356	4.36036	1.66826	0.005	0.172	0.158	473.8538	0.153
Trenchers	2021	251	500	0.263326	0.221	2.49105	1.86493	0.005	0.1	0.092	470.701	0.152
Trenchers	2021	501	750	0.078358	0.066	0.47513	0.94677	0.005	0.009	0.008	472.5289	0.153
Trenchers	2022	6	15	0.859634	0.722	4.26873	4.51833	0.005	0.275	0.253	527.0258	0.17
Trenchers	2022	16	25	0.859634	0.722	4.26873	4.51833	0.005	0.275	0.253	527.0258	0.17
Trenchers	2022	26	50	0.859634	0.722	4.26873	4.51833	0.005	0.275	0.253	527.0258	0.17
Trenchers	2022	51	120	0.629528	0.529	4.91345	3.77843	0.005	0.348	0.32	475.3262	0.154
Trenchers	2022	121	175	0.470645	0.395	4.10333	3.31289	0.005	0.211	0.195	467.7337	0.151
Trenchers	2022	176	250	0.398562	0.335	3.85292	1.66329	0.005	0.16	0.148	473.8512	0.153
Trenchers	2022	251	500	0.252168	0.212	2.21226	1.87233	0.005	0.094	0.086	470.5845	0.152
Trenchers	2022	501	750	0.067683	0.057	0.30138	0.94489	0.005	0.009	0.008	474.2887	0.153
Trenchers	2023	6	15	0.763609	0.642	3.95873	4.30164	0.005	0.22	0.202	527.0954	0.17
Trenchers	2023	16	25	0.763609	0.642	3.95873	4.30164	0.005	0.22	0.202	527.0954	0.17
Trenchers	2023	26	50	0.763609	0.642	3.95873	4.30164	0.005	0.22	0.202	527.0954	0.17
Trenchers	2023	51	120	0.599816	0.504	4.70045	3.76842	0.005	0.326	0.3	475.6903	0.154
Trenchers	2023	121	175	0.427489	0.359	3.65725	3.29061	0.005	0.185	0.171	467.7332	0.151
Trenchers	2023	176	250	0.390278	0.328	3.7365	1.6386	0.005	0.155	0.143	473.8485	0.153
Trenchers	2023	251	500	0.236268	0.199	2.00504	1.72273	0.005	0.085	0.078	471.6125	0.153
Trenchers	2023	501	750	0.071688	0.06	0.30278	0.95111	0.005	0.009	0.008	474.4705	0.153
Trenchers	2024	6	15	0.714783	0.601	3.83415	4.23326	0.005	0.197	0.181	527.0216	0.17
Trenchers	2024	16	25	0.714783	0.601	3.83415	4.23326	0.005	0.197	0.181	527.0216	0.17
Trenchers	2024	26	50	0.714783	0.601	3.83415	4.23326	0.005	0.197	0.181	527.0216	0.17
Trenchers	2024	51	120	0.588274	0.494	4.59319	3.76854	0.005	0.318	0.292	475.6324	0.154
Trenchers	2024	121	175	0.432612	0.364	3.66715	3.31073	0.005	0.187	0.172	467.7326	0.151
Trenchers	2024	176	250	0.370794	0.312	3.48285	1.59847	0.005	0.145	0.134	473.8455	0.153
Trenchers	2024	251	500	0.228039	0.192	1.85871	1.66789	0.005	0.08	0.074	469.9942	0.152
Trenchers	2024	501	750	0.076605	0.064	0.30435	0.95838	0.005	0.009	0.008	474.4782	0.153
Trenchers	2025	6	15	0.645012	0.542	3.65681	4.11956	0.005	0.163	0.15	527.1603	0.17
Trenchers	2025	16	25	0.645012	0.542	3.65681	4.11956	0.005	0.163	0.15	527.1603	0.17
Trenchers	2025	26	50	0.645012	0.542	3.65681	4.11956	0.005	0.163	0.15	527.1603	0.17
Trenchers	2025	51	120	0.5433	0.457	4.279	3.73437	0.005	0.285	0.262	475.9014	0.154
Trenchers	2025	121	175	0.426125	0.358	3.54907	3.30907	0.005	0.179	0.165	467.732	0.151
Trenchers	2025	176	250	0.365033	0.307	3.31521	1.60076	0.005	0.144	0.132	473.9168	0.153
Trenchers	2025	251	500	0.227307	0.191	1.82613	1.67595	0.005	0.079	0.072	470.4394	0.152
Trenchers	2025	501	750	0.079299	0.067	0.30526	0.96233	0.005	0.009	0.008	474.4863	0.153
Trenchers	2030	6	15	1.409	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Trenchers	2030	16	25	5.681	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Trenchers	2030	26	50	7.055	0.851	3.835	5.208	0.007	0.144	0.144	568.299	0.076
Trenchers	2030	51	120	6.697	0.409	2.559	3.743	0.006	0.132	0.132	568.299	0.036
Trenchers	2030	121	175	10.904	0.3	1.529	3.273	0.006	0.08	0.08	568.3	0.027
Trenchers	2030	176	250	14.406	0.256	1.348	1.188	0.006	0.049	0.049	568.3	0.023
Trenchers	2030	251	500	19.534	0.249	1.231	1.209	0.005	0.046	0.046	568.299	0.022
Trenchers	2030	501	750	36.902	0.249	1.254	1.209	0.005	0.047	0.047	568.299	0.022
Trenchers	2035	6	15	1.409	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Trenchers	2035	16	25	5.681	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Trenchers	2035	26	50	5.645	0.681	3.548	5.055	0.007	0.084	0.084	568.299	0.061
Trenchers	2035	51	120	5.437	0.332	2.049	3.713	0.006	0.076	0.076	568.3	0.03
Trenchers	2035	121	175	8.756	0.241	0.966	3.264	0.006	0.048	0.048	568.299	0.021
Trenchers	2035	176	250	12.171	0.216	0.847	1.149	0.006	0.031	0.031	568.299	0.019
Trenchers	2035	251	500	16.707	0.213	0.79	1.126	0.005	0.029	0.029	568.299	0.019
Trenchers	2035	501	750	31.529	0.213	0.801	1.126	0.005	0.029	0.029	568.3	0.019
Trenchers	2040	6	15	1.409	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Trenchers	2040	16	25	5.681	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Trenchers	2040	26	50	4.961	0.598	3.374	4.98	0.007	0.052	0.052	568.299	0.054
Trenchers	2040	51	120	4.791	0.293	1.767	3.699	0.006	0.047	0.047	568.299	0.026
Trenchers	2040	121	175	7.533	0.207	0.639	3.26	0.006	0.03	0.03	568.3	0.018
Trenchers	2040	176	250	10.853	0.193	0.573	1.126	0.006	0.02	0.02	568.3	0.017
Trenchers	2040	251	500	15.011	0.191	0.542	1.081	0.005	0.02	0.02	568.3	0.017
Trenchers	2040	501	750	28.323	0.191	0.549	1.081	0.005	0.02	0.02	568.299	0.017
Welders	1990	6	15	4.525	1.804	9.999	4.999	1.018	0.974	0.974	568.299	0.162
Welders	1990	16	25	10.092	2.213	6.919	4.999	0.83	0.74	0.74	568.299	0.199
Welders	1990	26	50	40.899	3.899	7.611	8.078	0.846	1.085	1.085	568.3	0.351



Welders	1990	51	120	33.632	2.107	13.999	5.312	0.768	1.146	1.146	568.3	0.19
Welders	1990	121	175	57.219	1.442	12.598	4.703	0.736	0.761	0.761	568.299	0.13
Welders	1990	176	250	69.387	1.442	12.598	4.703	0.736	0.761	0.761	568.299	0.13
Welders	1990	251	500	88.323	1.304	12.141	8.704	0.642	0.672	0.672	568.3	0.117
Welders	2000	6	15	4.323	1.723	9.08	4.875	0.079	0.747	0.747	568.299	0.155
Welders	2000	16	25	9.556	2.095	6.405	4.783	0.065	0.569	0.569	568.299	0.189
Welders	2000	26	50	38.432	3.664	6.797	7.708	0.066	0.803	0.803	568.299	0.33
Welders	2000	51	120	27.201	1.704	10.046	4.433	0.06	0.791	0.791	568.3	0.153
Welders	2000	121	175	45.269	1.14	9.126	3.61	0.057	0.468	0.468	568.299	0.102
Welders	2000	176	250	45.901	0.954	8.783	2.869	0.057	0.384	0.384	568.299	0.086
Welders	2000	251	500	59.514	0.878	8.466	4.719	0.05	0.344	0.344	568.299	0.079
Welders	2005	6	15	3.497	1.394	7.817	4.38	0.079	0.621	0.621	568.299	0.125
Welders	2005	16	25	7.401	1.622	6.014	3.922	0.065	0.483	0.483	568.299	0.146
Welders	2005	26	50	34.243	3.264	6.342	7.144	0.066	0.746	0.746	568.299	0.294
Welders	2005	51	120	23.288	1.459	8.459	4.096	0.06	0.733	0.733	568.299	0.131
Welders	2005	121	175	37.837	0.953	7.736	3.26	0.057	0.405	0.405	568.299	0.086
Welders	2005	176	250	32.839	0.682	7.302	1.941	0.057	0.268	0.268	568.299	0.061
Welders	2005	251	500	41.097	0.606	6.755	2.566	0.05	0.241	0.241	568.299	0.054
Welders	2010	6	15	2.82	1.124	6.554	4.027	0.008	0.473	0.473	568.3	0.101
Welders	2010	16	25	5.78	1.267	5.477	3.309	0.007	0.384	0.384	568.299	0.114
Welders	2010	26	50	27.885	2.658	5.944	6.571	0.007	0.623	0.623	568.299	0.239
Welders	2010	51	120	18.341	1.149	6.999	3.928	0.006	0.61	0.61	568.299	0.103
Welders	2010	121	175	30.26	0.762	6.255	3.185	0.006	0.338	0.338	568.299	0.068
Welders	2010	176	250	23.908	0.496	5.857	1.433	0.006	0.189	0.189	568.299	0.044
Welders	2010	251	500	30.15	0.445	5.26	1.621	0.005	0.174	0.174	568.299	0.04
Welders	2011	6	15	2.677	1.067	6.283	3.952	0.008	0.441	0.441	568.299	0.096
Welders	2011	16	25	5.436	1.192	5.36	3.179	0.007	0.361	0.361	568.3	0.107
Welders	2011	26	50	26.104	2.488	5.85	6.392	0.007	0.593	0.593	568.299	0.224
Welders	2011	51	120	17.199	1.077	6.632	3.891	0.006	0.584	0.584	568.3	0.097
Welders	2011	121	175	28.559	0.719	5.91	3.173	0.006	0.325	0.325	568.299	0.064
Welders	2011	176	250	22.03	0.457	5.462	1.34	0.006	0.17	0.17	568.299	0.041
Welders	2011	251	500	27.869	0.411	4.886	1.473	0.005	0.157	0.157	568.299	0.037
Welders	2012	6	15	2.527	1.007	5.999	3.874	0.008	0.407	0.407	568.299	0.09
Welders	2012	16	25	5.076	1.113	5.239	3.043	0.007	0.337	0.337	568.299	0.1
Welders	2012	26	50	24.122	2.299	5.749	6.185	0.007	0.56	0.56	568.299	0.207
Welders	2012	51	120	15.992	1.001	6.232	3.852	0.006	0.549	0.549	568.299	0.09
Welders	2012	121	175	26.736	0.673	5.543	3.161	0.006	0.303	0.303	568.299	0.06
Welders	2012	176	250	20.583	0.427	5.087	1.281	0.006	0.154	0.154	568.299	0.038
Welders	2012	251	500	26.151	0.386	4.532	1.369	0.005	0.144	0.144	568.299	0.034
Welders	2013	6	15	2.378	0.948	5.716	3.796	0.008	0.373	0.373	568.299	0.085
Welders	2013	16	25	4.718	1.034	5.117	2.907	0.007	0.314	0.314	568.299	0.093
Welders	2013	26	50	22.037	2.101	5.526	5.967	0.007	0.517	0.517	568.299	0.189
Welders	2013	51	120	14.766	0.925	5.836	3.813	0.006	0.507	0.507	568.3	0.083
Welders	2013	121	175	24.884	0.627	5.195	3.151	0.006	0.279	0.279	568.299	0.056
Welders	2013	176	250	19.36	0.402	4.723	1.241	0.006	0.141	0.141	568.299	0.036
Welders	2013	251	500	24.728	0.365	4.191	1.291	0.005	0.131	0.131	568.299	0.032
Welders	2014	6	15	2.237	0.891	5.445	3.723	0.008	0.341	0.341	568.3	0.08
Welders	2014	16	25	4.381	0.96	5	2.78	0.007	0.291	0.291	568.299	0.086
Welders	2014	26	50	19.935	1.9	5.308	5.749	0.007	0.473	0.473	568.3	0.171
Welders	2014	51	120	13.552	0.849	5.481	3.774	0.006	0.464	0.464	568.299	0.076
Welders	2014	121	175	23.067	0.581	4.862	3.141	0.006	0.255	0.255	568.299	0.052
Welders	2014	176	250	18.135	0.376	4.297	1.207	0.006	0.128	0.128	568.299	0.034
Welders	2014	251	500	23.294	0.343	3.788	1.227	0.005	0.119	0.119	568.299	0.031
Welders	2015	6	15	2.109	0.84	5.196	3.658	0.008	0.311	0.311	568.299	0.075
Welders	2015	16	25	4.078	0.894	4.89	2.666	0.007	0.27	0.27	568.299	0.08
Welders	2015	26	50	17.994	1.715	5.113	5.562	0.007	0.43	0.43	568.3	0.154
Welders	2015	51	120	12.337	0.772	5.077	3.738	0.006	0.419	0.419	568.299	0.069
Welders	2015	121	175	21.139	0.532	4.408	3.133	0.006	0.23	0.23	568.299	0.048
Welders	2015	176	250	16.976	0.352	3.88	1.178	0.006	0.116	0.116	568.299	0.031
Welders	2015	251	500	21.953	0.324	3.398	1.176	0.005	0.108	0.108	568.299	0.029
Welders	2016	6	15	2.03	0.809	5.023	3.622	0.008	0.289	0.289	568.299	0.073
Welders	2016	16	25	3.903	0.855	4.803	2.604	0.007	0.255	0.255	568.299	0.077
Welders	2016	26	50	16.155	1.54	4.936	5.395	0.007	0.389	0.389	568.299	0.138
Welders	2016	51	120	11.165	0.699	4.692	3.705	0.006	0.375	0.375	568.3	0.063
Welders	2016	121	175	19.285	0.486	3.973	3.128	0.006	0.206	0.206	568.299	0.043
Welders	2016	176	250	15.901	0.33	3.481	1.153	0.006	0.104	0.104	568.299	0.029
Welders	2016	251	500	20.731	0.306	3.032	1.134	0.005	0.097	0.097	568.299	0.027
Welders	2017	6	15	1.973	0.786	4.887	3.599	0.008	0.272	0.272	568.299	0.07
Welders	2017	16	25	3.785	0.83	4.729	2.564	0.007	0.243	0.243	568.299	0.074
Welders	2017	26	50	14.392	1.372	4.768	5.239	0.007	0.35	0.35	568.299	0.123
Welders	2017	51	120	10.06	0.63	4.328	3.675	0.006	0.332	0.332	568.299	0.056
Welders	2017	121	175	17.561	0.442	3.562	3.124	0.006	0.183	0.183	568.299	0.039
Welders	2017	176	250	14.942	0.31	3.105	1.133	0.006	0.094	0.094	568.299	0.028
Welders	2017	251	500	19.705	0.29	2.713	1.102	0.005	0.088	0.088	568.299	0.026
Welders	2018	6	15	1.923	0.766	4.762	3.58	0.008	0.256	0.256	568.3	0.069
Welders	2018	16	25	3.684	0.807	4.661	2.531	0.007	0.232	0.232	568.299	0.072
Welders	2018	26	50	12.698	1.21	4.607	5.092	0.007	0.311	0.311	568.299	0.109
Welders	2018	51	120	9.016	0.564	3.98	3.648	0.006	0.29	0.29	568.299	0.05
Welders	2018	121	175	15.966	0.402	3.176	3.123	0.006	0.162	0.162	568.299	0.036
Welders	2018	176	250	14.068	0.292	2.751	1.118	0.006	0.084	0.084	568.299	0.026
Welders	2018	251	500	18.804	0.277	2.43	1.08	0.005	0.08	0.08	568.299	0.025
Welders	2019	6	15	1.877	0.748	4.647	3.562	0.008	0.241	0.241	568.299	0.067
Welders	2019	16	25	3.592	0.787	4.596	2.501	0.007	0.222	0.222	568.299	0.071
Welders	2019	26	50	11.071	1.055	4.449	4.95	0.007	0.273	0.273	568.299	0.095
Welders	2019	51	120	8.032	0.503	3.648	3.623	0.006	0.25	0.25	568.299	0.045
Welders	2019	121	175	14.693	0.37	2.832	3.122	0.006	0.143	0.143	568.3	0.033
Welders	2019	176	250	13.284	0.276	2.432	1.104	0.006	0.075	0.075	568.299	0.024
Welders	2019	251	500	17.937	0.264	2.163	1.065	0.005	0.072	0.072	568.3	0.023
Welders	2020	6	15	1.835	0.731	4.542	3.546	0.008	0.227	0.227	568.299	0.066

Welders	2020	16	25	3.507	0.769	4.538	2.473	0.007	0.212	0.212	568.299	0.069
Welders	2020	26	50	9.83	0.937	4.304	4.84	0.007	0.238	0.238	568.299	0.084
Welders	2020	51	120	7.278	0.455	3.351	3.605	0.006	0.216	0.216	568.299	0.041
Welders	2020	121	175	13.663	0.344	2.523	3.122	0.006	0.127	0.127	568.299	0.031
Welders	2020	176	250	12.577	0.261	2.143	1.093	0.006	0.066	0.066	568.299	0.023
Welders	2020	251	500	17.094	0.252	1.91	1.055	0.005	0.064	0.064	568.299	0.022
Welders	2021	6	15	1.8	0.717	4.462	3.531	0.008	0.214	0.214	568.299	0.064
Welders	2021	16	25	3.431	0.752	4.497	2.446	0.007	0.201	0.201	568.299	0.067
Welders	2021	26	50	8.704	0.829	4.133	4.708	0.007	0.203	0.203	568.299	0.074
Welders	2021	51	120	6.572	0.411	3.042	3.579	0.006	0.184	0.184	568.299	0.037
Welders	2021	121	175	12.512	0.315	2.189	3.112	0.006	0.11	0.11	568.299	0.028
Welders	2021	176	250	11.711	0.243	1.836	1.081	0.006	0.057	0.057	568.299	0.021
Welders	2021	251	500	15.998	0.236	1.642	1.044	0.005	0.055	0.055	568.299	0.021
Welders	2022	6	15	1.774	0.707	4.408	3.519	0.008	0.203	0.203	568.3	0.063
Welders	2022	16	25	3.374	0.739	4.47	2.426	0.007	0.193	0.193	568.299	0.066
Welders	2022	26	50	7.959	0.758	4.007	4.645	0.007	0.175	0.175	568.299	0.068
Welders	2022	51	120	6.112	0.382	2.808	3.57	0.006	0.16	0.16	568.299	0.034
Welders	2022	121	175	11.714	0.295	1.935	3.113	0.006	0.097	0.097	568.3	0.026
Welders	2022	176	250	11.128	0.231	1.598	1.074	0.006	0.05	0.05	568.299	0.02
Welders	2022	251	500	15.267	0.225	1.454	1.038	0.005	0.049	0.049	568.3	0.02
Welders	2023	6	15	1.751	0.698	4.359	3.508	0.008	0.194	0.194	568.3	0.063
Welders	2023	16	25	3.322	0.728	4.447	2.407	0.007	0.186	0.186	568.299	0.065
Welders	2023	26	50	7.318	0.697	3.891	4.596	0.007	0.151	0.151	568.299	0.062
Welders	2023	51	120	5.713	0.357	2.599	3.564	0.006	0.139	0.139	568.299	0.032
Welders	2023	121	175	11.013	0.277	1.726	3.115	0.006	0.085	0.085	568.299	0.025
Welders	2023	176	250	10.606	0.22	1.404	1.071	0.006	0.044	0.044	568.299	0.019
Welders	2023	251	500	14.602	0.215	1.289	1.034	0.005	0.042	0.042	568.299	0.019
Welders	2024	6	15	1.731	0.69	4.316	3.499	0.008	0.188	0.188	568.299	0.062
Welders	2024	16	25	3.276	0.718	4.426	2.39	0.007	0.181	0.181	568.299	0.064
Welders	2024	26	50	6.78	0.646	3.782	4.557	0.007	0.13	0.13	568.299	0.058
Welders	2024	51	120	5.366	0.336	2.43	3.56	0.006	0.12	0.12	568.299	0.03
Welders	2024	121	175	10.369	0.261	1.541	3.118	0.006	0.074	0.074	568.299	0.023
Welders	2024	176	250	10.107	0.21	1.234	1.068	0.006	0.038	0.038	568.299	0.018
Welders	2024	251	500	13.957	0.206	1.135	1.032	0.005	0.037	0.037	568.299	0.018
Welders	2025	6	15	1.713	0.683	4.278	3.491	0.008	0.183	0.183	568.3	0.061
Welders	2025	16	25	3.237	0.709	4.407	2.376	0.007	0.177	0.177	568.299	0.064
Welders	2025	26	50	6.315	0.602	3.676	4.524	0.007	0.112	0.112	568.299	0.054
Welders	2025	51	120	5.055	0.316	2.283	3.557	0.006	0.102	0.102	568.299	0.028
Welders	2025	121	175	9.743	0.245	1.365	3.121	0.006	0.063	0.063	568.299	0.022
Welders	2025	176	250	9.621	0.199	1.075	1.065	0.006	0.032	0.032	568.299	0.018
Welders	2025	251	500	13.325	0.196	0.99	1.029	0.005	0.031	0.031	568.299	0.017
Welders	2030	6	15	1.665	0.663	4.164	3.47	0.008	0.166	0.166	568.299	0.059
Welders	2030	16	25	3.133	0.687	4.347	2.34	0.007	0.165	0.165	568.299	0.061
Welders	2030	26	50	4.719	0.449	3.273	4.387	0.007	0.045	0.045	568.299	0.04
Welders	2030	51	120	3.827	0.239	1.707	3.535	0.006	0.04	0.04	568.299	0.021
Welders	2030	121	175	7.011	0.176	0.628	3.121	0.006	0.027	0.027	568.299	0.015
Welders	2030	176	250	7.829	0.162	0.525	1.063	0.006	0.017	0.017	568.299	0.014
Welders	2030	251	500	10.967	0.161	0.495	1.027	0.005	0.017	0.017	568.299	0.014
Welders	2035	6	15	1.659	0.661	4.143	3.469	0.008	0.162	0.162	568.299	0.059
Welders	2035	16	25	3.126	0.685	4.332	2.339	0.007	0.162	0.162	568.299	0.061
Welders	2035	26	50	4.262	0.406	3.147	4.349	0.007	0.022	0.022	568.299	0.036
Welders	2035	51	120	3.418	0.214	1.509	3.528	0.006	0.019	0.019	568.299	0.019
Welders	2035	121	175	6.087	0.153	0.387	3.121	0.006	0.015	0.015	568.299	0.013
Welders	2035	176	250	7.189	0.149	0.343	1.063	0.006	0.012	0.012	568.299	0.013
Welders	2035	251	500	10.118	0.149	0.339	1.027	0.005	0.012	0.012	568.299	0.013
Welders	2040	6	15	1.659	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Welders	2040	16	25	3.126	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Welders	2040	26	50	4.218	0.402	3.093	4.336	0.007	0.015	0.015	568.3	0.036
Welders	2040	51	120	3.322	0.208	1.447	3.524	0.006	0.014	0.014	568.299	0.018
Welders	2040	121	175	5.753	0.145	0.303	3.118	0.006	0.011	0.011	568.299	0.013
Welders	2040	176	250	6.911	0.143	0.287	1.062	0.006	0.01	0.01	568.3	0.012
Welders	2040	251	500	9.728	0.143	0.287	1.026	0.005	0.01	0.01	568.299	0.012

**Table 3.3 OFFROAD Default Horsepower and Load Factors**

<b>OFFROAD Equipment Type</b>	<b>Horsepower</b>	<b>Load Factor</b>
Aerial Lifts	63	0.31
Air Compressors	78	0.48
Bore/Drill Rigs	221	0.5
Cement and Mortar Mixers	9	0.56
Concrete/Industrial Saws	81	0.73
Cranes	231	0.29
Crawler Tractors	212	0.43
Crushing/Proc. Equipment	85	0.78
Dumpers/Tenders	16	0.38
Excavators	158	0.38
Forklifts	89	0.2
Generator Sets	84	0.74
Graders	187	0.41
Off-Highway Tractors	124	0.44
Off-Highway Trucks	402	0.38
Other Construction Equipment	172	0.42
Other General Industrial Equipment	88	0.34
Other Material Handling Equipment	168	0.4
Pavers	130	0.42
Paving Equipment	132	0.36
Plate Compactors	8	0.43
Pressure Washers	13	0.3
Pumps	84	0.74
Rollers	80	0.38
Rough Terrain Forklifts	100	0.4
Rubber Tired Dozers	247	0.4
Rubber Tired Loaders	203	0.36
Scrapers	367	0.48
Signal Boards	6	0.82
Skid Steer Loaders	65	0.37
Surfacing Equipment	263	0.3
Sweepers/Scrubbers	64	0.46
Tractors/Loaders/Backhoes	97	0.37
Trenchers	78	0.5
Welders	46	0.45

**Table 3.5 OFFROAD Emission Factor Based on Engine Tier (g/bhp-hr)**

<b>Tier</b>	<b>Low HP</b>	<b>High HP</b>	<b>CO</b>	<b>NOX</b>	<b>PM10</b>	<b>PM2.5</b>	<b>ROG</b>
Tier 1	25	49	4.1	5.26	0.48	0.48	1.74
Tier 1	50	74	6.9	6.54	0.552	0.552	1.19
Tier 1	75	119	6.9	6.54	0.552	0.552	1.19
Tier 1	120	174	6.9	6.54	0.274	0.274	0.82
Tier 1	175	299	6.9	5.93	0.108	0.108	0.38
Tier 1	300	599	6.9	5.93	0.108	0.108	0.38
Tier 1	600	750	6.9	5.93	0.108	0.108	0.38
Tier 1	751	2000	6.9	5.93	0.108	0.108	0.38
Tier 2	25	49	4.1	4.63	0.28	0.28	0.29
Tier 2	50	74	3.7	4.75	0.192	0.192	0.23
Tier 2	75	119	3.7	4.75	0.192	0.192	0.23
Tier 2	120	174	3.7	4.17	0.128	0.128	0.19
Tier 2	175	299	2.6	4.15	0.088	0.088	0.12
Tier 2	300	599	2.6	3.79	0.088	0.088	0.12
Tier 2	600	750	2.6	3.79	0.088	0.088	0.12
Tier 2	751	2000	2.6	3.79	0.088	0.088	0.12
Tier 3	25	49	4.1	4.63	0.28	0.28	0.29
Tier 3	50	74	3.7	2.74	0.192	0.192	0.12
Tier 3	75	119	3.7	2.74	0.192	0.192	0.12
Tier 3	120	174	3.7	2.32	0.112	0.112	0.12
Tier 3	175	299	2.6	2.32	0.088	0.088	0.12
Tier 3	300	599	2.6	2.32	0.088	0.088	0.12
Tier 3	600	750	2.6	2.32	0.088	0.088	0.12
Tier 3	751	2000	2.6	2.32	0.088	0.088	0.12
Tier 4 Interim	25	49	4.1	4.55	0.13	0.13	0.12
Tier 4 Interim	50	74	3.7	2.74	0.112	0.112	0.12
Tier 4 Interim	75	119	3.7	2.14	0.008	0.008	0.11
Tier 4 Interim	120	174	3.7	2.15	0.008	0.008	0.06
Tier 4 Interim	175	299	2.6	1.29	0.008	0.008	0.08
Tier 4 Interim	300	599	2.6	1.29	0.008	0.008	0.08
Tier 4 Interim	600	750	2.6	1.29	0.008	0.008	0.08
Tier 4 Interim	751	2000	2.6	2.24	0.048	0.048	0.12

Tier 4 Final	25	49	4.1	2.75	0.01	0.01	0.12
Tier 4 Final	50	74	3.7	2.74	0.008	0.008	0.12
Tier 4 Final	75	119	3.7	0.26	0.008	0.008	0.06
Tier 4 Final	120	174	3.7	0.26	0.008	0.008	0.06
Tier 4 Final	175	299	2.2	0.26	0.008	0.008	0.06
Tier 4 Final	300	599	2.2	0.26	0.008	0.008	0.06
Tier 4 Final	600	750	2.2	0.26	0.008	0.008	0.06
Tier 4 Final	751	2000	2.6	2.24	0.016	0.016	0.06

**Source:**

ARB. 2011. The Carl Moyer Program Guidelines. Available at:

[http://www.arb.ca.gov/msprog/moyer/guidelines/2011gl/2011cmpgl\\_3\\_27\\_13.pdf](http://www.arb.ca.gov/msprog/moyer/guidelines/2011gl/2011cmpgl_3_27_13.pdf)

**Road Dust Emission Factors**

**Daily Paved Road Dust EF<sup>1</sup>**

$$E_{ext} = [ k (sL)^{0.91} \times (W)^{1.02} ]$$

- EF<sub>paved</sub> Annual or other long-term average emission factor in the same units as k
- k particle size multiplier for particle size range and units of interest
- sL road surface silt loading (g/m<sup>2</sup>)
- W average weight (tons) of all the vehicles raveling the road (2.4 tons)
- P Number of "wet" days with at least 0.254 (0.01 in) of precipitation during the averaging period
- N Number of days in the averaging period (e.g. 365 for annual, 91 for seasonal, 30 for monthly)

Parameters	PM10	PM2.5
k (g/VMT) <sup>2</sup>	0.997898	0.244939
sL (g/m <sup>2</sup> )	0.1	0.1
W (tons)	2.4	2.4
EF (g/mi)	3.00E-01	7.36E-02

- 1) CalEEMod User's Guide, Appendix A, p. 29
- 2) AP42: Chapter 13: Miscellaneous Sources, 13.2.1 Paved Roads, Table 13.2.1-1

**Daily Unpaved Road Dust EF<sup>1</sup>**

$$E.F._{dust,i} = \left( \frac{k(s/12)^1(S/30)^{0.5}}{(M/0.5)^{0.2}} - C \right)$$

- k particle size multiplier for particle size range and units of interest
- s surface material silt content (%)
- M surface material moisture content (%)
- S mean vehicle speed (mph)
- C emission factor for 1980s vehicle fleet exhaust, brakewear and tire wear

Parameters	PM10	PM2.5
k (g/VMT) <sup>2</sup>	816.462	81.6462
s <sup>3</sup>	9.3	9.3 SLOAPCD Recommendations for SLO Region (CalEEMod User Guide 4.4.4).
M	0.1	0.1 SLOAPCD Recommendations for SLO Region (CalEEMod User Guide 4.4.4).
S	35	35 SLOAPCD Recommendations for SLO Region 32.4 mph (CalEEMod User Guide 4.4.4).
C	0.213187	0.163292
EF (g/mi)	942.7724	94.13527

- 1) CalEEMod User's Guide, Appendix A, p. 29
- 2) AP42: Chapter 13: Miscellaneous Sources, 13.2.2 Unpaved Roads, Table 13.2.2-2
- 3) AP42: Chapter 13: Miscellaneous Sources, 13.2.2 Unpaved Roads, Table 13.2.2-1, "Construction sites"

**Speed**

5
10
15
20
25
30
35
40

Vendor

**Speed**

5
10
15
20
25
30
35
40

Haul

**Speed**

5
10
15
20
25
30
35
40

Worker

## **Mitigated Construction Emissions- Proposed Project**

Project Name: MCWRA ILT Project: North Central Coast Air Basin Portion - Mitigated  
 - Construction Days per week

Construction Schedule<sup>1</sup>

Phase feature <sup>5</sup>	Phase Name <sup>5</sup>	Combined Phase Name <sup>5</sup>	Code <sup>5</sup>	Start Date <sup>5</sup>	End Date <sup>5</sup>	# of Workdays <sup>5</sup>
Energy Dissipation	Site clearing and grading	Energy Dissipation - Site Clearing and Grading	020	3/11/2024	4/5/2024	20
Energy Dissipation	Construct energy dissipation structure	Energy Dissipation - Construct energy dissipation structure	021	4/8/2024	6/28/2024	60
Energy Dissipation	Construct connection between tunnel and Energy Dissipator	Energy Dissipation - Construct connection between tunnel and Energy Dissipator	022	11/18/2024	12/13/2024	20
Energy Dissipation	Re-vegetation and site demo	Energy Dissipation - Re-vegetation and site demo	023	12/16/2024	1/24/2025	30
Energy Dissipation	Construct ATV Trail to south portal	Energy Dissipation - Construct ATV Trail to south portal	024	10/2/2023	11/10/2023	30
Spillway modification	Dam stability investigation of San Antonio Dam	Spillway modification - Dam stability investigation of San Antonio Dam	034	4/17/2023	5/26/2023	30
Spillway modification	Improve access road	Spillway modification - Improve access road	035	8/21/2023	9/8/2023	15
Spillway modification	Site cleanup/grading of staging areas	Spillway modification - Site cleanup/grading of staging areas	036	9/11/2023	10/6/2023	20
Spillway modification	Installation of erosion control/silt fencing	Spillway modification - Installation of erosion control/silt fencing	037	9/11/2023	9/22/2023	10
Spillway modification	Removal of existing spillway crest and existing concrete structures	Spillway modification - Removal of existing spillway crest and existing concrete structures	038	11/6/2023	1/26/2024	60
Spillway modification	Excavation to grade for new spillway walls and structure	Spillway modification - Excavation to grade for new spillway walls and structure	039	1/29/2024	4/19/2024	60
Spillway modification	Installation/upgrade of subsurface drainage systems	Spillway modification - Installation/upgrade of subsurface drainage systems	040	3/25/2024	4/19/2024	20
Spillway modification	Construction of new spillway structure, walls and labyrinth controls structure	Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	041	4/22/2024	10/4/2024	120
Spillway modification	Improvements to spillway chute and connection to new spillway structure	Spillway modification - Improvements to spillway chute and connection to new spillway structure	042	6/17/2024	10/4/2024	80
Spillway modification	Site cleanup and demolition	Spillway modification - Site cleanup and demolition	043	10/7/2024	11/1/2024	20
Energy Dissipation Structure Tunnel	Improve access road	Energy Dissipation Structure Tunnel Portal - Improve access road	044	7/10/2023	7/28/2023	15
Energy Dissipation Structure Tunnel	Site cleanup and grubbing	Energy Dissipation Structure Tunnel Portal - site cleanup and grubbing	045	7/31/2023	8/18/2023	15
Energy Dissipation Structure Tunnel	Install erosion/sediment control and silt fencing	Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	046	7/31/2023	8/18/2023	15
Energy Dissipation Structure Tunnel	Site grading, staging, laydown and much disposal area prep	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	047	8/21/2023	9/29/2023	30
Energy Dissipation Structure Tunnel	Install temporary utilities, water, power, sewage handling, communications	Energy Dissipation Structure Tunnel Portal - Install temporary utilities, water, power, sewage handling, communications	048	10/2/2023	11/10/2023	30
Energy Dissipation Structure Tunnel	Portal excavation and support	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	049	11/13/2023	12/8/2023	20
Energy Dissipation Structure Tunnel	Mobilize tunnel equipment and materials to site	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	050	10/2/2023	11/10/2023	30
Energy Dissipation Structure Tunnel	Fabricate pre-cast tunnel liner segments and transport to site	Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	051	7/10/2023	4/12/2024	200
Energy Dissipation Structure Tunnel	EFBM and tunnel equipment/utilities setup and thrust frame install	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	052	12/1/2023	1/19/2024	30
Tunneling	Drive 100' of tunnel at 20 fpd	Tunneling - Drive 100' of tunnel at 20 fpd	053	1/22/2024	1/26/2024	5
Tunneling	Tunnel excavation and support @ 60' per day	Tunneling - Tunnel excavation and support @ 60' per day	054	1/29/2024	10/4/2024	180
Tunneling	TBM trailing gear and plant removal	Tunneling - TBM trailing gear and plant removal	055	10/7/2024	11/15/2024	30
Tunneling	Tunnel punch list/clearing	Tunneling - Tunnel punch list/clearing	056	7/10/2023	7/30/2023	15
Tunneling	Muck disposal on site/grading	Tunneling - Muck disposal on site/grading	057	1/29/2024	10/4/2024	180
Tunneling	Demobilization tunnel plant	Tunneling - Demobilization tunnel plant	058	10/7/2024	11/15/2024	30

SOIL VOLUMES

Soil Export Energy Station

Parameter	Value
Total Export Volume (CY) <sup>2</sup>	14,906.00
Haul Truck Capacity (CV/truck) <sup>3</sup>	16.00
Haul Trucks Required	911.63
Total One-Way Haul Trucks	1,864.00

Soil Import Energy Station

Parameter	Value
Total Import Volume (CY) <sup>2</sup>	3,376.00
Haul Truck Capacity (CV/truck) <sup>3</sup>	16.00
Haul Trucks Required	211.00
Total One-Way Haul Trucks	422.00

Aggregate and Chipseal<sup>4</sup>

Parameter	Value
Total Import Volume (CY) <sup>2</sup>	6,429.00
Haul Truck Capacity (CV/truck) <sup>3</sup>	16.00
Haul Trucks Required	401.81
Total One-Way Haul Trucks	804.00

Aggregate

Parameter	Value
Total One-Way Truck Trips	804.00

Total Import/Export Truck Trips

Parameter	Value
Total One-Way Truck Trips	2,286.00

CONCRETE POUR

Parameter	Value
Total Concrete Volume (CY) <sup>2</sup>	449.00
Max Daily Concrete Volume (CY) <sup>3</sup>	22.43
Concrete Truck Capacity (CV/truck) <sup>3</sup>	8.00
Max Daily Concrete Trucks	2.81
Total One-Way Truck Trips	6.00

SOIL VOLUMES

Soil Export Spillway Modification

Parameter	Value
Total Excavation Volume (CY) <sup>2</sup>	66,667.00
Haul Truck Capacity (CV/truck) <sup>3</sup>	16.00
Haul Trucks Required	4,166.69
Total One-Way Haul Trucks	8,334.00

Demo Volumes

Parameter	Value
Total Demo ft <sup>3</sup>	10,424.00
Total Demo Volume (Tons)	480.00
Total Demo Volume (CY)	960.00
Haul Truck Capacity (CV/Truck)	16.00
Haul Trucks required	60.00
Total One-Way Haul Trucks	120.00

SOIL VOLUMES

Soil Import Spillway Modification

Parameter	Value
Total Fill Volume (CY) <sup>2</sup>	18,478.00
Haul Truck Capacity (CV/truck) <sup>3</sup>	16.00
Haul Trucks Required	1,154.88
Total One-Way Haul Trucks	2,310.00

Total Trips to Soil Disposal Area (export-minus import)

Parameter	Value
Total One-Way Truck Trips	6,024.00

CONCRETE POUR

Parameter	Value
Total Concrete Volume (CY) <sup>2</sup>	11,289.00
Max Daily Concrete Volume (CY) <sup>3</sup>	94.00
Concrete Truck Capacity (CV/truck) <sup>3</sup>	8.00
Max Daily Concrete Trucks	11.75
Total One-Way Truck Trips	24.00

AMM GEN-8 Avoidance/Minimization Measure

Water 2x a day/ every four hours (unpaved roads) <sup>4</sup>	55%	
Street sweeping (paved roads) <sup>4</sup>	7%	
Cover storage piles (material handling) <sup>4</sup>	90%	

Mitigation Measures

Mitigation Measures	PM10 Reductions	
1 Water Truck/Watering PM Reduction <sup>4</sup>	reduction	
1 every three hours + 12% Moisture	69%	61.00%
Gravel Road /Trackout for connection to paved roads	74%	74.00%
Chemical Dust Suppression (unpaved roads) <sup>7</sup> pg-12	46%	
SLOAPCD BACT Requirement	84%	

Offroad Engine Emission Reductions

Tier 4 Final Equipment or better where feasible assumed for all construction equipment.

ONSITE VEHICLE SPEED

MBARD Region Default	40.00	mph
15 mph mitigation for Gravel Roads (workers/vendors/Haul)	15.00	mph

SOIL VOLUMES Tunneling

Parameter	Value
Total Export Volume (CY) <sup>2</sup>	108,066.00

a. This soil is expected to be wet muck and would be transported via conveyor belts. No Haul trips or fugitive dust emissions expected.

Soil Import Tunneling

Parameter	Value
Total Import Volume (CY) <sup>2</sup>	7,720.00
Haul Truck Capacity (CV/truck) <sup>3</sup>	16.00
Haul Trucks Required	482.50
Total One-Way Haul Trucks	966.00

Total Import/Export Truck Trips

Parameter	Value
Total One-Way Truck Trips	966.00

Concrete, Cement, Grout

Parameter	Value
Total Concrete Volume (CY) <sup>2</sup>	6,256.00
Concrete Capacity (CV/truck) <sup>3</sup>	8.00
Haul Trucks Required	782.00
Total One-Way Haul Truck Trips	1,564.00

Truck Trips<sup>8</sup>

Parameter	Value
Daily Vendor Trips <sup>8</sup>	8.00
Construction Waste Haul Trips <sup>9</sup>	4.00

Sources

- 1 Project Description
- 2 Concrete Truck Capacity
- 3 Worker Trips
- 4 [https://www.mwrm.gov/wp-content/uploads/sites/2/2017/02/NRAP\\_FDHandbook\\_Rev\\_06.pdf](https://www.mwrm.gov/wp-content/uploads/sites/2/2017/02/NRAP_FDHandbook_Rev_06.pdf)
- 5 Saved project files
- 6 Chip sealing, trailers, trucks and chip spreaders 518-218-2676 (pavementgroup.com)
- 7 Asphalt Sealcoating and Crack Filling Calculators | Asphalt Sealcoating Direct
- 8 ILT Data Needs - Storage Truck Info
- 9 CallEModel User guide Page 36

E:  
C:  
D:  
L:



Total # of Worker Trips/day <sup>1</sup>	Total # of Vendor Trips/day	Total # of One-Way Haul Trucks Trips	One-Way Haul Truck Trips/day	Offsite Trip Length (mi)			Onsite Trip Length (mi)			Vehicle Class		
				Worker	Vendor	Haul	ONSITE (Worker)	ONSITE (Vendor)	ONSITE (Haul)	Worker	Vendor	Haul
10	2	1864	94	20	20	0.00	1.45	1.45	0.38	LD_Mix	HDT_Mix	HHDT
6	6	0	0	20	20	0.00	1.45	1.45	0.14	LD_Mix	HDT_Mix	HHDT
6	8	0	4	20	20	27.00	1.45	1.45	0.14	LD_Mix	HDT_Mix	HHDT
8	2	422	16	20	20	20.00	1.45	1.45	1.46	LD_Mix	HDT_Mix	HHDT
10	10	0	0	20	20	0.00	1.45	1.45	0.58	LD_Mix	HDT_Mix	HHDT
8	8	0	0	20.73	20.73	0.00	0.34	0.34	0.34	LD_Mix	HDT_Mix	HHDT
8	2	0	0	20.73	20.73	0.00	0.34	0.34	0.34	LD_Mix	HDT_Mix	HHDT
10	2	0	0	20.73	20.73	0.00	0.34	0.34	0.34	LD_Mix	HDT_Mix	HHDT
6	10	0	0	20.73	20.73	0.00	0.34	0.34	0.34	LD_Mix	HDT_Mix	HHDT
24	8	120	2	20.73	20.73	0.00	0.34	0.34	0.34	LD_Mix	HDT_Mix	HHDT
24	8	8338	148	20.73	20.73	0.73	0.34	0.34	0.86	LD_Mix	HDT_Mix	HHDT
8	8	0	0	20.73	20.73	0.00	0.34	0.34	0.34	LD_Mix	HDT_Mix	HHDT
20	24	2310	20	20.73	20.73	20.73	0.34	0.34	0.34	LD_Mix	HDT_Mix	HHDT
20	8	6024	76	20.73	20.73	0.73	0.34	0.34	1.21	LD_Mix	HDT_Mix	HHDT
8	4	0	4	20.73	20.73	27.73	0.34	0.34	0.34	LD_Mix	HDT_Mix	HHDT
10	2	804	54	20	20	20.73	1.45	1.45	1.25	LD_Mix	HDT_Mix	HHDT
8	2	0	0	20	20	0.00	1.45	1.45	0.15	LD_Mix	HDT_Mix	HHDT
8	2	0	0	20	20	0.00	1.45	1.45	0.14	LD_Mix	HDT_Mix	HHDT
10	2	0	0	20	20	0.00	1.45	1.45	0.15	LD_Mix	HDT_Mix	HHDT
6	8	0	0	20	20	0.00	1.45	1.45	0.14	LD_Mix	HDT_Mix	HHDT
8	8	0	0	20	20	0.00	1.45	1.45	0.14	LD_Mix	HDT_Mix	HHDT
8	8	0	4	20	20	27.00	1.45	1.45	1.45	LD_Mix	HDT_Mix	HHDT
0	8	0	4	20	20	27.00	1.45	1.45	1.45	LD_Mix	HDT_Mix	HHDT
10	0	0	0	20	20	0.00	1.45	1.45	0.14	LD_Mix	HDT_Mix	HHDT
148	0	0	0	20	20	0.00	1.45	1.45	1.45	LD_Mix	HDT_Mix	HHDT
114	10	966	6	20	20	27.00	1.45	1.45	1.45	LD_Mix	HDT_Mix	HHDT
56	0	0	0	20	20	0.00	1.45	1.45	1.45	LD_Mix	HDT_Mix	HHDT
0	8	0	0	20	20	0.00	1.45	1.45	0.38	LD_Mix	HDT_Mix	HHDT
78	10	0	0	20	20	0.00	1.45	1.45	0.38	LD_Mix	HDT_Mix	HHDT
26	0	0	2	20	20	27.00	1.45	1.45	1.45	LD_Mix	HDT_Mix	HHDT

LD\_Mix LDA, LD71, LD72  
HDT\_Mix T6 Instate Construction Heavy/T7 Single Construction  
HHDT T7 Single Construction

Trip Lengths

Location	feet	miles	Source	Type
Outlet Staging area to Energy Dissipation Structure - MBARD	737	0.14	WaypointPD	unpaved
Tunnel opening to Soil Disposal Area - MBARD	2000	0.38	WaypointPD	unpaved
Length of the Energy Dissipation/Site Access Road - MBARD	1600	0.30	WaypointPD	unpaved
Length of the ATV Trail - MBARD	3045	0.58	WaypointPD	unpaved
Spillway Work Staging Area to Work Area - MBARD	2750	0.52	WaypointPD	paved
Width of Spillway area - MBARD	1800	0.34	WaypointPD	unpaved
Outlet Staging Area Length - MBARD	450	0.09	WaypointPD	unpaved
Intake Staging Area Length - SLOAPCD	750	0.14	WaypointPD	unpaved
Length of Road from Nacimiento Lake Drive to Intake Structure - SLOAPCD	5000	0.95	WaypointPD	paved
Vault Site Access Road - MBARD	6500	1.25	WaypointPD	Gravel
Width of Soil disposal area - MBARD	800	0.15	WaypointPD	unpaved
Width of Spillway Work Area - MBARD	360	0.07	WaypointPD	unpaved
Tunnel Length - MBARD/SLOAPCD	10926	2.07	WaypointPD	underground
Distance to Paso Robles Landfill (construction waste)	-	27.00	WaypointPD	paved
Spillway work area to Soil Disposal Area (unpaved only)	3045	0.58	WaypointPD	unpaved
Vault Site access road to Outlet Staging Area	7656	1.45	WaypointPD	Gravel
Vault Site access road to Disposal Area	6915	1.31	WaypointPD	Gravel
Vista Road to Spillway modification Area	1108	0.21	WaypointPD	paved
ATV Trail to Soil Disposal Area	650	0.11	WaypointPD	unpaved
Vista Road to Spillway Staging Area	3858	0.73	WaypointPD	paved
Spillmodification Area to ATV Trail	1479	0.28	WaypointPD	unpaved
		0.00		
		0.00		
		0.00		
		0.00		
		0.00		
		0.00		
		0.00		

Offroad Equipment (Fossil Fuel) Inventory

Code	Phase	Equipment Name	General Equipment Category	#/day	Hrs/Day	# of Equipment	Fuel Type	Engine Horsepower (if known)
020	Energy Dissipation - Site Clearing and Grading	Dozer Cat D6/5.6cy	Rubber Tired Dozers	10	10	1	Diesel	145
020	Energy Dissipation - Site Clearing and Grading	Mine Truck 20ton/15cy	Off-Highway Trucks	10	10	1	Diesel	214
020	Energy Dissipation - Site Clearing and Grading	Water Truck	--	10	10	1	Diesel	350
020	Energy Dissipation - Site Clearing and Grading	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	10	10	1	Diesel	246
021	Energy Dissipation - Construct energy dissipation structure	Concrete Pump Truck	--	2	10	1	Diesel	500
021	Energy Dissipation - Construct energy dissipation structure	Concrete Truck	--	2	3.35	3	Diesel	300
021	Energy Dissipation - Construct energy dissipation structure	Pile Hammer	Bore/Drill Rigs	30	10	1	diesel	40
021	Energy Dissipation - Construct energy dissipation structure	Pickup	--	30	10	1	--	350
022	Energy Dissipation - Construct connection between tunnel and Energy Dissipator	Backhoe Cat 375, 176k.5cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	513
022	Energy Dissipation - Construct connection between tunnel and Energy Dissipator	Pickup	--	20	10	1	Diesel	350
022	Energy Dissipation - Construct connection between tunnel and Energy Dissipator	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	246
023	Energy Dissipation - Revegetation and site demob	Pickup	--	10	10	1	--	350
023	Energy Dissipation - Revegetation and site demob	Water Truck	--	10	10	1	diesel	350
024	Energy Dissipation - Construct ATV Trail to south portal	Vibrating Roller	Rollers	20	10	1	Diesel	25
024	Energy Dissipation - Construct ATV Trail to south portal	Water Truck	--	20	10	1	diesel	350
024	Energy Dissipation - Construct ATV Trail to south portal	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	2	Diesel	246
034	Spillway Modification - Dam stability investigation of San Antonio Dam	Pickup	--	30	10	1	--	350
034	Spillway Modification - Dam stability investigation of San Antonio Dam	Drill Rig	Bore/Drill Rigs	30	10	1	diesel	40
035	Spillway Modification - Improve Access Road	Dozer Cat D6/5.6cy	Rubber Tired Dozers	15	10	1	Diesel	145
035	Spillway Modification - Improve Access Road	Mine Truck 20ton/15cy	Off-Highway Trucks	15	10	1	Diesel	214
035	Spillway Modification - Improve Access Road	Vibrating Roller	Rollers	15	10	1	Diesel	25
035	Spillway Modification - Improve Access Road	Water Truck	--	15	10	1	diesel	350
035	Spillway Modification - Improve Access Road	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	15	10	1	Diesel	246
036	Spillway Modification - Site clearing/grading of staging areas	Dozer Cat D6/5.6cy	Rubber Tired Dozers	20	10	1	Diesel	145
036	Spillway Modification - Site clearing/grading of staging areas	Mine Truck 20ton/15cy	Off-Highway Trucks	20	10	1	Diesel	214
036	Spillway Modification - Site clearing/grading of staging areas	Water Truck	--	20	10	1	diesel	350
036	Spillway Modification - Site clearing/grading of staging areas	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	246
037	Spillway Modification - Installation of erosion control/silt fencing	Pickup	--	13	10	1	--	350
037	Spillway Modification - Installation of erosion control/silt fencing	Water Truck	--	13	10	1	Diesel	350
038	Spillway Modification - Removal of existing spillway crest and existing concrete structures	Backhoe Cat 375, 176k.5cy	Tractors/Loaders/Backhoes	60	10	3	Diesel	513
038	Spillway Modification - Removal of existing spillway crest and existing concrete structures	Mine Truck 20ton/15cy	Off-Highway Trucks	60	10	3	Diesel	214
038	Spillway Modification - Removal of existing spillway crest and existing concrete structures	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	60	10	3	Diesel	246
039	Spillway Modification - Excavation to grade for new spillway walls and structure	Backhoe Cat 375, 176k.5cy	Tractors/Loaders/Backhoes	60	10	3	Diesel	513
039	Spillway Modification - Excavation to grade for new spillway walls and structure	Mine Truck 20ton/15cy	Off-Highway Trucks	60	10	3	Diesel	214
039	Spillway Modification - Excavation to grade for new spillway walls and structure	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	60	10	3	Diesel	246
040	Spillway Modification - Installation/upgrade of subsurface drainage systems	Pickup	--	20	10	1	--	350
040	Spillway Modification - Installation/upgrade of subsurface drainage systems	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	246
041	Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	Backhoe CAT 375, 176k. 5cy	Tractors/Loaders/Backhoes	120	10	3	diesel	225
041	Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	Concrete Pump Truck	--	19	10	2	Diesel	500
041	Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	Concrete Truck	--	19	4	5	Diesel	300
041	Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	Pickup	--	120	10	3	--	350
041	Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	120	10	3	Diesel	246
042	Spillway modification - Improvements to spillway chute and connection to new spillway structure	CAT 950, 4CY	Tractors/Loaders/Backhoes	120	10	3	Diesel	225
042	Spillway modification - Improvements to spillway chute and connection to new spillway structure	Pickup	--	120	10	3	--	350
042	Spillway modification - Improvements to spillway chute and connection to new spillway structure	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	120	10	3	Diesel	246
043	Spillway Modification - Site cleanup and demobilization	Pickup	--	20	10	2	--	350
043	Spillway Modification - Site cleanup and demobilization	Water Truck	--	20	10	2	Diesel	350
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Dozer Cat D6/5.6cy	Rubber Tired Dozers	15	10	1	Diesel	145
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Mine Truck 20ton/15cy	Off-Highway Trucks	15	10	1	Diesel	214
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Vibrating Roller	Rollers	15	10	1	Diesel	25
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Water Truck	--	15	10	1	diesel	350
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	15	10	1	Diesel	246
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Dozer Cat D6/5.6cy	Rubber Tired Dozers	15	10	1	Diesel	145
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Mine Truck 20ton/15cy	Off-Highway Trucks	15	10	1	Diesel	214
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Water Truck	--	15	10	1	diesel	350
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	15	10	1	Diesel	246
046	Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	Pickup	--	15	10	1	--	350
046	Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	Water Truck	--	15	10	1	Diesel	350
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Dozer Cat D6/5.6cy	Rubber Tired Dozers	20	10	1	Diesel	145
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Mine Truck 20ton/15cy	Off-Highway Trucks	20	10	1	Diesel	214
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Water Truck	--	20	10	1	diesel	350
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	246
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Backhoe Cat 375, 176k.5cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	513
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Compactor, Cat 816, 25ton	Other Construction Equipment	30	10	2	Diesel	220
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Mine Truck 20ton/15cy	Off-Highway Trucks	30	10	2	Diesel	214
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	246
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Backhoe Cat 375, 176k.5cy	Tractors/Loaders/Backhoes	30	8	1	Diesel	513
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Compactor, Cat 816, 25ton	Other Construction Equipment	30	8	1	Diesel	220
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Dozer Cat D6/5.6cy	Rubber Tired Dozers	30	8	1	Diesel	145
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Excavator >0.5cy	Excavators	30	8	1	Diesel	100
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Mine Truck 20ton/15cy	Off-Highway Trucks	30	8	2	Diesel	214
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	8	2	Diesel	246
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Hydraulic Crane 20ton/60'	Cranes	30	10	1	Diesel	130
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Hydraulic Crane 40ton/105'	Cranes	30	10	1	Diesel	152
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Welder 400A, trailer E	Welders	30	10	1	Diesel	100
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	246
051	Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	200	8	1	Diesel	246
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	500 Ton Crane	Cranes	30	20	1	Diesel	1325
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Compressor, Stationary 1200cfm	Air Compressors	30	20	1	Electric	350
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Crawler Crane 100ton/200'	Cranes	30	20	1	Diesel	265
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	EPBM and Backup 14'9"	Bore/Drill Rigs	30	20	1	Electric	1800
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Hydraulic Crane 40ton/105'	Cranes	30	20	1	Diesel	152
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Welder 400A, trailer E	Welders	30	20	1	Diesel	100
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	20	1	Diesel	246
053	Tunneling - Drive 100' of tunnel at 20 fpd	500 Ton Crane	Cranes	5	20	1	Diesel	1325
053	Tunneling - Drive 100' of tunnel at 20 fpd	Compressor, Stationary 1200cfm	Air compressors	5	20	1	Electric	350
053	Tunneling - Drive 100' of tunnel at 20 fpd	Crawler Crane 100ton/200'	Cranes	5	20	1	Diesel	265
053	Tunneling - Drive 100' of tunnel at 20 fpd	EPBM and Backup 14'9"	Bore/Drill Rigs	5	20	1	Electric	1800
053	Tunneling - Drive 100' of tunnel at 20 fpd	Hydraulic Crane 40ton/105'	Cranes	5	20	1	Diesel	152
053	Tunneling - Drive 100' of tunnel at 20 fpd	Welder 400A, trailer E	Welders	5	20	1	Diesel	100
053	Tunneling - Drive 100' of tunnel at 20 fpd	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	5	20	1	Diesel	246
054	Tunneling - Tunnel excavation and support @ 60' per day	Compressor, Stationary 1200cfm	Air compressors	180	24	1	Electric	350
054	Tunneling - Tunnel excavation and support @ 60' per day	EPBM and Backup 14'9"	Bore/Drill Rigs	180	24	1	Electric	1800
054	Tunneling - Tunnel excavation and support @ 60' per day	Flat Car, Rail	Other Material Handling Equipment	180	24	4	--	0
054	Tunneling - Tunnel excavation and support @ 60' per day	Grout Plant, skid 12cy/hr	Other Material Handling Equipment	180	24	1	diesel	250
054	Tunneling - Tunnel excavation and support @ 60' per day	Hydraulic Crane 40ton/105'	Cranes	180	24	1	Diesel	152
054	Tunneling - Tunnel excavation and support @ 60' per day	Locomotive 12ton/120hp	Other Material Handling Equipment	180	24	2	Diesel	120
054	Tunneling - Tunnel excavation and support @ 60' per day	Mine Truck 20ton/15cy	Off-Highway Trucks	180	8	2	Diesel	214
054	Tunneling - Tunnel excavation and support @ 60' per day	Muck Car, Rail	Other Material Handling Equipment	180	24	18	--	0
054	Tunneling - Tunnel excavation and support @ 60' per day	Pump, trash 200gpm/100ft head	Other General Industrial Equipment	180	24	1	Electric	10
054	Tunneling - Tunnel excavation and support @ 60' per day	Ventilation Fan 100hp	Other General Industrial Equipment	180	24	2	Electric	100
054	Tunneling - Tunnel excavation and support @ 60' per day	Ventilation Fan 40hp	Other General Industrial Equipment	180	24	1	Electric	40
054	Tunneling - Tunnel excavation and support @ 60' per day	Water Treatment Plant	Other General Industrial Equipment	180	24	1	Electric	200
054	Tunneling - Tunnel excavation and support @ 60' per day	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	180	24	1	Diesel	246
055	Tunneling - TBM trailing gear and plant removal	Compressor, Stationary 1200cfm	Air Compressors	15	24	1	Electric	350
055	Tunneling - TBM trailing gear and plant removal	Crawler Crane 100ton/200'	Cranes	15	20	1	Diesel	265
055	Tunneling - TBM trailing gear and plant removal	Getman Buggy	Skid Steer Loaders	15	24	1	Diesel	40
055	Tunneling - TBM trailing gear and plant removal	Grout Pump-Moyno/Mixer	Other Material Handling Equipment	15	24	1	Diesel	600
055	Tunneling - TBM trailing gear and plant removal	Hydraulic Crane 20ton/60'	Cranes	15	24	1	Diesel	130
055	Tunneling - TBM trailing gear and plant removal	Locomotive 12ton/120hp	Other Material Handling Equipment	15	24	1	Diesel	120
055	Tunneling - TBM trailing gear and plant removal	Pipe Carrier	Other Material Handling Equipment	15	24	1	diesel	180
055	Tunneling - TBM trailing gear and plant removal	Pump, subm. 140gpm/20ft head	Other Construction Equipment	15	24	2	Electric	2
055	Tunneling - TBM trailing gear and plant removal	Pump, trash 200gpm/100ft head	Other Construction Equipment	15	24	1	Electric	10
055	Tunneling - TBM trailing gear and plant removal	Ventilation Fan 100hp	Other Construction Equipment	15	24	2	Electric	100
055	Tunneling - TBM trailing gear and plant removal	Water Treatment Plant	Other Construction Equipment	15	24	1	Electric	200
055	Tunneling - TBM trailing gear and plant removal	Welder 400A, trailer E	Welders	15	24	1	Diesel	100
055	Tunneling - TBM trailing gear and plant removal	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	15	24	3	Diesel	246
056	Tunneling - Tunnel punch list/clearing	Getman Buggy	Skid Steer Loaders	5	10	1	Diesel	40
056	Tunneling - Tunnel punch list/clearing	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	5	10	1	Diesel	246
057	Tunneling - Muck disposal on site/grading	Dozer Cat D6/5.6cy	Rubber Tired Dozers	180	10	1	Diesel	145
057	Tunneling - Muck disposal on site/grading	Mine Truck 20ton/15cy	Off-Highway Trucks	180	10	1	Diesel	214
057	Tunneling - Muck disposal on site/grading	Water Truck	--	180	10	1	diesel	350
057	Tunneling - Muck disposal on site/grading	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	180	10	1	Diesel	246
058	Tunneling - Demobilization tunnel plant	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	8	1	Diesel	246

- 1. Equipment that will not be modeled is in red.
- 2. Offroad construction equipment is listed in green.
- 3. Onroad equipment is listed in orange.
- 4. Electric equipment is listed in blue.

MBARD Portion									
Code	Phase	Equipment Name	General Equipment Category	#/day	Hrs/Day	# of Equipment	Fuel Type	Engine Horsepower (if known)	
020	Energy Dissipation - Site Clearing and Grading	Dozer Cat D6/5.6cy	Rubber Tired Dozers	10	10	1	Diesel	145	
020	Energy Dissipation - Site Clearing and Grading	Mine Truck 20ton/15cy	Off-Highway Trucks	10	10	1	Diesel	214	
020	Energy Dissipation - Site Clearing and Grading	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	10	10	1	Diesel	246	
021	Energy Dissipation - Construct energy dissipation structure	Pile Hammer	Bore/Drill Rigs	30	10	1	diesel	40	
022	Energy Dissipation - Construct connection between tunnel and Energy Dissipator	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	513	
022	Energy Dissipation - Construct connection between tunnel and Energy Dissipator	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	246	
024	Energy Dissipation - Construct ATV Trail to south portal	Vibrating Roller	Rollers	20	10	1	Diesel	25	
024	Energy Dissipation - Construct ATV Trail to south portal	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	2	Diesel	246	
034	Spillway Modification - Dam stability investigation of San Antonio Dam	Drill Rig	Bore/Drill Rigs	30	10	1	diesel	40	
035	Spillway Modification - Improve Access Road	Dozer Cat D6/5.6cy	Rubber Tired Dozers	15	10	1	Diesel	145	
035	Spillway Modification - Improve Access Road	Mine Truck 20ton/15cy	Off-Highway Trucks	15	10	1	Diesel	214	
035	Spillway Modification - Improve Access Road	Vibrating Roller	Rollers	15	10	1	Diesel	25	
035	Spillway Modification - Improve Access Road	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	15	10	1	Diesel	246	
036	Spillway Modification - Site clearing/grading of staging areas	Dozer Cat D6/5.6cy	Rubber Tired Dozers	20	10	1	Diesel	145	
036	Spillway Modification - Site clearing/grading of staging areas	Mine Truck 20ton/15cy	Off-Highway Trucks	20	10	1	Diesel	214	
036	Spillway Modification - Site clearing/grading of staging areas	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	246	
038	Spillway Modification - Removal of existing spillway crest and existing concrete structures	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	60	10	3	Diesel	513	
038	Spillway Modification - Removal of existing spillway crest and existing concrete structures	Mine Truck 20ton/15cy	Off-Highway Trucks	60	10	3	Diesel	214	
038	Spillway Modification - Removal of existing spillway crest and existing concrete structures	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	60	10	3	Diesel	246	
039	Spillway Modification - Excavation to grade for new spillway walls and structure	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	60	10	3	Diesel	513	
039	Spillway Modification - Excavation to grade for new spillway walls and structure	Mine Truck 20ton/15cy	Off-Highway Trucks	60	10	3	Diesel	214	
039	Spillway Modification - Excavation to grade for new spillway walls and structure	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	60	10	3	Diesel	246	
040	Spillway Modification - Installation/upgrade of subsurface drainage systems	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	246	
041	Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	Backhoe CAT 375, 176k, 5cy	Tractors/Loaders/Backhoes	120	10	3	diesel	225	
041	Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	120	10	3	Diesel	246	
042	Spillway modification - Improvements to spillway chute and connection to new spillway structure	CAT 950, 4CY	Tractors/Loaders/Backhoes	120	10	3	Diesel	225	
042	Spillway modification - Improvements to spillway chute and connection to new spillway structure	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	120	10	3	Diesel	246	
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Dozer Cat D6/5.6cy	Rubber Tired Dozers	15	10	1	Diesel	145	
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Mine Truck 20ton/15cy	Off-Highway Trucks	15	10	1	Diesel	214	
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Vibrating Roller	Rollers	15	10	1	Diesel	25	
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	15	10	1	Diesel	246	
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Dozer Cat D6/5.6cy	Rubber Tired Dozers	15	10	1	Diesel	145	
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Mine Truck 20ton/15cy	Off-Highway Trucks	15	10	1	Diesel	214	
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	15	10	1	Diesel	246	
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Dozer Cat D6/5.6cy	Rubber Tired Dozers	20	10	1	Diesel	145	
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Mine Truck 20ton/15cy	Off-Highway Trucks	20	10	1	Diesel	214	
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	246	
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	513	
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Compactor, Cat 816, 25ton	Other Construction Equipment	30	10	2	Diesel	220	
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Mine Truck 20ton/15cy	Off-Highway Trucks	30	10	2	Diesel	214	
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	246	
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	30	8	1	Diesel	513	
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Compactor, Cat 816, 25ton	Other Construction Equipment	30	8	1	Diesel	220	
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Dozer Cat D6/5.6cy	Rubber Tired Dozers	30	8	1	Diesel	145	
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Excavator >0.5cy	Excavators	30	8	1	Diesel	100	
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Mine Truck 20ton/15cy	Off-Highway Trucks	30	8	2	Diesel	214	
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	8	2	Diesel	246	
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Hydraulic Crane 20ton/60'	Cranes	30	10	1	Diesel	130	
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Hydraulic Crane 40ton/105'	Cranes	30	10	1	Diesel	152	
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Welder 400A, trailer E	Welders	30	10	1	Diesel	100	
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	246	
051	Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	200	8	1	Diesel	246	
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	500 Ton Crane	Cranes	30	20	1	Diesel	1325	
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Crawler Crane 100ton/200'	Cranes	30	20	1	Diesel	265	
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Hydraulic Crane 40ton/105'	Cranes	30	20	1	Diesel	152	
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Welder 400A, trailer E	Welders	30	20	1	Diesel	100	
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	20	1	Diesel	246	
053	Tunneling - Drive 100' of tunnel at 20 fpd	500 Ton Crane	Cranes	5	20	1	Diesel	1325	
053	Tunneling - Drive 100' of tunnel at 20 fpd	Crawler Crane 100ton/200'	Cranes	5	20	1	Diesel	265	
053	Tunneling - Drive 100' of tunnel at 20 fpd	Hydraulic Crane 40ton/105'	Cranes	5	20	1	Diesel	152	
053	Tunneling - Drive 100' of tunnel at 20 fpd	Welder 400A, trailer E	Welders	5	20	1	Diesel	100	
053	Tunneling - Drive 100' of tunnel at 20 fpd	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	5	20	1	Diesel	246	
054	Tunneling - Tunnel excavation and support @ 60' per day	Flat Car, Rail	Other Material Handling Equipment	180	24	4	--	0	
054	Tunneling - Tunnel excavation and support @ 60' per day	Grout Plant, skid 12cy/hr	Other Material Handling Equipment	180	24	1	diesel	250	
054	Tunneling - Tunnel excavation and support @ 60' per day	Hydraulic Crane 40ton/105'	Cranes	180	24	1	Diesel	152	
054	Tunneling - Tunnel excavation and support @ 60' per day	Locomotive 12ton/120hp	Other Material Handling Equipment	180	24	2	Diesel	120	
054	Tunneling - Tunnel excavation and support @ 60' per day	Mine Truck 20ton/15cy	Off-Highway Trucks	180	8	2	Diesel	214	
054	Tunneling - Tunnel excavation and support @ 60' per day	Muck Car, Rail	Other Material Handling Equipment	180	24	18	--	0	
054	Tunneling - Tunnel excavation and support @ 60' per day	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	180	24	1	Diesel	246	
055	Tunneling - TBM trailing gear and plant removal	Crawler Crane 100ton/200'	Cranes	15	20	1	Diesel	265	
055	Tunneling - TBM trailing gear and plant removal	Getman Buggy	Skid Steer Loaders	15	24	1	Diesel	40	
055	Tunneling - TBM trailing gear and plant removal	Grout Pump-Moyno/Mixer	Other Material Handling Equipment	15	24	1	Diesel	600	
055	Tunneling - TBM trailing gear and plant removal	Hydraulic Crane 20ton/60'	Cranes	15	24	1	Diesel	130	
055	Tunneling - TBM trailing gear and plant removal	Locomotive 12ton/120hp	Other Material Handling Equipment	15	24	1	Diesel	120	
055	Tunneling - TBM trailing gear and plant removal	Pipe Carrier	Other Material Handling Equipment	15	24	1	diesel	180	
055	Tunneling - TBM trailing gear and plant removal	Welder 400A, trailer E	Welders	15	24	1	Diesel	100	
055	Tunneling - TBM trailing gear and plant removal	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	15	24	3	Diesel	246	
056	Tunneling - Tunnel punch list/clearing	Getman Buggy	Skid Steer Loaders	5	10	1	Diesel	40	
056	Tunneling - Tunnel punch list/clearing	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	5	10	1	Diesel	246	
057	Tunneling - Muck disposal on site/grading	Dozer Cat D6/5.6cy	Rubber Tired Dozers	180	10	1	Diesel	145	
057	Tunneling - Muck disposal on site/grading	Mine Truck 20ton/15cy	Off-Highway Trucks	180	10	1	Diesel	214	
057	Tunneling - Muck disposal on site/grading	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	180	10	1	Diesel	246	
058	Tunneling - Demobilization tunnel plant	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	8	1	Diesel	246	

Code	Phase	Equipment Name	General Equipment Category	#/day	Hrs/Day	# of Equipment	Fuel Type	Engine Horsepower (if known)
020	Energy Dissipation - Site Clearing and Grading	Water Truck	--	10	10	1	diesel	350
021	Energy Dissipation - Construct energy dissipation structure	Concrete Pump Truck	--	2	10	1	Diesel	500
021	Energy Dissipation - Construct energy dissipation structure	Concrete Truck	--	2	3.35	3	Diesel	300
021	Energy Dissipation - Construct energy dissipation structure	Pickup	--	30	10	1	--	350
022	Energy Dissipation - Construct connection between tunnel and Energy Dissipator	Pickup	--	20	10	1	Diesel	350
023	Energy Dissipation - Revegitation and site demob	Pickup	--	10	10	1	--	350
023	Energy Dissipation - Revegitation and site demob	Water Truck	--	10	10	1	diesel	350
024	Energy Dissipation - Construct ATV Trail to south portal	Water Truck	--	20	10	1	diesel	350
034	Spillway Modification - Dam stability investigation of San Antonio Dam	Pickup	--	30	10	1	--	350
035	Spillway Modification - Improve Access Road	Water Truck	--	15	10	1	diesel	350
036	Spillway Modification - Site clearing/grading of staging areas	Water Truck	--	20	10	1	diesel	350
037	Spillway Modification - Installation of erosion control/silt fencing	Pickup	--	13	10	1	--	350
037	Spillway Modification - Installation of erosion control/silt fencing	Water Truck	--	13	10	1	Diesel	350
040	Spillway Modification - Installation/upgrade of subsurface drainage systems	Pickup	--	20	10	1	--	350
041	Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	Concrete Pump Truck	--	19	10	2	Diesel	500
041	Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	Concrete Truck	--	19	4	5	Diesel	300
041	Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	Pickup	--	120	10	3	--	350
042	Spillway modification - Improvements to spillway chute and connection to new spillway structure	Pickup	--	120	10	3	--	350
043	Spillway Modification - Site cleanup and demobilization	Pickup	--	20	10	2	--	350
043	Spillway Modification - Site cleanup and demobilization	Water Truck	--	20	10	2	Diesel	350
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Water Truck	--	15	10	1	diesel	350
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Water Truck	--	15	10	1	diesel	350
046	Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	Pickup	--	15	10	1	--	350
046	Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	Water Truck	--	15	10	1	Diesel	350
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Water Truck	--	20	10	1	diesel	350
057	Tunneling - Muck disposal on site/grading	Water Truck	--	180	10	1	diesel	350

Offroad Equipment (Electric) Inventory

1 hp = 0.74569987 kilowatts

Code	Phase	Equipment Name	Category	Days	Hours per day	Number	Fuel Type	Horsepower	Kilowatts	Kilowatt Hours (day)	Kilowatt Hours (total)
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Compressor, Stationary 1200cfm	Air Compressors	30	20	1	Electric	350	261	5219.89909	156596.9727
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	EPBM and Backup 14'9"	Bore/Drill Rigs	30	20	1	Electric	1800	1342	26845.19532	805355.8596
053	Tunneling - Drive 100' of tunnel at 20 fpd	Compressor, Stationary 1200cfm	Air compressors	5	20	1	Electric	350	261	5219.89909	26099.49545
053	Tunneling - Drive 100' of tunnel at 20 fpd	EPBM and Backup 14'9"	Bore/Drill Rigs	5	20	1	Electric	1800	1342	26845.19532	134225.9766
054	Tunneling - Tunnel excavation and support @ 60' per day	Compressor, Stationary 1200cfm	Air compressors	180	24	1	Electric	350	261	6263.878908	1127498.203
054	Tunneling - Tunnel excavation and support @ 60' per day	EPBM and Backup 14'9"	Bore/Drill Rigs	180	24	1	Electric	1800	1342	32214.23438	5798562.189
054	Tunneling - Tunnel excavation and support @ 60' per day	Pump, trash 200gpm/100ft head	Other General Industrial Equipment	180	24	1	Electric	10	7	178.9679688	32214.23438
054	Tunneling - Tunnel excavation and support @ 60' per day	Ventilation Fan 100hp	Other General Industrial Equipment	180	24	2	Electric	100	75	3579.359376	644284.6877
054	Tunneling - Tunnel excavation and support @ 60' per day	Ventilation Fan 40hp	Other General Industrial Equipment	180	24	1	Electric	40	30	715.8718752	128856.9375
054	Tunneling - Tunnel excavation and support @ 60' per day	Water Treatment Plant	Other General Industrial Equipment	180	24	1	Electric	200	149	3579.359376	644284.6877
055	Tunneling - TBM trailing gear and plant removal	Compressor, Stationary 1200cfm	Air Compressors	15	24	1	Electric	350	261	6263.878908	93958.18362
055	Tunneling - TBM trailing gear and plant removal	Pump, subm. 140gpm/20ft head	Other Construction Equipment	15	24	2	Electric	2	1	71.58718752	1073.807813
055	Tunneling - TBM trailing gear and plant removal	Pump, trash 200gpm/100ft head	Other Construction Equipment	15	24	1	Electric	10	7	178.9679688	2684.519532
055	Tunneling - TBM trailing gear and plant removal	Ventilation Fan 100hp	Other Construction Equipment	15	24	2	Electric	100	75	3579.359376	53690.39064
055	Tunneling - TBM trailing gear and plant removal	Water Treatment Plant	Other Construction Equipment	15	24	1	Electric	200	149	3579.359376	53690.39064

Regional Emissions Summary

Phase Name	Start Date	End Date	# of Workdays	Daily Emissions (lb/day)									Daily Emissions (lb/day)				Total MT				
				ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e	
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	0.51	5.20	18.72	0.03	9.67	0.06	9.72	2.87	0.06	2.93	3296.82	0.80	0.12	18.95	0.00	0.00	19.37	
Energy Dissipation - Construct energy dissipatio	4/8/24	6/28/24	60	0.09	0.79	1.76	0.01	1.99	0.01	2.00	0.73	0.01	0.74	720.40	0.07	0.07	16.78	0.00	0.00	17.37	
Energy Dissipation - Construct connection betw	11/18/24	12/13/24	20	0.39	3.08	23.68	0.04	2.46	0.08	2.53	0.80	0.08	0.88	4006.37	0.96	0.15	36.35	0.01	0.00	36.98	
Energy Dissipation - Re-vegetation and site dem	12/16/24	1/24/25	30	0.11	2.40	1.18	0.02	5.18	0.02	5.21	1.27	0.02	1.29	1596.67	0.01	0.24	21.73	0.00	0.00	22.69	
Energy Dissipation - Construct ATV Trail to sout	10/2/23	11/10/23	30	0.33	2.28	16.71	0.03	3.32	0.06	3.37	1.22	0.05	1.27	2876.05	0.66	0.12	30.01	0.01	0.00	30.64	
Spillway modification - Dam stability investigat	4/17/23	5/26/23	30	0.11	1.00	1.99	0.01	0.73	0.01	0.75	0.28	0.01	0.29	870.40	0.07	0.09	11.84	0.00	0.00	12.23	
Spillway modification - Improve access road	8/21/23	9/8/23	15	0.34	1.64	16.91	0.03	2.89	0.06	2.94	1.52	0.06	1.58	2772.25	0.82	0.03	18.86	0.01	0.00	19.05	
Spillway modification - Site clearing/grading of s	9/11/23	10/6/23	20	0.35	1.60	16.30	0.03	2.96	0.05	3.01	1.57	0.05	1.63	2703.86	0.79	0.03	24.53	0.01	0.00	24.78	
Spillway modification - Installation of erosion co	9/11/23	9/22/23	10	0.08	1.07	0.71	0.01	0.73	0.01	0.75	0.24	0.01	0.25	767.39	0.01	0.11	3.48	0.00	0.00	3.63	
Spillway modification - Removal of existing spill	11/6/23	1/26/24	60	1.43	7.31	84.96	0.13	1.72	0.25	1.97	0.74	0.25	0.99	12326.63	3.71	0.10	335.48	0.10	0.00	338.82	
Spillway modification - Excavation to grade for r	1/29/24	4/19/24	60	1.68	13.81	88.49	0.14	18.81	0.26	19.08	2.46	0.26	2.72	13909.99	3.72	0.35	378.57	0.10	0.01	383.94	
Spillway modification - Installation/upgrade of s	3/25/24	4/19/24	20	0.18	1.37	8.21	0.02	0.73	0.03	0.76	0.28	0.03	0.31	1612.48	0.32	0.09	14.63	0.00	0.00	14.94	
Spillway modification - Construction of new spill	4/22/24	10/4/24	120	0.85	7.95	45.28	0.09	3.20	0.17	3.37	0.93	0.17	1.10	8992.85	1.79	0.51	489.49	0.10	0.03	500.28	
Spillway modification - Improvements to spillw	6/17/24	10/4/24	80	0.91	7.86	46.43	0.08	14.56	0.13	14.69	1.94	0.13	2.07	7349.42	1.80	0.26	366.39	0.10	0.01	371.59	
Spillway modification - Site cleanup and demob	10/7/24	11/1/24	20	0.09	1.05	0.83	0.01	0.80	0.01	0.81	0.29	0.01	0.30	806.28	0.01	0.11	7.31	0.00	0.00	7.62	
Energy Dissipation Structure Tunnel Portal - Imp	7/10/23	7/28/23	15	0.51	9.05	18.76	0.07	14.66	0.13	14.79	3.58	0.13	3.71	7451.02	0.83	0.76	50.70	0.01	0.01	52.38	
Energy Dissipation Structure Tunnel Portal - site	7/31/23	8/18/23	15	0.33	1.60	16.15	0.03	4.03	0.05	4.08	2.14	0.05	2.19	2684.48	0.79	0.03	18.26	0.01	0.00	18.45	
Energy Dissipation Structure Tunnel Portal - Inst	7/31/23	8/18/23	15	0.08	0.28	0.74	0.00	1.65	0.00	1.66	0.85	0.00	0.85	269.91	0.01	0.03	1.84	0.00	0.00	1.89	
Energy Dissipation Structure Tunnel Portal - Site	8/21/23	9/29/23	30	0.35	1.62	16.33	0.03	4.36	0.05	4.41	2.34	0.05	2.40	2716.80	0.79	0.03	26.02	0.01	0.00	26.31	
Energy Dissipation Structure Tunnel Portal - Por	10/2/23	11/10/23	30	1.08	6.14	70.90	0.11	2.32	0.21	2.53	0.77	0.21	0.98	10175.28	3.08	0.09	138.46	0.04	0.00	139.89	
Energy Dissipation Structure Tunnel Portal - Por	11/13/23	12/8/23	20	0.73	4.26	43.76	0.07	4.55	0.14	4.68	2.00	0.14	2.14	6746.28	1.97	0.09	88.66	0.03	0.00	89.59	
Energy Dissipation Structure Tunnel Portal - Mo	10/2/23	11/10/23	30	0.38	5.33	17.18	0.04	3.54	0.07	3.61	1.08	0.07	1.15	3502.43	0.65	0.16	47.66	0.01	0.00	48.54	
Energy Dissipation Structure Tunnel Portal - Fat	7/10/23	4/12/24	200	0.11	1.96	6.23	0.02	2.22	0.03	2.26	0.27	0.03	0.30	1765.38	0.25	0.16	160.15	0.02	0.01	164.98	
Energy Dissipation Structure Tunnel Portal - EFT	12/11/23	1/19/24	30	1.58	12.37	81.78	0.15	1.65	0.28	1.93	1.01	0.28	1.30	13822.58	5.03	0.11	188.09	0.07	0.00	190.26	
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2.71	13.35	92.83	0.17	24.08	0.30	24.38	14.80	0.30	15.10	15983.74	5.12	0.19	36.25	0.01	0.00	36.67	
Tunneling - Tunnel excavation and support @ 6	1/29/24	10/4/24	180	2.01	8.16	79.42	0.13	21.80	0.24	22.04	11.92	0.24	12.16	12940.27	4.48	0.43	1056.53	0.37	0.04	1076.18	
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2.70	19.21	155.17	0.22	9.24	0.43	9.66	5.68	0.43	6.10	21079.32	6.63	0.08	149.48	0.05	0.00	150.84	
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	0.15	2.30	8.80	0.02	1.33	0.03	1.37	0.16	0.03	0.19	1672.74	0.36	0.09	6.35	0.00	0.00	6.55	
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	0.93	2.95	21.99	0.04	16.88	0.07	16.95	9.39	0.07	9.46	4351.60	0.84	0.16	355.29	0.07	0.01	360.79	
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	0.30	0.93	8.13	0.01	4.73	0.02	4.76	2.69	0.02	2.71	1394.62	0.27	0.05	18.98	0.00	0.00	19.27	
<b>Max Daily Emissions</b>				<b>5.43</b>	<b>33.45</b>	<b>223.06</b>	<b>0.39</b>	<b>70.12</b>	<b>0.69</b>	<b>70.81</b>	<b>27.20</b>	<b>0.68</b>	<b>27.88</b>								
MBARD Regional Thresholds				-	-	-	-	-	-	83	-	-	-								
Exceeds Threshold?				No	No	No	No	No	No	No	No	No	No								
																					Total 4,186.53
																					50 -Year Amortization 83.73

Row Labels	Daily Emissions (lb/day)									
	Max of VOC	Max of NOX	Max of CO	Max of SOX	Max of Fugitive PM10	Max of Exhaust PM10	Max of Total PM10	Max of Fugitive PM2.5	Max of Exhaust PM2.5	Max of Total PM2.5
2023	3.3	23.0	196.0	0.3	18.2	0.6	18.4	4.9	0.6	5.3
2024	5.4	33.4	223.1	0.4	70.1	0.7	70.8	27.2	0.7	27.9
2025	0.1	2.4	1.2	0.0	5.2	0.0	5.2	1.3	0.0	1.3
<b>Max Daily Emissions (lbs/day)</b>	<b>5.4</b>	<b>33.4</b>	<b>223.1</b>	<b>0.4</b>	<b>70.1</b>	<b>0.7</b>	<b>70.8</b>	<b>27.2</b>	<b>0.7</b>	<b>27.9</b>
MBARD Regional Thresholds	-	-	-	-	-	-	83.00	-	-	-
Exceeds Threshold?	No	No	No	No	No	No	No	No	No	No

Phase Name	Start Date	End Date	# of Workdays	CO2 (MT)	CH4 (MT)	N2O (MT)	CO2e (MT)	Amortized CO2e (MT)
Energy Dissipation Structure Spillway Modification	10/2/23	1/24/25	345	123.8	0.0	0.0	127.0	1.3
Energy Dissipation Structure Tunnel Portal Tunneling	7/10/23	4/12/24	200	719.8	0.2	0.0	732.3	7.3
	7/10/23	11/15/24	355	1622.9	0.5	0.1	1650.3	16.5

Regional Maximums (Tons Per Quarter) - Informational

Regional Emissions Summary - Tons per Quarter

Row Labels	Quarters	Sum of VOC Tons	Sum of NOx Tons	Sum of CO Tons	Sum of SOX tons	Sum of Fugitive PM10 tons	Sum of Exhaust PM10 Tons	Sum of Total PM10 tons	Sum of Fugitive PM2.5 tons	Sum of Exhaust PM2.5 Tons
2023	Qtr2	0.00	0.01	0.03	0.00	0.01	0.00	0.01	0.00	0.00
2023	Qtr3	0.02	0.21	1.02	0.00	0.34	0.00	0.35	0.12	0.00
2023	Qtr4	0.08	0.56	4.57	0.01	0.31	0.01	0.32	0.10	0.01
2024	Qtr1	0.14	0.87	6.33	0.01	1.53	0.02	1.55	0.62	0.02
2024	Qtr2	0.14	0.76	5.52	0.01	1.65	0.02	1.67	0.78	0.02
2024	Qtr3	0.15	0.89	6.37	0.01	1.86	0.02	1.88	0.80	0.02
2024	Qtr4	0.06	0.41	3.09	0.00	0.39	0.01	0.40	0.19	0.01
2025	Qtr1	0.00	0.02	0.01	0.00	0.05	0.00	0.05	0.01	0.00

Regional Emissions Summary - Quarterly

Row Labels	Quarters	Sum of VOC Tons	Sum of NOx Tons	Sum of CO Tons	Sum of SOX tons	Sum of Fugitive PM10 tons	Sum of Exhaust PM10 Tons	Sum of Total PM10 tons	Sum of Fugitive PM2.5 tons	Sum of Exhaust PM2.5 Tons
2023	Qtr2	0.00	0.01	0.03	0.00	0.01	0.00	0.01	0.00	0.00
2023	Qtr3	0.02	0.21	1.02	0.00	0.34	0.00	0.35	0.12	0.00
2023	Qtr4	0.08	0.56	4.57	0.01	0.31	0.01	0.32	0.10	0.01
2024	Qtr1	0.14	0.87	6.33	0.01	1.53	0.02	1.55	0.62	0.02
2024	Qtr2	0.14	0.76	5.52	0.01	1.65	0.02	1.67	0.78	0.02
2024	Qtr3	0.15	0.89	6.37	0.01	1.86	0.02	1.88	0.80	0.02
2024	Qtr4	0.06	0.41	3.09	0.00	0.39	0.01	0.40	0.19	0.01
2025	Qtr1	0.00	0.02	0.01	0.00	0.05	0.00	0.05	0.01	0.00
Max Quarter		0.15	0.89	6.37	0.01	1.86	0.02	1.88	0.80	0.02

Sum of Total PM2.5 Tons
0.00
0.12
0.12
0.64
0.79
0.82
0.20
0.01

Sum of Total PM2.5 Tons
0.00
0.12
0.12
0.64
0.79
0.82
0.20
0.01
0.82



Offroad Equipment										
Phase Name	Start	End	# of Workdays	First Year of CSTN	EF Year	Equipment Type	# of Equipment	hours/day	HP	LF
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	2024	Rubber Tired Dozers	1	10	145	0.4
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	2024	Off-Highway Trucks	1	10	214	0.38
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	2024	Tractors/Loaders/Backhoes	1	10	246	0.37
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	30	2024	2024	Bore/Drill Rigs	1	10	40	0.5
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	2024	Tractors/Loaders/Backhoes	1	10	513	0.37
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	2024	Tractors/Loaders/Backhoes	1	10	246	0.37
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	20	2023	2023	Rollers	1	10	25	0.38
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	20	2023	2023	Tractors/Loaders/Backhoes	2	10	246	0.37
Spillway Modification - Dam stability investigation of San Antonio Dam	4/17/2023	5/26/2023	30	2023	2023	Bore/Drill Rigs	1	10	40	0.5
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	15	2023	2023	Rubber Tired Dozers	1	10	145	0.4
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	15	2023	2023	Off-Highway Trucks	1	10	214	0.38
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	15	2023	2023	Rollers	1	10	25	0.38
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	15	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	2023	Rubber Tired Dozers	1	10	145	0.4
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	2023	Off-Highway Trucks	1	10	214	0.38
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	2023	Tractors/Loaders/Backhoes	3	10	513	0.37
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	2023	Off-Highway Trucks	3	10	214	0.38
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	2023	Tractors/Loaders/Backhoes	3	10	246	0.37
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	2024	Tractors/Loaders/Backhoes	3	10	513	0.37
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	2024	Off-Highway Trucks	3	10	214	0.38
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	2024	Tractors/Loaders/Backhoes	3	10	246	0.37
Spillway Modification - Installation/upgrade of subsurface drainage systems	3/25/2024	4/19/2024	20	2024	2024	Tractors/Loaders/Backhoes	1	10	246	0.37
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	120	2024	2024	Tractors/Loaders/Backhoes	3	10	225	0.37
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	120	2024	2024	Tractors/Loaders/Backhoes	3	10	246	0.37
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	120	2024	2024	Tractors/Loaders/Backhoes	3	10	225	0.37
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	120	2024	2024	Tractors/Loaders/Backhoes	3	10	246	0.37
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	2023	Rubber Tired Dozers	1	10	145	0.4
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	2023	Off-Highway Trucks	1	10	214	0.38
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	2023	Rollers	1	10	25	0.38
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	2023	Rubber Tired Dozers	1	10	145	0.4
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	2023	Off-Highway Trucks	1	10	214	0.38
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	2023	Rubber Tired Dozers	1	10	145	0.4
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	2023	Off-Highway Trucks	1	10	214	0.38
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	2023	Tractors/Loaders/Backhoes	2	10	513	0.37
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	2023	Other Construction Equipment	2	10	220	0.42
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	2023	Off-Highway Trucks	2	10	214	0.38
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	2023	Tractors/Loaders/Backhoes	2	10	246	0.37
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	2023	Tractors/Loaders/Backhoes	1	8	513	0.37
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	2023	Other Construction Equipment	1	8	220	0.42
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	2023	Rubber Tired Dozers	1	8	145	0.4
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	2023	Excavators	1	8	100	0.38
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	2023	Off-Highway Trucks	2	8	214	0.38
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	2023	Tractors/Loaders/Backhoes	2	8	246	0.37
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	2023	Cranes	1	10	130	0.29
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	2023	Cranes	1	10	152	0.29
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	2023	Welders	1	10	100	0.45
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024	200	2023	2023	Tractors/Loaders/Backhoes	1	8	246	0.37
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	2023	Cranes	1	20	1325	0.29
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	2023	Cranes	1	20	265	0.29
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	2023	Cranes	1	20	152	0.29
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	2023	Welders	1	20	100	0.45
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	2023	Tractors/Loaders/Backhoes	1	20	246	0.37
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	2024	Cranes	1	20	1325	0.29
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	2024	Cranes	1	20	265	0.29
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	2024	Cranes	1	20	152	0.29
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	2024	Welders	1	20	100	0.45
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	2024	Tractors/Loaders/Backhoes	1	20	246	0.37
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	2024	Other Material Handling Equipment	4	24	0	0.4
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	2024	Other Material Handling Equipment	1	24	250	0.4
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	2024	Cranes	1	24	152	0.29
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	2024	Other Material Handling Equipment	2	24	120	0.4
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	2024	Off-Highway Trucks	2	8	214	0.38
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	2024	Other Material Handling Equipment	18	24	0	0.4
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	2024	Tractors/Loaders/Backhoes	1	24	246	0.37
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Cranes	1	20	265	0.29
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Skid Steer Loaders	1	24	40	0.37
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Other Material Handling Equipment	1	24	600	0.4
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Cranes	1	24	130	0.29
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Other Material Handling Equipment	1	24	120	0.4
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Other Material Handling Equipment	1	24	180	0.4
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Welders	1	24	100	0.45
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Tractors/Loaders/Backhoes	3	24	246	0.37
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	5	2023	2023	Skid Steer Loaders	1	10	40	0.37
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	5	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	2024	Rubber Tired Dozers	1	10	145	0.4
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	2024	Off-Highway Trucks	1	10	214	0.38
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	2024	Tractors/Loaders/Backhoes	1	10	246	0.37
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	2024	Tractors/Loaders/Backhoes	1	8	246	0.37

Phase Name	Start	End	Emission Factor (g/bhp-hr)														
			ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O		
Offroad Equipment																	
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	474.59	0.15	0.00
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	475.22	0.15	0.00
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	476.73	0.15	0.00
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	470.71	0.15	0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	476.73	0.15	0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	476.73	0.15	0.00
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	473.94	0.15	0.00
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	476.43	0.15	0.00
Spillway Modification - Dam stability investigation of San Antonio Dam	4/17/2023	5/26/2023	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	469.71	0.15	0.00
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	474.60	0.15	0.00
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	475.05	0.15	0.00
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	473.94	0.15	0.00
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	476.43	0.15	0.00
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	474.60	0.15	0.00
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	475.05	0.15	0.00
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	476.43	0.15	0.00
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	476.43	0.15	0.00
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	475.05	0.15	0.00
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	476.43	0.15	0.00
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	476.73	0.15	0.00
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	475.22	0.15	0.00
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	476.73	0.15	0.00
Spillway Modification - Installation/upgrade of subsurface drainage systems	3/25/2024	4/19/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	476.73	0.15	0.00
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	476.73	0.15	0.00
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	476.73	0.15	0.00
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	476.73	0.15	0.00
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	476.73	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	474.60	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	475.05	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	473.94	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	476.43	0.15	0.00
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	474.60	0.15	0.00
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	475.05	0.15	0.00
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	476.43	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	474.60	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	475.05	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	476.43	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	476.43	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	469.56	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	475.05	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	476.43	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	476.43	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	469.56	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	474.60	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	472.28	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	475.05	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	476.43	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	472.97	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	472.97	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.09	2.75	4.10	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	568.30	0.06	0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	476.43	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	476.43	0.15	0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	472.97	0.15	0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	472.97	0.15	0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	472.97	0.15	0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.09	2.75	4.10	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	568.30	0.06	0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	476.43	0.15	0.00
Tunneling - Drive 100' of tunnel at 20 fpd																	

Offroad Equipment	Emissions (lb/day)																Total MT			
	Phase Name	Start	End	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	0.06	0.33	3.32	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.01	606.85	0.20	0.00	2.75	0.00	0.00	2.77
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	0.09	0.47	4.66	0.01	0.00	0.02	0.02	0.00	0.02	0.02	0.02	851.98	0.28	0.00	3.86	0.00	0.00	3.90
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	0.10	0.52	7.42	0.01	0.00	0.02	0.02	0.00	0.02	0.02	0.02	956.64	0.31	0.00	4.34	0.00	0.00	4.37
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	0.02	0.11	1.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	207.55	0.07	0.00	2.82	0.00	0.00	2.85
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	0.21	1.09	15.48	0.02	0.00	0.04	0.04	0.00	0.04	0.04	0.04	1994.94	0.64	0.00	18.10	0.01	0.00	18.24
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	0.10	0.52	7.42	0.01	0.00	0.02	0.02	0.00	0.02	0.02	0.02	956.64	0.31	0.00	8.68	0.00	0.00	8.75
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	0.01	0.05	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	99.26	0.03	0.00	0.90	0.00	0.00	0.91
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	0.20	1.04	14.85	0.02	0.00	0.04	0.04	0.00	0.04	0.04	0.04	1912.07	0.62	0.00	17.35	0.01	0.00	17.49
Spillway Modification - Dam stability investigation of San Antonio Dam	4/17/2023	5/26/2023	0.02	0.11	1.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	207.11	0.07	0.00	2.82	0.00	0.00	2.84
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	0.06	0.33	3.32	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	606.86	0.20	0.00	4.13	0.00	0.00	4.16
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	0.09	0.47	4.66	0.01	0.00	0.02	0.02	0.00	0.02	0.02	0.02	851.67	0.28	0.00	5.79	0.00	0.00	5.84
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	0.01	0.05	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	99.26	0.03	0.00	0.68	0.00	0.00	0.68
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	0.10	0.52	7.42	0.01	0.00	0.02	0.02	0.00	0.02	0.02	0.02	956.03	0.31	0.00	6.50	0.00	0.00	6.56
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	0.06	0.33	3.32	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	606.86	0.20	0.00	5.51	0.00	0.00	5.55
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	0.09	0.47	4.66	0.01	0.00	0.02	0.02	0.00	0.02	0.02	0.02	851.67	0.28	0.00	7.73	0.00	0.00	7.79
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	0.10	0.52	7.42	0.01	0.00	0.02	0.02	0.00	0.02	0.02	0.02	956.03	0.31	0.00	8.67	0.00	0.00	8.74
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	0.63	3.26	46.45	0.06	0.00	0.13	0.13	0.00	0.13	0.13	0.13	5981.04	1.93	0.00	162.78	0.05	0.00	164.09
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	0.27	1.40	13.98	0.03	0.00	0.05	0.05	0.00	0.05	0.05	0.05	2555.01	0.83	0.00	69.54	0.02	0.00	70.10
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	0.30	1.57	22.27	0.03	0.00	0.06	0.06	0.00	0.06	0.06	0.06	2868.10	0.93	0.00	78.06	0.03	0.00	78.69
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	0.63	3.26	46.45	0.06	0.00	0.13	0.13	0.00	0.13	0.13	0.13	5984.81	1.93	0.00	162.88	0.05	0.00	164.20
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	0.27	1.40	13.98	0.03	0.00	0.05	0.05	0.00	0.05	0.05	0.05	2555.94	0.83	0.00	69.56	0.02	0.00	70.12
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	0.30	1.57	22.27	0.03	0.00	0.06	0.06	0.00	0.06	0.06	0.06	2869.91	0.93	0.00	78.11	0.03	0.00	78.74
Spillway Modification - Installation/upgrade of subsurface drainage systems	3/25/2024	4/19/2024	0.10	0.52	7.42	0.01	0.00	0.02	0.02	0.00	0.02	0.02	0.02	956.64	0.31	0.00	8.68	0.00	0.00	8.75
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	0.28	1.43	20.37	0.03	0.00	0.06	0.06	0.00	0.06	0.06	0.06	2624.92	0.85	0.00	142.88	0.05	0.00	144.03
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	0.30	1.57	22.27	0.03	0.00	0.06	0.06	0.00	0.06	0.06	0.06	2869.91	0.93	0.00	156.21	0.05	0.00	157.47
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	0.28	1.43	20.37	0.03	0.00	0.06	0.06	0.00	0.06	0.06	0.06	2624.92	0.85	0.00	142.88	0.05	0.00	144.03
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	0.30	1.57	22.27	0.03	0.00	0.06	0.06	0.00	0.06	0.06	0.06	2869.91	0.93	0.00	156.21	0.05	0.00	157.47
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.06	0.33	3.32	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	606.86	0.20	0.00	4.13	0.00	0.00	4.16
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.09	0.47	4.66	0.01	0.00	0.02	0.02	0.00	0.02	0.02	0.02	851.67	0.28	0.00	5.79	0.00	0.00	5.84
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.01	0.05	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	99.26	0.03	0.00	0.68	0.00	0.00	0.68
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.10	0.52	7.42	0.01	0.00	0.02	0.02	0.00	0.02	0.02	0.02	956.03	0.31	0.00	6.50	0.00	0.00	6.56
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	0.06	0.33	3.32	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	606.86	0.20	0.00	4.13	0.00	0.00	4.16
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	0.09	0.47	4.66	0.01	0.00	0.02	0.02	0.00	0.02	0.02	0.02	851.67	0.28	0.00	5.79	0.00	0.00	5.84
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	0.10	0.52	7.42	0.01	0.00	0.02	0.02	0.00	0.02	0.02	0.02	956.03	0.31	0.00	6.50	0.00	0.00	6.56
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	0.06	0.33	3.32	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	606.86	0.20	0.00	5.51	0.00	0.00	5.55
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	0.09	0.47	4.66	0.01	0.00	0.02	0.02	0.00	0.02	0.02	0.02	851.67	0.28	0.00	7.73	0.00	0.00	7.79
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	0.10	0.52	7.42	0.01	0.00	0.02	0.02	0.00	0.02	0.02	0.02	956.03	0.31	0.00	8.67	0.00	0.00	8.74
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.42	2.18	30.97	0.04	0.00	0.08	0.08	0.00	0.08	0.08	0.08	3987.36	1.29	0.00	54.26	0.02	0.00	54.70
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.20	1.06	15.07	0.02	0.00	0.04	0.04	0.00	0.04	0.04	0.04	1913.06	0.62	0.00	26.03	0.01	0.00	26.24
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.18	0.93	9.32	0.02	0.00	0.04	0.04	0.00	0.04	0.04	0.04	1703.34	0.55	0.00	23.18	0.01	0.00	23.37
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.20	1.04	14.85	0.02	0.00	0.04	0.04	0.00	0.04	0.04	0.04	1912.07	0.62	0.00	26.02	0.01	0.00	26.23
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.17	0.87	12.39	0.02	0.00	0.03	0.03	0.00	0.03	0.03	0.03	1594.94	0.52	0.00	21.70	0.01	0.00	21.88
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.08	0.42	6.03	0.01	0.00	0.02	0.02	0.00	0.02	0.02	0.02	765.22	0.25	0.00	10.41	0.00	0.00	10.50
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.05	0.27	2.66	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	485.49	0.16	0.00	6.61	0.00	0.00	6.66
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.03	0.17	2.48	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.01	316.52	0.10	0.00	4.31	0.00	0.00	4.34
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.14	0.75	7.46	0.01	0.00	0.03	0.03	0.00	0.03	0.03	0.03	1362.67	0.44	0.00	18.54	0.01	0.00	18.69
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.16	0.83	11.88	0.02	0.00	0.03	0.03	0.00	0.03	0.03	0.03	1529.65	0.49	0.00	20.82	0.01	0.00	20.98
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.04	0.22	2.16	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.01	393.11	0.13	0.00	5.35	0.00	0.00	5.39
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.05	0.25	2.53	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.01	459.64	0.15	0.00	6.25	0.00	0.00	6.31
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.09	0.47	4.07	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	563.80	0.16	0.00	7.67	0.00	0.00	7.69

Offroad Equipment - Energy Consumption

Phase	Start Date	Equipment Name	Category	Year	Days	Hours per day	Number	Fuel Type	Horsepower	Kilowatts	Kilowatt Hours (day)	Kilowatt Hours (total)	lbs of CO2 per day				Total MT			
													CO2	CH4	N2O	CO2e	CO2	CH4	N2O	CO2e
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	Compressor, Stationary 1200cfm	Air Compressors	2023	30	20	1	Electric	350	261	5220	156597	13.99	0.14	0.02	22.65	0.19	0.00	0.00	0.31
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	EPBM and Backup 14"9"	Bore/Drill Rigs	2023	30	20	1	Electric	1800	1342	26845	805356	71.95	0.73	0.09	116.51	0.98	0.01	0.00	1.59
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	Compressor, Stationary 1200cfm	Air compressors	2024	5	20	1	Electric	350	261	5220	26099	13.99	0.14	0.02	22.65	0.03	0.00	0.00	0.05
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	EPBM and Backup 14"9"	Bore/Drill Rigs	2024	5	20	1	Electric	1800	1342	26845	134226	71.95	0.73	0.09	116.51	0.16	0.00	0.00	0.26
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Compressor, Stationary 1200cfm	Air compressors	2024	180	24	1	Electric	350	261	6264	1127498	16.79	0.17	0.02	27.19	1.37	0.01	0.00	2.22
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	EPBM and Backup 14"9"	Bore/Drill Rigs	2024	180	24	1	Electric	1800	1342	32214	5798562	86.33	0.87	0.11	139.81	7.05	0.07	0.01	11.42
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Pump, trash 200gpm/100ft head	Other General Industrial Equipment	2024	180	24	1	Electric	10	7	179	32214	0.48	0.00	0.00	0.78	0.04	0.00	0.00	0.06
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Ventilation Fan 100hp	Other General Industrial Equipment	2024	180	24	2	Electric	100	75	3579	644285	9.59	0.10	0.01	15.53	0.78	0.01	0.00	1.27
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Ventilation Fan 40hp	Other General Industrial Equipment	2024	180	24	1	Electric	40	30	716	128857	1.92	0.02	0.00	3.11	0.16	0.00	0.00	0.25
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Water Treatment Plant	Other General Industrial Equipment	2024	180	24	1	Electric	200	149	3579	644285	9.59	0.10	0.01	15.53	0.78	0.01	0.00	1.27
Tunneling - TBM trailing gear and plant removal	10/7/2024	Compressor, Stationary 1200cfm	Air Compressors	2024	15	24	1	Electric	350	261	6264	93958	16.79	0.17	0.02	27.19	0.11	0.00	0.00	0.18
Tunneling - TBM trailing gear and plant removal	10/7/2024	Pump, subm. 140gpm/20ft head	Other Construction Equipment	2024	15	24	2	Electric	2	1	72	1074	0.19	0.00	0.00	0.31	0.00	0.00	0.00	0.00
Tunneling - TBM trailing gear and plant removal	10/7/2024	Pump, trash 200gpm/100ft head	Other Construction Equipment	2024	15	24	1	Electric	10	7	179	2685	0.48	0.00	0.00	0.78	0.00	0.00	0.00	0.01
Tunneling - TBM trailing gear and plant removal	10/7/2024	Ventilation Fan 100hp	Other Construction Equipment	2024	15	24	2	Electric	100	75	3579	53690	9.59	0.10	0.01	15.53	0.07	0.00	0.00	0.11
Tunneling - TBM trailing gear and plant removal	10/7/2024	Water Treatment Plant	Other Construction Equipment	2024	15	24	1	Electric	200	149	3579	53690	9.59	0.10	0.01	15.53	0.07	0.00	0.00	0.11

Notes:

PG&E 2019 CO2 (lbs per MWh) delivered rate 2.68  
 GHG Intensity Factor lb CH4/MWh (Statewide EF's for 2024) 0.03  
 GHG Intensity Factor lb N2O/MWh (Statewide EF's for 2024) 0.00

Source: [1. https://www.pgecorp.com/corp\\_responsibility/reports/2021/assets/PGE\\_CSR\\_2021.pdf](https://www.pgecorp.com/corp_responsibility/reports/2021/assets/PGE_CSR_2021.pdf)

Demolition Fugitive Dust Emissions

Phase Name	Start Date	End Date	Total Days	Year	Demo Debris Weight (tons)	Demo EF (lb/ton throughput)						Emissions (lb/day)					
						PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Spillway modification - Improve access road	8/21/23	9/8/23	15	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60	2023	480.00	0.022		0.022	0.003		0.003	0.17		0.17	0.03		0.03
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	120	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00

**Truck Loading Fugitive Dust Emissions**

Phase Name	Start Date	End Date	Total Days	Year	Total CY	Tons/CY	Throughput (tons)
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	14906	1.2642	18843.66
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0	1.2642	0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	0	1.2642	0.00
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	3376	1.2642	4267.83
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0	1.2642	0.00
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30	2023	0	1.2642	0.00
Spillway modification - Improve access road	8/21/23	9/8/23	15	2023	0	1.2642	0.00
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20	2023	0	1.2642	0.00
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10	2023	0	1.2642	0.00
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60	2023	840	1.2642	1061.90
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60	2024	66667	1.2642	84278.17
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20	2024	0	1.2642	0.00
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	120	2024	18478	1.2642	23359.26
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80	2024	48189	1.2642	60918.91
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20	2024	0	1.2642	0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	6429	1.2642	8127.32
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0	1.2642	0.00
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0	1.2642	0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0	1.2642	0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0	1.2642	0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0	1.2642	0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	0	1.2642	0.00
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/23	4/12/24	200	2023	0	1.2642	0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	1.2642	0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	1.2642	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	6762	1.2642	8548.29
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	1.2642	0.00
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0	1.2642	0.00
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	7720	1.2642	9759.36
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0	1.2642	0.00

Truck Loading Fugitive Dust Emissions

Phase Name	Truck Loading EF (lb/ton throughput)						Emissions (lb/day) <sup>1</sup>					
	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Energy Dissipation - Site Clearing and Grading	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.01		0.01	0.00		0.00
Energy Dissipation - Construct energy dissipation structure	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation - Re-vegetation and site demob	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation - Construct ATV Trail to south portal	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Spillway modification - Dam stability investigation of San Antonio Dam	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Spillway modification - Improve access road	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Spillway modification - Site clearing/grading of staging areas	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Spillway modification - Installation of erosion control/silt fencing	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Spillway modification - Removal of existing spillway crest and existing concrete structures	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Spillway modification - Excavation to grade for new spillway walls and structure	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.01		0.01	0.00		0.00
Spillway modification - Installation/upgrade of subsurface drainage systems	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Spillway modification - Improvements to spillway chute and connection to new spillway structure	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.01		0.01	0.00		0.00
Spillway modification - Site cleanup and demobilization	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.01		0.01	0.00		0.00
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Tunneling - Drive 100' of tunnel at 20 fpd	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Tunneling - Tunnel punch list/clearing	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Tunneling - Muck disposal on site/grading	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Tunneling - Demobilization tunnel plant	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00

Bulldozing Fugitive Dust Emissions

Phase Name	Start	End	# of Workdays	First Year of CSTN	Equipment Type	# of Equipment	hours/day
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	Rubber Tired Dozers	1	10
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	Off-Highway Trucks	1	10
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	Tractors/Loaders/Backhoes	1	10
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	30	2024	Bore/Drill Rigs	1	10
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	Tractors/Loaders/Backhoes	1	10
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	Tractors/Loaders/Backhoes	1	10
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	20	2023	Rollers	1	10
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	20	2023	Tractors/Loaders/Backhoes	2	10
Spillway Modification - Dam stability investigation of San Antonio Dam	4/17/2023	5/26/2023	30	2023	Bore/Drill Rigs	1	10
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	15	2023	Rubber Tired Dozers	1	10
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	15	2023	Off-Highway Trucks	1	10
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	15	2023	Rollers	1	10
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	15	2023	Tractors/Loaders/Backhoes	1	10
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	Rubber Tired Dozers	1	10
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	Off-Highway Trucks	1	10
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	Tractors/Loaders/Backhoes	1	10
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	Tractors/Loaders/Backhoes	3	10
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	Off-Highway Trucks	3	10
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	Tractors/Loaders/Backhoes	3	10
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	Tractors/Loaders/Backhoes	3	10
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	Off-Highway Trucks	3	10
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	Tractors/Loaders/Backhoes	3	10
Spillway Modification - Installation/upgrade of subsurface drainage systems	3/25/2024	4/19/2024	20	2024	Tractors/Loaders/Backhoes	1	10
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	120	2024	Tractors/Loaders/Backhoes	3	10
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	120	2024	Tractors/Loaders/Backhoes	3	10
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	120	2024	Tractors/Loaders/Backhoes	3	10
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	120	2024	Tractors/Loaders/Backhoes	3	10
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Rubber Tired Dozers	1	10
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Off-Highway Trucks	1	10
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Rollers	1	10
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Tractors/Loaders/Backhoes	1	10
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	Rubber Tired Dozers	1	10
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	Off-Highway Trucks	1	10
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	Tractors/Loaders/Backhoes	1	10
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	Rubber Tired Dozers	1	10
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	Off-Highway Trucks	1	10
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	Tractors/Loaders/Backhoes	1	10
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Tractors/Loaders/Backhoes	2	10
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Other Construction Equipment	2	10
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Off-Highway Trucks	2	10
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Tractors/Loaders/Backhoes	2	10
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Tractors/Loaders/Backhoes	1	8
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Other Construction Equipment	1	8
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Rubber Tired Dozers	1	8
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Excavators	1	8
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Off-Highway Trucks	2	8
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Tractors/Loaders/Backhoes	2	8
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Cranes	1	10
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Cranes	1	10
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Welders	1	10
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Tractors/Loaders/Backhoes	1	10
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/2023	4/12/2024	200	2023	Tractors/Loaders/Backhoes	1	8
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Cranes	1	20
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Cranes	1	20
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Cranes	1	20
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Welders	1	20
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Tractors/Loaders/Backhoes	1	20
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Cranes	1	20
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Cranes	1	20
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Cranes	1	20
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Welders	1	20
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Tractors/Loaders/Backhoes	1	20
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	4	24
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	1	24
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Cranes	1	24
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	2	24
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Off-Highway Trucks	2	8
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	18	24
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Tractors/Loaders/Backhoes	1	24
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Cranes	1	20
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Skid Steer Loaders	1	24
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Other Material Handling Equipment	1	24
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Cranes	1	24
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Other Material Handling Equipment	1	24
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Other Material Handling Equipment	1	24
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Welders	1	24
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Tractors/Loaders/Backhoes	3	24
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	5	2023	Skid Steer Loaders	1	10
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	5	2023	Tractors/Loaders/Backhoes	1	10
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	Rubber Tired Dozers	1	10
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	Off-Highway Trucks	1	10
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	Tractors/Loaders/Backhoes	1	10
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	Tractors/Loaders/Backhoes	1	8



Bulldozing Fugitive Dust Emissions

Phase Name	Emission Factor (lb/hr)						Emissions (lb/day) <sup>1</sup>					
	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Energy Dissipation - Site Clearing and Grading	0.75		0.75	0.41		0.41	2.33		2.33	1.28		1.28
Energy Dissipation - Site Clearing and Grading	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation - Site Clearing and Grading	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation - Construct energy dissipation structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation - Construct ATV Trail to south portal	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation - Construct ATV Trail to south portal	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway Modification - Dam stability investigation of San Antonio Dam	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway Modification - Improve Access Road	0.75		0.75	0.41		0.41	2.33		2.33	1.28		1.28
Spillway Modification - Improve Access Road	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway Modification - Improve Access Road	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway Modification - Improve Access Road	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway Modification - Site clearing/grading of staging areas	0.75		0.75	0.41		0.41	2.33		2.33	1.28		1.28
Spillway Modification - Site clearing/grading of staging areas	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway Modification - Site clearing/grading of staging areas	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway Modification - Removal of existing spillway crest and existing concrete structures	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway Modification - Removal of existing spillway crest and existing concrete structures	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway Modification - Removal of existing spillway crest and existing concrete structures	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway Modification - Excavation to grade for new spillway walls and structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway Modification - Excavation to grade for new spillway walls and structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway Modification - Excavation to grade for new spillway walls and structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway Modification - Installation/upgrade of subsurface drainage systems	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway modification - Improvements to spillway chute and connection to new spillway structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Spillway modification - Improvements to spillway chute and connection to new spillway structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	0.75		0.75	0.41		0.41	2.33		2.33	1.28		1.28
Energy Dissipation Structure Tunnel Portal - Improve access road	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	0.75		0.75	0.41		0.41	2.33		2.33	1.28		1.28
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	0.75		0.75	0.41		0.41	2.33		2.33	1.28		1.28
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	0.75		0.75	0.41		0.41	1.87		1.87	1.03		1.03
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Drive 100' of tunnel at 20 fpd	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Drive 100' of tunnel at 20 fpd	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Drive 100' of tunnel at 20 fpd	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Drive 100' of tunnel at 20 fpd	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Drive 100' of tunnel at 20 fpd	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel punch list/clearing	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel punch list/clearing	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Muck disposal on site/grading	0.75		0.75	0.41		0.41	2.33		2.33	1.28		1.28
Tunneling - Muck disposal on site/grading	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Muck disposal on site/grading	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Demobilization tunnel plant	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00

Grading Fugitive Dust Emissions

Phase Name	Start	End	# of Workdays	First Year of CSTN	Equipment Type	# of Equipment	Equipment Usage (hours/day)	Acres per 8-hr day	Scaling Factor	Acres per day	Daily VMT
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	Rubber Tired Dozers	1	10	0.5	8	0.625	0.430
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	Off-Highway Trucks	1	10	0	8	0.000	0.000
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	Tractors/Loaders/Backhoes	1	10	0	9	0.000	0.000
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	30	2024	Bore/Drill Rigs	1	10	0	10	0.000	0.000
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	Tractors/Loaders/Backhoes	1	10	0	11	0.000	0.000
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	Tractors/Loaders/Backhoes	1	10	0	12	0.000	0.000
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	20	2023	Rollers	1	10	0	13	0.000	0.000
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	20	2023	Tractors/Loaders/Backhoes	2	10	0	14	0.000	0.000
Spillway Modification - Dam stability investigation of San Antonio Dam	4/17/2023	5/26/2023	30	2023	Bore/Drill Rigs	1	10	0	15	0.000	0.000
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	15	2023	Rubber Tired Dozers	1	10	0.5	16	0.313	0.215
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	15	2023	Off-Highway Trucks	1	10	0	17	0.000	0.000
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	15	2023	Rollers	1	10	0	18	0.000	0.000
Spillway Modification - Improve Access Road	8/21/2023	9/8/2023	15	2023	Tractors/Loaders/Backhoes	1	10	0	19	0.000	0.000
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	Rubber Tired Dozers	1	10	0.5	20	0.250	0.172
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	Off-Highway Trucks	1	10	0	21	0.000	0.000
Spillway Modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	Tractors/Loaders/Backhoes	1	10	0	22	0.000	0.000
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	Tractors/Loaders/Backhoes	3	10	0	23	0.000	0.000
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	Off-Highway Trucks	3	10	0	24	0.000	0.000
Spillway Modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	Tractors/Loaders/Backhoes	3	10	0	25	0.000	0.000
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	Tractors/Loaders/Backhoes	3	10	0	26	0.000	0.000
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	Off-Highway Trucks	3	10	0	27	0.000	0.000
Spillway Modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	Tractors/Loaders/Backhoes	3	10	0	28	0.000	0.000
Spillway Modification - Installation/upgrade of subsurface drainage systems	3/25/2024	4/19/2024	20	2024	Tractors/Loaders/Backhoes	1	10	0	29	0.000	0.000
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	120	2024	Tractors/Loaders/Backhoes	3	10	0	30	0.000	0.000
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	120	2024	Tractors/Loaders/Backhoes	3	10	0	31	0.000	0.000
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	120	2024	Tractors/Loaders/Backhoes	3	10	0	32	0.000	0.000
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	120	2024	Tractors/Loaders/Backhoes	3	10	0	33	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Rubber Tired Dozers	1	10	0.5	34	0.147	0.101
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Off-Highway Trucks	1	10	0	35	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Rollers	1	10	0	36	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Tractors/Loaders/Backhoes	1	10	0	37	0.000	0.000
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	Rubber Tired Dozers	1	10	0.5	38	0.132	0.090
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	Off-Highway Trucks	1	10	0	39	0.000	0.000
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	Tractors/Loaders/Backhoes	1	10	0	40	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	Rubber Tired Dozers	1	10	0.5	41	0.122	0.084
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	Off-Highway Trucks	1	10	0	42	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	Tractors/Loaders/Backhoes	1	10	0	43	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Tractors/Loaders/Backhoes	2	10	0	44	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Other Construction Equipment	2	10	0	45	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Off-Highway Trucks	2	10	0	46	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Tractors/Loaders/Backhoes	12	10	0	47	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Tractors/Loaders/Backhoes	1	8	0	48	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Other Construction Equipment	1	8	0	49	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Rubber Tired Dozers	1	8	0.5	50	0.080	0.055
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Excavators	1	8	0	51	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Off-Highway Trucks	2	8	0	52	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Tractors/Loaders/Backhoes	2	8	0	53	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Cranes	1	10	0	54	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Cranes	1	10	0	55	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Welders	1	10	0	56	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Tractors/Loaders/Backhoes	1	10	0	57	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/2023	4/12/2024	200	2023	Tractors/Loaders/Backhoes	1	8	0	58	0.000	0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Cranes	1	20	0	59	0.000	0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Cranes	1	20	0	60	0.000	0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Cranes	1	20	0	61	0.000	0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Welders	1	20	0	62	0.000	0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Tractors/Loaders/Backhoes	1	20	0	63	0.000	0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Cranes	1	20	0	64	0.000	0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Cranes	1	20	0	65	0.000	0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Cranes	1	20	0	66	0.000	0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Welders	1	20	0	67	0.000	0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Tractors/Loaders/Backhoes	1	20	0	68	0.000	0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	4	24	0	69	0.000	0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	1	24	0	70	0.000	0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Cranes	1	24	0	71	0.000	0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	2	24	0	72	0.000	0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Off-Highway Trucks	2	8	0	73	0.000	0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	18	24	0	74	0.000	0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Tractors/Loaders/Backhoes	1	24	0	75	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Cranes	1	20	0	76	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Skid Steer Loaders	1	24	0	77	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Other Material Handling Equipment	1	24	0	78	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Cranes	1	24	0	79	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Other Material Handling Equipment	1	24	0	80	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Other Material Handling Equipment	1	24	0	81	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Welders	1	24	0	82	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Tractors/Loaders/Backhoes	3	24	0	83	0.000	0.000
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	5	2023	Skid Steer Loaders	1	10	0	84	0.000	0.000
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	5	2023	Tractors/Loaders/Backhoes	1	10	0	85	0.000	0.000
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	Rubber Tired Dozers	1	10	0.5	86	0.058	0.040
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	Off-Highway Trucks	1	10	0	87	0.000	0.000
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	Tractors/Loaders/Backhoes	1	10	0	88	0.000	0.000
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	Tractors/Loaders/Backhoes	1	8	0	89	0.000	0.000

Grading Fugitive Dust Emissions

Phase Name	Emission Factor (lb/VMT)						Emissions (lb/day)					
	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Energy Dissipation - Site Clearing and Grading	1.543		1.543	0.167		0.167	0.205		0.205	0.022		0.022
Energy Dissipation - Site Clearing and Grading	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation - Site Clearing and Grading	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation - Construct energy dissipation structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation - Construct ATV Trail to south portal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation - Construct ATV Trail to south portal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway Modification - Dam stability investigation of San Antonio Dam	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway Modification - Improve Access Road	1.543		1.543	0.167		0.167	0.103		0.103	0.011		0.011
Spillway Modification - Improve Access Road	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway Modification - Improve Access Road	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway Modification - Improve Access Road	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway Modification - Site clearing/grading of staging areas	1.543		1.543	0.167		0.167	0.082		0.082	0.009		0.009
Spillway Modification - Site clearing/grading of staging areas	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway Modification - Site clearing/grading of staging areas	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway Modification - Removal of existing spillway crest and existing concrete structures	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway Modification - Removal of existing spillway crest and existing concrete structures	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway Modification - Removal of existing spillway crest and existing concrete structures	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway Modification - Excavation to grade for new spillway walls and structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway Modification - Excavation to grade for new spillway walls and structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway Modification - Excavation to grade for new spillway walls and structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway Modification - Installation/upgrade of subsurface drainage systems	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway modification - Improvements to spillway chute and connection to new spillway structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Spillway modification - Improvements to spillway chute and connection to new spillway structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Improve access road	1.543		1.543	0.167		0.167	0.048		0.048	0.005		0.005
Energy Dissipation Structure Tunnel Portal - Improve access road	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Improve access road	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Improve access road	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	1.543		1.543	0.167		0.167	0.043		0.043	0.005		0.005
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	1.543		1.543	0.167		0.167	0.040		0.040	0.004		0.004
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	1.543		1.543	0.167		0.167	0.026		0.026	0.003		0.003
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel excavation and support @ 60' per day	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel excavation and support @ 60' per day	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel excavation and support @ 60' per day	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel excavation and support @ 60' per day	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel excavation and support @ 60' per day	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel excavation and support @ 60' per day	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel excavation and support @ 60' per day	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel punch list/clearing	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel punch list/clearing	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Muck disposal on site/grading	1.543		1.543	0.167		0.167	0.019		0.019	0.002		0.002
Tunneling - Muck disposal on site/grading	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Muck disposal on site/grading	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Demobilization tunnel plant	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000

Worker Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi) <sup>1</sup>	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	20	2024	10	1.45	0.061	0.147	1.866	0.005	307.713	0.005	307.717	30.633	0.004	30.638	500.879	0.014	0.011
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	60	2024	6	1.45	0.061	0.147	1.866	0.005	307.713	0.005	307.717	30.633	0.004	30.638	500.879	0.014	0.011
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	6	1.45	0.061	0.147	1.866	0.005	307.713	0.005	307.717	30.633	0.004	30.638	500.879	0.014	0.011
Energy Dissipation - Re-vegetation and site demob	12/16/2024	1/24/2025	30	2024	8	1.45	0.061	0.147	1.866	0.005	307.713	0.005	307.717	30.633	0.004	30.638	500.879	0.014	0.011
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	30	2023	10	1.45	0.068	0.164	2.014	0.005	307.713	0.005	307.718	30.633	0.005	30.638	509.006	0.016	0.012
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/2023	5/26/2023	30	2023	8	0.34	0.068	0.164	2.014	0.005	307.713	0.005	307.718	30.633	0.005	30.638	509.006	0.016	0.012
Spillway modification - Improve access road	8/21/2023	9/8/2023	15	2023	8	0.34	0.068	0.164	2.014	0.005	307.713	0.005	307.718	30.633	0.005	30.638	509.006	0.016	0.012
Spillway modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	10	0.34	0.068	0.164	2.014	0.005	307.713	0.005	307.718	30.633	0.005	30.638	509.006	0.016	0.012
Spillway modification - Installation of erosion control/silt fencing	9/11/2023	9/22/2023	10	2023	6	0.34	0.068	0.164	2.014	0.005	307.713	0.005	307.718	30.633	0.005	30.638	509.006	0.016	0.012
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	24	0.34	0.068	0.164	2.014	0.005	307.713	0.005	307.718	30.633	0.005	30.638	509.006	0.016	0.012
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	24	0.34	0.061	0.147	1.866	0.005	307.713	0.005	307.717	30.633	0.004	30.638	500.879	0.014	0.011
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/2024	4/19/2024	20	2024	8	0.34	0.061	0.147	1.866	0.005	307.713	0.005	307.717	30.633	0.004	30.638	500.879	0.014	0.011
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	120	2024	20	0.34	0.061	0.147	1.866	0.005	307.713	0.005	307.717	30.633	0.004	30.638	500.879	0.014	0.011
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	80	2024	20	0.34	0.061	0.147	1.866	0.005	307.713	0.005	307.717	30.633	0.004	30.638	500.879	0.014	0.011
Spillway modification - Site cleanup and demobilization	10/7/2024	11/1/2024	20	2024	8	0.34	0.061	0.147	1.866	0.005	307.713	0.005	307.717	30.633	0.004	30.638	500.879	0.014	0.011
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	10	1.45	0.068	0.164	2.014	0.005	307.713	0.005	307.718	30.633	0.005	30.638	509.006	0.016	0.012
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	8	1.45	0.068	0.164	2.014	0.005	307.713	0.005	307.718	30.633	0.005	30.638	509.006	0.016	0.012
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/2023	8/18/2023	15	2023	8	1.45	0.068	0.164	2.014	0.005	307.713	0.005	307.718	30.633	0.005	30.638	509.006	0.016	0.012
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	30	2023	10	1.45	0.068	0.164	2.014	0.005	307.713	0.005	307.718	30.633	0.005	30.638	509.006	0.016	0.012
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	6	1.45	0.068	0.164	2.014	0.005	307.713	0.005	307.718	30.633	0.005	30.638	509.006	0.016	0.012
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	20	2023	8	1.45	0.068	0.164	2.014	0.005	307.713	0.005	307.718	30.633	0.005	30.638	509.006	0.016	0.012
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	8	1.45	0.068	0.164	2.014	0.005	307.713	0.005	307.718	30.633	0.005	30.638	509.006	0.016	0.012
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024	200	2023	0	1.45	0.068	0.164	2.014	0.005	307.713	0.005	307.718	30.633	0.005	30.638	509.006	0.016	0.012
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	10	1.45	0.068	0.164	2.014	0.005	307.713	0.005	307.718	30.633	0.005	30.638	509.006	0.016	0.012
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	146	1.45	0.061	0.147	1.866	0.005	307.713	0.005	307.717	30.633	0.004	30.638	500.879	0.014	0.011
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	114	1.45	0.061	0.147	1.866	0.005	307.713	0.005	307.717	30.633	0.004	30.638	500.879	0.014	0.011
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	30	2024	56	1.45	0.061	0.147	1.866	0.005	307.713	0.005	307.717	30.633	0.004	30.638	500.879	0.014	0.011
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	15	2023	0	1.45	0.068	0.164	2.014	0.005	307.713	0.005	307.718	30.633	0.005	30.638	509.006	0.016	0.012
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	78	1.45	0.061	0.147	1.866	0.005	307.713	0.005	307.717	30.633	0.004	30.638	500.879	0.014	0.011
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	26	1.45	0.061	0.147	1.866	0.005	307.713	0.005	307.717	30.633	0.004	30.638	500.879	0.014	0.011

Worker Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi) <sup>1</sup>	Non-Running Emission Factors (g/trip) <sup>1</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	20	2024	10	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	60	2024	6	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	6	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Re-vegetation and site demob	12/16/2024	1/24/2025	30	2024	8	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	30	2023	10	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/2023	5/26/2023	30	2023	8	0.34	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Spillway modification - Improve access road	8/21/2023	9/8/2023	15	2023	8	0.34	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Spillway modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	10	0.34	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Spillway modification - Installation of erosion control/silt fencing	9/11/2023	9/22/2023	10	2023	6	0.34	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	24	0.34	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	24	0.34	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/2024	4/19/2024	20	2024	8	0.34	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	120	2024	20	0.34	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	80	2024	20	0.34	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Spillway modification - Site cleanup and demobilization	10/7/2024	11/1/2024	20	2024	8	0.34	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	10	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	8	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/2023	8/18/2023	15	2023	8	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	30	2023	10	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	6	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	20	2023	8	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	8	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024	200	2023	0	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	10	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	146	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	114	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	30	2024	56	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	15	2023	0	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	78	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	26	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040

Worker Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi) <sup>1</sup>	Emissions (lb/day)													Total MT			
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	20	2024	10	1.45	0.04	0.01	0.17	0.00	1.57	0.00	1.57	0.98	0.00	0.98	17.84	0.00	0.00	0.16	0.00	0.00	0.17
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	60	2024	6	1.45	0.02	0.01	0.10	0.00	0.94	0.00	0.94	0.59	0.00	0.59	10.71	0.00	0.00	0.29	0.00	0.00	0.30
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	6	1.45	0.02	0.01	0.10	0.00	0.94	0.00	0.94	0.59	0.00	0.59	10.71	0.00	0.00	0.10	0.00	0.00	0.10
Energy Dissipation - Re-vegetation and site demob	12/16/2024	1/24/2025	30	2024	8	1.45	0.03	0.01	0.14	0.00	1.26	0.00	1.26	0.78	0.00	0.78	14.28	0.00	0.00	0.19	0.00	0.00	0.20
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	30	2023	10	1.45	0.04	0.01	0.18	0.00	1.57	0.00	1.57	0.98	0.00	0.98	18.14	0.00	0.00	0.25	0.00	0.00	0.25
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/2023	5/26/2023	30	2023	8	0.34	0.03	0.01	0.11	0.00	0.30	0.00	0.30	0.18	0.00	0.18	4.56	0.00	0.00	0.06	0.00	0.00	0.07
Spillway modification - Improve access road	8/21/2023	9/8/2023	15	2023	8	0.34	0.03	0.01	0.11	0.00	0.30	0.00	0.30	0.18	0.00	0.18	4.56	0.00	0.00	0.03	0.00	0.00	0.03
Spillway modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	10	0.34	0.04	0.01	0.14	0.00	0.37	0.00	0.37	0.23	0.00	0.23	5.70	0.00	0.00	0.05	0.00	0.00	0.05
Spillway modification - Installation of erosion control/silt fencing	9/11/2023	9/22/2023	10	2023	6	0.34	0.02	0.01	0.08	0.00	0.22	0.00	0.22	0.14	0.00	0.14	3.42	0.00	0.00	0.02	0.00	0.00	0.02
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	24	0.34	0.09	0.03	0.33	0.00	0.89	0.00	0.89	0.55	0.00	0.55	13.67	0.01	0.00	0.37	0.00	0.00	0.40
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	24	0.34	0.09	0.02	0.31	0.00	0.89	0.00	0.89	0.55	0.00	0.55	13.43	0.01	0.00	0.37	0.00	0.00	0.39
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/2024	4/19/2024	20	2024	8	0.34	0.03	0.01	0.10	0.00	0.30	0.00	0.30	0.18	0.00	0.18	4.48	0.00	0.00	0.04	0.00	0.00	0.04
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	120	2024	20	0.34	0.07	0.02	0.25	0.00	0.74	0.00	0.74	0.46	0.00	0.46	11.19	0.00	0.00	0.61	0.00	0.00	0.65
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	80	2024	20	0.34	0.07	0.02	0.25	0.00	0.74	0.00	0.74	0.46	0.00	0.46	11.19	0.00	0.00	0.41	0.00	0.00	0.43
Spillway modification - Site cleanup and demobilization	10/7/2024	11/1/2024	20	2024	8	0.34	0.03	0.01	0.10	0.00	0.30	0.00	0.30	0.18	0.00	0.18	4.48	0.00	0.00	0.04	0.00	0.00	0.04
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	10	1.45	0.04	0.01	0.18	0.00	1.57	0.00	1.57	0.98	0.00	0.98	18.14	0.00	0.00	0.12	0.00	0.00	0.13
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	8	1.45	0.03	0.01	0.15	0.00	1.26	0.00	1.26	0.78	0.00	0.78	14.51	0.00	0.00	0.10	0.00	0.00	0.10
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/2023	8/18/2023	15	2023	8	1.45	0.03	0.01	0.15	0.00	1.26	0.00	1.26	0.78	0.00	0.78	14.51	0.00	0.00	0.10	0.00	0.00	0.10
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	30	2023	10	1.45	0.04	0.01	0.18	0.00	1.57	0.00	1.57	0.98	0.00	0.98	18.14	0.00	0.00	0.25	0.00	0.00	0.25
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	6	1.45	0.02	0.01	0.11	0.00	0.94	0.00	0.94	0.59	0.00	0.59	10.89	0.00	0.00	0.15	0.00	0.00	0.15
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	20	2023	8	1.45	0.03	0.01	0.15	0.00	1.26	0.00	1.26	0.78	0.00	0.78	14.51	0.00	0.00	0.13	0.00	0.00	0.14
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	8	1.45	0.03	0.01	0.15	0.00	1.26	0.00	1.26	0.78	0.00	0.78	14.51	0.00	0.00	0.20	0.00	0.00	0.20
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024	200	2023	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	10	1.45	0.04	0.01	0.18	0.00	1.57	0.00	1.57	0.98	0.00	0.98	18.14	0.00	0.00	0.25	0.00	0.00	0.25
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	146	1.45	0.55	0.20	2.52	0.00	22.98	0.00	22.98	14.30	0.00	14.30	260.53	0.04	0.02	0.59	0.00	0.00	0.61
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	114	1.45	0.43	0.16	1.97	0.00	17.94	0.00	17.94	11.16	0.00	11.17	203.43	0.03	0.01	16.61	0.00	0.00	17.02
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	30	2024	56	1.45	0.21	0.08	0.97	0.00	8.81	0.00	8.81	5.48	0.00	5.48	99.93	0.02	0.01	1.36	0.00	0.00	1.39
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	15	2023	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	78	1.45	0.29	0.11	1.35	0.00	12.28	0.00	12.28	7.64	0.00	7.64	139.19	0.02	0.01	11.36	0.00	0.00	11.64
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	26	1.45	0.10	0.04	0.45	0.00	4.09	0.00	4.09	2.55	0.00	2.55	46.40	0.01	0.00	0.63	0.00	0.00	0.65

Worker Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi)
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	20	2024	10	20
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	60	2024	6	20
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	6	20
Energy Dissipation - Re-vegetation and site demob	12/16/2024	1/24/2025	30	2024	8	20
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	30	2023	10	20
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/2023	5/26/2023	30	2023	8	20.73068182
Spillway modification - Improve access road	8/21/2023	9/8/2023	15	2023	8	20.73068182
Spillway modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	10	20.73068182
Spillway modification - Installation of erosion control/silt fencing	9/11/2023	9/22/2023	10	2023	6	20.73068182
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	24	20.73068182
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	24	20.73068182
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/2024	4/19/2024	20	2024	8	20.73068182
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	120	2024	20	20.73068182
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	80	2024	20	20.73068182
Spillway modification - Site cleanup and demobilization	10/7/2024	11/1/2024	20	2024	8	20.73068182
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	10	20
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	8	20
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/2023	8/18/2023	15	2023	8	20
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	30	2023	10	20
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	6	20
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	20	2023	8	20
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	8	20
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/2023	4/12/2024	200	2023	0	20
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	10	20
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	146	20
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	114	20
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	30	2024	56	20
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	15	2023	0	20
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	78	20
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	26	20

1) Accounts for all exhaust and evaporative processes

Worker Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	20	2024	10	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	60	2024	6	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	6	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Energy Dissipation - Re-vegetation and site demob	12/16/2024	1/24/2025	30	2024	8	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	30	2023	10	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/2023	5/26/2023	30	2023	8	20.73068182	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Spillway modification - Improve access road	8/21/2023	9/8/2023	15	2023	8	20.73068182	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Spillway modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	10	20.73068182	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Spillway modification - Installation of erosion control/silt fencing	9/11/2023	9/22/2023	10	2023	6	20.73068182	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	24	20.73068182	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	24	20.73068182	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/2024	4/19/2024	20	2024	8	20.73068182	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	120	2024	20	20.73068182	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	80	2024	20	20.73068182	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Spillway modification - Site cleanup and demobilization	10/7/2024	11/1/2024	20	2024	8	20.73068182	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	10	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	8	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - install erosion/sediment control and silt fencing	7/31/2023	8/18/2023	15	2023	8	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	30	2023	10	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	6	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	20	2023	8	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	8	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/2023	4/12/2024	200	2023	0	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	10	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	146	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	114	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	30	2024	56	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	15	2023	0	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	78	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	26	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009

1) Accounts for all exhaust and evaporative processes



Worker Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi)	ROG	NOX	CO	SOX	Non-Running Emission Factors (g/trip) <sup>1</sup>								
											PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	20	2024	10	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	60	2024	6	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	6	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Re-vegetation and site demob	12/16/2024	1/24/2025	30	2024	8	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	30	2023	10	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/2023	5/26/2023	30	2023	8	20.73068182	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Spillway modification - Improve access road	8/21/2023	9/8/2023	15	2023	8	20.73068182	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Spillway modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	10	20.73068182	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Spillway modification - Installation of erosion control/silt fencing	9/11/2023	9/22/2023	10	2023	6	20.73068182	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	24	20.73068182	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	24	20.73068182	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/2024	4/19/2024	20	2024	8	20.73068182	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	120	2024	20	20.73068182	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	80	2024	20	20.73068182	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Spillway modification - Site cleanup and demobilization	10/7/2024	11/1/2024	20	2024	8	20.73068182	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	10	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	8	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - install erosion/sediment control and silt fencing	7/31/2023	8/18/2023	15	2023	8	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	30	2023	10	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	6	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	20	2023	8	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	8	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/2023	4/12/2024	200	2023	0	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	10	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	146	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	114	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	30	2024	56	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	15	2023	0	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	78	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	26	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040

1) Accounts for all exhaust and evaporative processes

Worker Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day)													Total MT			
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	20	2024	10	20	0.05	0.06	0.64	0.00	0.08	0.00	0.08	0.03	0.00	0.04	141.18	0.00	0.00	1.28	0.00	0.00	1.29
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	60	2024	6	20	0.03	0.04	0.39	0.00	0.05	0.00	0.05	0.02	0.00	0.02	84.71	0.00	0.00	2.31	0.00	0.00	2.33
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	6	20	0.03	0.04	0.39	0.00	0.05	0.00	0.05	0.02	0.00	0.02	84.71	0.00	0.00	0.77	0.00	0.00	0.78
Energy Dissipation - Re-vegetation and site demob	12/16/2024	1/24/2025	30	2024	8	20	0.04	0.05	0.52	0.00	0.06	0.00	0.06	0.03	0.00	0.03	112.95	0.00	0.00	1.54	0.00	0.00	1.55
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	30	2023	10	20	0.05	0.06	0.69	0.00	0.08	0.00	0.08	0.03	0.00	0.04	143.47	0.01	0.01	1.95	0.00	0.00	1.97
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/2023	5/26/2023	30	2023	8	20.73068182	0.04	0.05	0.57	0.00	0.06	0.00	0.06	0.03	0.00	0.03	118.91	0.00	0.00	1.62	0.00	0.00	1.64
Spillway modification - Improve access road	8/21/2023	9/8/2023	15	2023	8	20.73068182	0.04	0.05	0.57	0.00	0.06	0.00	0.06	0.03	0.00	0.03	118.91	0.00	0.00	0.81	0.00	0.00	0.82
Spillway modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023	20	2023	10	20.73068182	0.05	0.07	0.71	0.00	0.08	0.00	0.08	0.04	0.00	0.04	148.64	0.01	0.01	1.35	0.00	0.00	1.36
Spillway modification - Installation of erosion control/silt fencing	9/11/2023	9/22/2023	10	2023	6	20.73068182	0.03	0.04	0.43	0.00	0.05	0.00	0.05	0.02	0.00	0.02	89.18	0.00	0.00	0.40	0.00	0.00	0.41
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024	60	2023	24	20.73068182	0.12	0.16	1.72	0.00	0.19	0.00	0.19	0.09	0.00	0.09	356.73	0.01	0.01	9.71	0.00	0.00	9.82
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024	60	2024	24	20.73068182	0.11	0.15	1.59	0.00	0.19	0.00	0.19	0.09	0.00	0.09	351.05	0.01	0.01	9.55	0.00	0.00	9.66
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/2024	4/19/2024	20	2024	8	20.73068182	0.04	0.05	0.53	0.00	0.06	0.00	0.06	0.03	0.00	0.03	117.02	0.00	0.00	1.06	0.00	0.00	1.07
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024	120	2024	20	20.73068182	0.09	0.12	1.33	0.00	0.16	0.00	0.16	0.07	0.00	0.07	292.55	0.01	0.01	15.92	0.00	0.00	16.09
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024	80	2024	20	20.73068182	0.09	0.12	1.33	0.00	0.16	0.00	0.16	0.07	0.00	0.07	292.55	0.01	0.01	10.62	0.00	0.00	10.73
Spillway modification - Site cleanup and demobilization	10/7/2024	11/1/2024	20	2024	8	20.73068182	0.04	0.05	0.53	0.00	0.06	0.00	0.06	0.03	0.00	0.03	117.02	0.00	0.00	1.06	0.00	0.00	1.07
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	10	20	0.05	0.06	0.69	0.00	0.08	0.00	0.08	0.03	0.00	0.04	143.47	0.01	0.01	0.98	0.00	0.00	0.99
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	8	20	0.04	0.05	0.56	0.00	0.06	0.00	0.06	0.03	0.00	0.03	114.77	0.00	0.00	0.78	0.00	0.00	0.79
Energy Dissipation Structure Tunnel Portal - install erosion/sediment control and silt fencing	7/31/2023	8/18/2023	15	2023	8	20	0.04	0.05	0.56	0.00	0.06	0.00	0.06	0.03	0.00	0.03	114.77	0.00	0.00	0.78	0.00	0.00	0.79
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	30	2023	10	20	0.05	0.06	0.69	0.00	0.08	0.00	0.08	0.03	0.00	0.04	143.47	0.01	0.01	1.95	0.00	0.00	1.97
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	6	20	0.03	0.04	0.42	0.00	0.05	0.00	0.05	0.02	0.00	0.02	86.08	0.00	0.00	1.17	0.00	0.00	1.18
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	20	2023	8	20	0.04	0.05	0.56	0.00	0.06	0.00	0.06	0.03	0.00	0.03	114.77	0.00	0.00	1.04	0.00	0.00	1.05
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	8	20	0.04	0.05	0.56	0.00	0.06	0.00	0.06	0.03	0.00	0.03	114.77	0.00	0.00	1.56	0.00	0.00	1.58
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/2023	4/12/2024	200	2023	0	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	10	20	0.05	0.06	0.69	0.00	0.08	0.00	0.08	0.03	0.00	0.04	143.47	0.01	0.01	1.95	0.00	0.00	1.97
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	146	20	0.67	0.86	9.41	0.02	1.10	0.01	1.11	0.51	0.01	0.52	2061.25	0.07	0.07	4.67	0.00	0.00	4.72
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	114	20	0.52	0.67	7.35	0.02	0.86	0.01	0.87	0.40	0.01	0.40	1609.47	0.05	0.05	131.41	0.00	0.00	132.81
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	30	2024	56	20	0.26	0.33	3.61	0.01	0.42	0.00	0.43	0.19	0.00	0.20	790.62	0.03	0.03	10.76	0.00	0.00	10.87
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	15	2023	0	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	78	20	0.36	0.46	5.03	0.01	0.59	0.01	0.59	0.27	0.01	0.28	1101.22	0.04	0.04	89.91	0.00	0.00	90.87
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	26	20	0.12	0.15	1.68	0.00	0.20	0.00	0.20	0.09	0.00	0.09	367.07	0.01	0.01	5.00	0.00	0.00	5.05

1) Accounts for all exhaust and evaporative processes

Vendor Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi) <sup>1,2</sup>	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	2	1.45	0.087	4.075	0.360	0.019	307.820	0.025	307.846	30.669	0.024	30.693	2041.633	0.004	0.322
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	6	1.45	0.087	4.075	0.360	0.019	307.820	0.025	307.846	30.669	0.024	30.693	2041.633	0.004	0.322
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	8	1.45	0.087	4.075	0.360	0.019	307.820	0.025	307.846	30.669	0.024	30.693	2041.633	0.004	0.322
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	2	1.45	0.087	4.075	0.360	0.019	307.820	0.025	307.846	30.669	0.024	30.693	2041.633	0.004	0.322
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	10	1.45	0.098	4.239	0.385	0.020	307.820	0.029	307.849	30.669	0.028	30.697	2072.096	0.005	0.326
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30	2023	8	0.34	0.098	4.239	0.385	0.020	307.820	0.029	307.849	30.669	0.028	30.697	2072.096	0.005	0.326
Spillway modification - Improve access road	8/21/23	9/8/23	15	2023	2	0.34	0.098	4.239	0.385	0.020	307.820	0.029	307.849	30.669	0.028	30.697	2072.096	0.005	0.326
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20	2023	2	0.34	0.098	4.239	0.385	0.020	307.820	0.029	307.849	30.669	0.028	30.697	2072.096	0.005	0.326
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10	2023	10	0.34	0.098	4.239	0.385	0.020	307.820	0.029	307.849	30.669	0.028	30.697	2072.096	0.005	0.326
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60	2023	8	0.34	0.098	4.239	0.385	0.020	307.820	0.029	307.849	30.669	0.028	30.697	2072.096	0.005	0.326
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60	2024	8	0.34	0.087	4.075	0.360	0.019	307.820	0.025	307.846	30.669	0.024	30.693	2041.633	0.004	0.322
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20	2024	8	0.34	0.087	4.075	0.360	0.019	307.820	0.025	307.846	30.669	0.024	30.693	2041.633	0.004	0.322
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	120	2024	24	0.34	0.087	4.075	0.360	0.019	307.820	0.025	307.846	30.669	0.024	30.693	2041.633	0.004	0.322
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80	2024	8	0.34	0.087	4.075	0.360	0.019	307.820	0.025	307.846	30.669	0.024	30.693	2041.633	0.004	0.322
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20	2024	4	0.34	0.087	4.075	0.360	0.019	307.820	0.025	307.846	30.669	0.024	30.693	2041.633	0.004	0.322
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	2	1.45	0.098	4.239	0.385	0.020	307.820	0.029	307.849	30.669	0.028	30.697	2072.096	0.005	0.326
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	2	1.45	0.098	4.239	0.385	0.020	307.820	0.029	307.849	30.669	0.028	30.697	2072.096	0.005	0.326
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	2	1.45	0.098	4.239	0.385	0.020	307.820	0.029	307.849	30.669	0.028	30.697	2072.096	0.005	0.326
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	2	1.45	0.098	4.239	0.385	0.020	307.820	0.029	307.849	30.669	0.028	30.697	2072.096	0.005	0.326
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	8	1.45	0.098	4.239	0.385	0.020	307.820	0.029	307.849	30.669	0.028	30.697	2072.096	0.005	0.326
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	8	1.45	0.098	4.239	0.385	0.020	307.820	0.029	307.849	30.669	0.028	30.697	2072.096	0.005	0.326
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	8	1.45	0.098	4.239	0.385	0.020	307.820	0.029	307.849	30.669	0.028	30.697	2072.096	0.005	0.326
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	8	1.45	0.098	4.239	0.385	0.020	307.820	0.029	307.849	30.669	0.028	30.697	2072.096	0.005	0.326
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	1.45	0.098	4.239	0.385	0.020	307.820	0.029	307.849	30.669	0.028	30.697	2072.096	0.005	0.326
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	1.45	0.087	4.075	0.360	0.019	307.820	0.025	307.846	30.669	0.024	30.693	2041.633	0.004	0.322
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	10	1.45	0.087	4.075	0.360	0.019	307.820	0.025	307.846	30.669	0.024	30.693	2041.633	0.004	0.322
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	1.45	0.087	4.075	0.360	0.019	307.820	0.025	307.846	30.669	0.024	30.693	2041.633	0.004	0.322
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	8	1.45	0.098	4.239	0.385	0.020	307.820	0.029	307.849	30.669	0.028	30.697	2072.096	0.005	0.326
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	10	1.45	0.087	4.075	0.360	0.019	307.820	0.025	307.846	30.669	0.024	30.693	2041.633	0.004	0.322
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0	1.45	0.087	4.075	0.360	0.019	307.820	0.025	307.846	30.669	0.024	30.693	2041.633	0.004	0.322

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Vendor Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi) <sup>1,2</sup>	Non-Running Emission Factors (g/trip) <sup>1</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	2	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	6	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	8	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	2	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	10	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30	2023	8	0.34	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Spillway modification - Improve access road	8/21/23	9/8/23	15	2023	2	0.34	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20	2023	2	0.34	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10	2023	10	0.34	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60	2023	8	0.34	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60	2024	8	0.34	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20	2024	8	0.34	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	120	2024	24	0.34	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80	2024	8	0.34	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20	2024	4	0.34	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	2	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	2	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	2	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	2	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	8	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	8	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	8	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	8	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	10	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	8	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	10	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Vendor Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi) <sup>1,2</sup>	Emissions (lb/day) <sup>2</sup>													Total MT			
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	2	1.45	0.00	0.05	0.02	0.00	0.31	0.00	0.32	0.03	0.00	0.03	15.54	0.00	0.00	0.14	0.00	0.00	0.15
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	6	1.45	0.00	0.15	0.05	0.00	0.94	0.00	0.95	0.09	0.00	0.09	46.61	0.00	0.01	1.27	0.00	0.00	1.33
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	8	1.45	0.01	0.20	0.07	0.00	1.26	0.00	1.26	0.13	0.00	0.13	62.14	0.00	0.01	0.56	0.00	0.00	0.59
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	2	1.45	0.00	0.05	0.02	0.00	0.31	0.00	0.32	0.03	0.00	0.03	15.54	0.00	0.00	0.21	0.00	0.00	0.22
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	10	1.45	0.01	0.25	0.08	0.00	1.57	0.00	1.58	0.16	0.00	0.16	78.88	0.00	0.01	1.07	0.00	0.00	1.12
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30	2023	8	0.34	0.00	0.11	0.06	0.00	0.30	0.00	0.30	0.03	0.00	0.03	22.57	0.00	0.00	0.31	0.00	0.00	0.32
Spillway modification - Improve access road	8/21/23	9/8/23	15	2023	2	0.34	0.00	0.03	0.01	0.00	0.07	0.00	0.07	0.01	0.00	0.01	5.64	0.00	0.00	0.04	0.00	0.00	0.04
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20	2023	2	0.34	0.00	0.03	0.01	0.00	0.07	0.00	0.07	0.01	0.00	0.01	5.64	0.00	0.00	0.05	0.00	0.00	0.05
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10	2023	10	0.34	0.01	0.14	0.07	0.00	0.37	0.00	0.37	0.04	0.00	0.04	28.21	0.00	0.00	0.13	0.00	0.00	0.13
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60	2023	8	0.34	0.00	0.11	0.06	0.00	0.30	0.00	0.30	0.03	0.00	0.03	22.57	0.00	0.00	0.61	0.00	0.00	0.64
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60	2024	8	0.34	0.00	0.12	0.06	0.00	0.30	0.00	0.30	0.03	0.00	0.03	22.20	0.00	0.00	0.60	0.00	0.00	0.63
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20	2024	8	0.34	0.00	0.12	0.06	0.00	0.30	0.00	0.30	0.03	0.00	0.03	22.20	0.00	0.00	0.20	0.00	0.00	0.21
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	120	2024	24	0.34	0.01	0.35	0.18	0.00	0.89	0.00	0.89	0.09	0.00	0.09	66.61	0.00	0.01	3.63	0.00	0.00	3.80
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80	2024	8	0.34	0.00	0.12	0.06	0.00	0.30	0.00	0.30	0.03	0.00	0.03	22.20	0.00	0.00	0.81	0.00	0.00	0.84
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20	2024	4	0.34	0.00	0.06	0.03	0.00	0.15	0.00	0.15	0.01	0.00	0.01	11.10	0.00	0.00	0.10	0.00	0.00	0.11
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	2	1.45	0.00	0.05	0.02	0.00	0.31	0.00	0.32	0.03	0.00	0.03	15.78	0.00	0.00	0.11	0.00	0.00	0.11
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	2	1.45	0.00	0.05	0.02	0.00	0.31	0.00	0.32	0.03	0.00	0.03	15.78	0.00	0.00	0.11	0.00	0.00	0.11
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	2	1.45	0.00	0.05	0.02	0.00	0.31	0.00	0.32	0.03	0.00	0.03	15.78	0.00	0.00	0.11	0.00	0.00	0.11
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	2	1.45	0.00	0.05	0.02	0.00	0.31	0.00	0.32	0.03	0.00	0.03	15.78	0.00	0.00	0.21	0.00	0.00	0.22
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	8	1.45	0.01	0.20	0.07	0.00	1.26	0.00	1.26	0.13	0.00	0.13	63.10	0.00	0.01	0.86	0.00	0.00	0.90
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	8	1.45	0.01	0.20	0.07	0.00	1.26	0.00	1.26	0.13	0.00	0.13	63.10	0.00	0.01	0.57	0.00	0.00	0.60
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	8	1.45	0.01	0.20	0.07	0.00	1.26	0.00	1.26	0.13	0.00	0.13	63.10	0.00	0.01	0.86	0.00	0.00	0.90
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	8	1.45	0.01	0.20	0.07	0.00	1.26	0.00	1.26	0.13	0.00	0.13	63.10	0.00	0.01	5.72	0.00	0.00	5.99
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	10	1.45	0.01	0.24	0.08	0.00	1.57	0.00	1.58	0.16	0.00	0.16	77.68	0.00	0.01	6.34	0.00	0.00	6.64
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	8	1.45	0.01	0.20	0.07	0.00	1.26	0.00	1.26	0.13	0.00	0.13	63.10	0.00	0.01	0.43	0.00	0.00	0.45
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	10	1.45	0.01	0.24	0.08	0.00	1.57	0.00	1.58	0.16	0.00	0.16	77.68	0.00	0.01	6.34	0.00	0.00	6.64
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Vendor Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	2	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	6	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	8	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	2	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	10	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30	2023	8	20.73068182	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Spillway modification - Improve access road	8/21/23	9/8/23	15	2023	2	20.73068182	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20	2023	2	20.73068182	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10	2023	10	20.73068182	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60	2023	8	20.73068182	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60	2024	8	20.73068182	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20	2024	8	20.73068182	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	120	2024	24	20.73068182	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80	2024	8	20.73068182	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20	2024	4	20.73068182	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	2	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	2	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	2	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	2	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	8	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	8	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	8	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	8	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	10	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	8	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	10	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216

1) Off-site would only be cement trips

Vendor Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi)	ROG	NOX	CO	SOX	Non-Running Emission Factors (g/trip) <sup>1</sup>											
											PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O			
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	2	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	6	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	8	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	2	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	10	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30	2023	8	20.73068182	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Spillway modification - Improve access road	8/21/23	9/8/23	15	2023	2	20.73068182	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20	2023	2	20.73068182	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10	2023	10	20.73068182	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60	2023	8	20.73068182	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60	2024	8	20.73068182	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20	2024	8	20.73068182	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	120	2024	24	20.73068182	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80	2024	8	20.73068182	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20	2024	4	20.73068182	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	2	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	2	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	2	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	2	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	8	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	8	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	8	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	8	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	10	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	8	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	10	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089

1) Off-site would only be cement trips

Vendor Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day)													Total MT					
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e		
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	2	20	0.00	0.16	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.01	0.00	0.01	123.61	0.00	0.02	1.12	0.00	0.00	1.17
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	6	20	0.01	0.49	0.07	0.00	0.05	0.01	0.06	0.03	0.01	0.03	370.83	0.00	0.06	10.09	0.00	0.00	10.57		
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	8	20	0.01	0.65	0.09	0.00	0.07	0.01	0.08	0.04	0.01	0.04	494.44	0.00	0.08	4.49	0.00	0.00	4.70		
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	2	20	0.00	0.16	0.02	0.00	0.02	0.00	0.02	0.01	0.00	0.01	123.61	0.00	0.02	1.68	0.00	0.00	1.76		
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	10	20	0.02	0.86	0.12	0.01	0.09	0.01	0.10	0.04	0.01	0.06	624.23	0.00	0.10	8.49	0.00	0.00	8.89		
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30	2023	8	20.73068182	0.01	0.71	0.10	0.00	0.08	0.01	0.09	0.04	0.01	0.05	517.26	0.00	0.08	7.04	0.00	0.00	7.37		
Spillway modification - Improve access road	8/21/23	9/8/23	15	2023	2	20.73068182	0.00	0.18	0.02	0.00	0.02	0.00	0.02	0.01	0.00	0.01	129.31	0.00	0.02	0.88	0.00	0.00	0.92		
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20	2023	2	20.73068182	0.00	0.18	0.02	0.00	0.02	0.00	0.02	0.01	0.00	0.01	129.31	0.00	0.02	1.17	0.00	0.00	1.23		
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10	2023	10	20.73068182	0.02	0.88	0.12	0.01	0.09	0.01	0.11	0.05	0.01	0.06	646.57	0.00	0.10	2.93	0.00	0.00	3.07		
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60	2023	8	20.73068182	0.01	0.71	0.10	0.00	0.08	0.01	0.09	0.04	0.01	0.05	517.26	0.00	0.08	14.08	0.00	0.00	14.74		
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60	2024	8	20.73068182	0.01	0.67	0.10	0.00	0.08	0.01	0.08	0.04	0.01	0.05	512.14	0.00	0.08	13.94	0.00	0.00	14.59		
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20	2024	8	20.73068182	0.01	0.67	0.10	0.00	0.08	0.01	0.08	0.04	0.01	0.05	512.14	0.00	0.08	4.65	0.00	0.00	4.86		
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	120	2024	24	20.73068182	0.04	2.02	0.29	0.01	0.23	0.03	0.25	0.11	0.02	0.14	1536.43	0.00	0.24	83.63	0.00	0.01	87.56		
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80	2024	8	20.73068182	0.01	0.67	0.10	0.00	0.08	0.01	0.08	0.04	0.01	0.05	512.14	0.00	0.08	18.58	0.00	0.00	19.46		
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20	2024	4	20.73068182	0.01	0.34	0.05	0.00	0.04	0.00	0.04	0.02	0.00	0.02	256.07	0.00	0.04	2.32	0.00	0.00	2.43		
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	2	20	0.00	0.17	0.02	0.00	0.02	0.00	0.02	0.01	0.00	0.01	124.85	0.00	0.02	0.85	0.00	0.00	0.89		
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	2	20	0.00	0.17	0.02	0.00	0.02	0.00	0.02	0.01	0.00	0.01	124.85	0.00	0.02	0.85	0.00	0.00	0.89		
Energy Dissipation Structure Tunnel Portal - install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	2	20	0.00	0.17	0.02	0.00	0.02	0.00	0.02	0.01	0.00	0.01	124.85	0.00	0.02	0.85	0.00	0.00	0.89		
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	2	20	0.00	0.17	0.02	0.00	0.02	0.00	0.02	0.01	0.00	0.01	124.85	0.00	0.02	1.70	0.00	0.00	1.78		
Energy Dissipation Structure Tunnel Portal - install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	8	20	0.01	0.68	0.10	0.00	0.07	0.01	0.08	0.04	0.01	0.04	499.38	0.00	0.08	6.80	0.00	0.00	7.11		
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	8	20	0.01	0.68	0.10	0.00	0.07	0.01	0.08	0.04	0.01	0.04	499.38	0.00	0.08	4.53	0.00	0.00	4.74		
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	8	20	0.01	0.68	0.10	0.00	0.07	0.01	0.08	0.04	0.01	0.04	499.38	0.00	0.08	6.80	0.00	0.00	7.11		
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	8	20	0.01	0.68	0.10	0.00	0.07	0.01	0.08	0.04	0.01	0.04	499.38	0.00	0.08	45.30	0.00	0.01	47.43		
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	10	20	0.02	0.82	0.12	0.01	0.09	0.01	0.10	0.04	0.01	0.05	618.05	0.00	0.10	50.46	0.00	0.01	52.83		
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	8	20	0.01	0.68	0.10	0.00	0.07	0.01	0.08	0.04	0.01	0.04	499.38	0.00	0.08	3.40	0.00	0.00	3.56		
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	10	20	0.02	0.82	0.12	0.01	0.09	0.01	0.10	0.04	0.01	0.05	618.05	0.00	0.10	50.46	0.00	0.01	52.83		
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		

1) Off-site would only be cement trips



Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length [mi]	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	94	0.38	0.06	5.71	0.41	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2500.40	0.00	0.39
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0	0.14	0.06	5.71	0.41	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2500.40	0.00	0.39
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	4	0.14	0.06	5.71	0.41	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2500.40	0.00	0.39
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	16	1.46	0.06	5.71	0.41	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2500.40	0.00	0.39
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0	0.38	0.06	5.87	0.42	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2551.76	0.00	0.40
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30	2023	0	0.34	0.06	5.87	0.42	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2551.76	0.00	0.40
Spillway modification - Improve access road	8/21/23	9/8/23	15	2023	0	0.34	0.06	5.87	0.42	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2551.76	0.00	0.40
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20	2023	0	0.34	0.06	5.87	0.42	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2551.76	0.00	0.40
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10	2023	0	0.34	0.06	5.87	0.42	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2551.76	0.00	0.40
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60	2023	2	0.34	0.06	5.87	0.42	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2551.76	0.00	0.40
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60	2024	140	0.86	0.06	5.71	0.41	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2500.40	0.00	0.39
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20	2024	0	0.34	0.06	5.71	0.41	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2500.40	0.00	0.39
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	190	2024	20	0.34	0.06	5.71	0.41	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2500.40	0.00	0.39
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80	2024	76	1.21	0.06	5.71	0.41	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2500.40	0.00	0.39
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20	2024	4	0.34	0.06	5.71	0.41	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2500.40	0.00	0.39
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	54	1.25	0.06	5.87	0.42	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2551.76	0.00	0.40
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0	0.15	0.06	5.87	0.42	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2551.76	0.00	0.40
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0	0.14	0.06	5.87	0.42	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2551.76	0.00	0.40
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0	0.15	0.06	5.87	0.42	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2551.76	0.00	0.40
Energy Dissipation Structure Tunnel Portal - Install temporary utilities, water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0	0.14	0.06	5.87	0.42	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2551.76	0.00	0.40
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0	0.14	0.06	5.87	0.42	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2551.76	0.00	0.40
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	4	1.45	0.06	5.87	0.42	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2551.76	0.00	0.40
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	4	1.45	0.06	5.87	0.42	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2551.76	0.00	0.40
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	0.14	0.06	5.87	0.42	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2551.76	0.00	0.40
Tunneling - Drive 100' of tunnel at 30 fpm	1/22/24	1/26/24	5	2024	0	1.45	0.06	5.71	0.41	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2500.40	0.00	0.39
Tunneling - Tunnel excavation and support @ 60' per day	1/25/24	10/4/24	180	2024	6	1.45	0.06	5.71	0.41	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2500.40	0.00	0.39
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	1.45	0.06	5.71	0.41	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2500.40	0.00	0.39
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0	0.38	0.06	5.87	0.42	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2551.76	0.00	0.40
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	0	0.38	0.06	5.71	0.41	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2500.40	0.00	0.39
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	2	1.45	0.06	5.71	0.41	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2500.40	0.00	0.39

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length [mi]	Non-Running Emission Factors (g/trip)													
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	94	0.38	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0	0.14	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	4	0.14	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation - Re-vegetation and site demob	12/16/24	12/24/24	30	2024	16	1.46	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0	0.58	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30	2023	0	0.34	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Spillway modification - Improve access road	8/21/23	9/8/23	15	2023	0	0.34	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20	2023	0	0.34	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10	2023	0	0.34	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60	2023	2	0.34	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60	2024	140	0.86	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20	2024	0	0.34	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	170	2024	20	0.34	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80	2024	76	1.21	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20	2024	4	0.34	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	54	1.25	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0	0.15	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0	0.14	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0	0.15	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - install temporary utilities, water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0	0.14	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0	0.14	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	4	1.45	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	4	1.45	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	0.14	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Tunneling - Drive 100' of tunnel at 30 fpd	1/22/24	1/26/24	5	2024	0	1.45	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	6	1.45	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	1.45	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0	0.38	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	0	0.38	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	2	1.45	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length [mi]	Emissions (lb/day)													Total MT				
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e	
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	94	0.38	0.09	2.02	1.24	0.00	5.14	0.00	5.14	0.00	0.51	0.00	0.51	389.73	0.00	0.06	3.54	0.00	0.00	3.70
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	4	0.14	0.00	0.07	0.05	0.00	0.08	0.00	0.08	0.01	0.00	0.01	11.31	0.00	0.10	0.00	0.00	0.00	0.00	0.11
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	16	1.46	0.00	0.56	0.23	0.00	3.37	0.00	3.37	0.34	0.00	0.34	163.80	0.00	0.03	2.20	0.00	0.00	0.00	2.31
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30	2023	0	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spillway modification - Improve access road	8/21/23	9/8/23	15	2023	0	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20	2023	0	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10	2023	0	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60	2023	2	0.34	0.00	0.04	0.03	0.00	0.10	0.00	0.10	0.01	0.00	0.01	8.04	0.00	0.00	0.22	0.00	0.00	0.00	0.23
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60	2024	140	0.86	0.14	3.86	1.91	0.01	17.30	0.00	17.31	1.73	0.00	1.73	949.36	0.01	0.15	25.84	0.00	0.00	0.00	27.05
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20	2024	0	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	170	2024	20	0.34	0.00	0.43	0.26	0.00	0.98	0.00	0.98	0.10	0.00	0.10	78.74	0.00	0.01	4.29	0.00	0.00	0.00	4.40
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80	2024	76	1.21	0.08	2.43	1.06	0.01	13.26	0.00	13.26	1.32	0.00	1.33	663.03	0.00	0.10	24.06	0.00	0.00	0.00	25.19
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20	2024	4	0.34	0.00	0.08	0.05	0.00	0.20	0.00	0.20	0.02	0.00	0.02	15.75	0.00	0.00	0.14	0.00	0.00	0.00	0.15
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	54	1.25	0.06	1.76	0.76	0.00	9.74	0.00	9.74	0.97	0.00	0.97	493.16	0.00	0.08	3.36	0.00	0.00	0.00	3.51
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities, water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	4	1.45	0.00	0.14	0.06	0.00	0.84	0.00	0.84	0.08	0.00	0.08	41.03	0.00	0.01	0.56	0.00	0.00	0.00	0.58
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	4	1.45	0.00	0.14	0.06	0.00	0.84	0.00	0.84	0.08	0.00	0.08	41.03	0.00	0.01	3.72	0.00	0.00	0.00	3.90
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Drive 100' of tunnel at 30 fpm	1/22/24	1/26/24	5	2024	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	6	1.45	0.01	0.21	0.08	0.00	1.25	0.00	1.25	0.13	0.00	0.13	60.31	0.00	0.01	4.92	0.00	0.00	0.00	5.16
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	0	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	2	1.45	0.00	0.07	0.03	0.00	0.42	0.00	0.42	0.04	0.00	0.04	20.10	0.00	0.00	0.27	0.00	0.00	0.00	0.29

Haul Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	94	0	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0	0	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	4	27	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	16	20	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Spillway modification - Improve access road	8/21/23	9/8/23	15	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60	2023	2	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60	2024	140	0.730681818	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20	2024	0	0	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	120	2024	20	20.73068182	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80	2024	76	0.730681818	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20	2024	4	27.73068182	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	54	20.73068182	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	4	27	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/23	4/12/24	200	2023	4	27	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	0	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	6	27	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	0	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	0	0	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	2	27	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25

Haul Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	94	0	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0	0	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	4	27	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	16	20	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Spillway modification - Improve access road	8/21/23	9/8/23	15	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60	2023	2	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60	2024	140	0.730681818	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20	2024	0	0	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	120	2024	20	20.73068182	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80	2024	76	0.730681818	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20	2024	4	27.73068182	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	54	20.73068182	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	4	27	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	4	27	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	0	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	6	27	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	0	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	0	0	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	2	27	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15

Haul Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day)													Total MT				
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e	
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	94	0	0.08	1.58	1.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	193.45	0.00	0.03	1.75	0.00	0.00	1.84
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	4	27	0.01	0.51	0.07	0.00	0.05	0.01	0.06	0.03	0.01	0.03	391.49	0.00	0.06	3.55	0.00	0.00	0.00	3.72
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	16	20	0.03	1.57	0.26	0.01	0.16	0.02	0.18	0.08	0.02	0.10	1168.50	0.00	0.18	15.90	0.00	0.00	0.00	16.65
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spillway modification - Improve access road	8/21/23	9/8/23	15	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60	2023	2	0	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.20	0.00	0.00	0.11	0.00	0.00	0.12	
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60	2024	140	0.730681818	0.13	2.76	1.82	0.01	0.05	0.01	0.06	0.02	0.01	0.03	651.13	0.01	0.10	17.72	0.00	0.00	0.00	18.56
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20	2024	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	120	2024	20	20.73068182	0.03	2.02	0.33	0.01	0.20	0.03	0.23	0.10	0.03	0.13	1512.49	0.00	0.24	82.33	0.00	0.01	86.19	
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80	2024	76	0.73068182	0.07	1.50	0.99	0.00	0.03	0.00	0.03	0.01	0.00	0.02	353.47	0.00	0.06	12.83	0.00	0.00	13.43	
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20	2024	4	27.73068182	0.01	0.52	0.07	0.00	0.05	0.01	0.06	0.03	0.01	0.03	401.86	0.00	0.06	3.65	0.00	0.00	3.82	
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	54	20.73068182	0.09	5.62	0.90	0.04	0.55	0.07	0.62	0.27	0.07	0.34	4141.80	0.00	0.65	28.18	0.00	0.00	29.50	
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	4	27	0.01	0.52	0.07	0.00	0.05	0.01	0.06	0.03	0.01	0.03	397.04	0.00	0.06	5.40	0.00	0.00	5.66	
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	4	27	0.01	0.52	0.07	0.00	0.05	0.01	0.06	0.03	0.01	0.03	397.04	0.00	0.06	36.02	0.00	0.01	37.71	
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	6	27	0.01	0.76	0.10	0.01	0.08	0.01	0.09	0.04	0.01	0.05	587.23	0.00	0.09	47.95	0.00	0.01	50.20	
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	2	27	0.00	0.25	0.03	0.00	0.03	0.00	0.03	0.01	0.00	0.02	195.74	0.00	0.03	2.66	0.00	0.00	2.79	



**Paving Off-Gassing Emissions**

Phase Name	Acres	Off-Gassing EF (lb/acre)	Total Emissions (lbs)
	0.00	2.62	0.00
	0.00	2.62	0.00

\*No paving within the North Central Coast Air Basin

Combined Phase Name5	Start Date5	End Date5	# of Workdays5	Emissions (lb/day)
				ROG
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20.00	0.00
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60.00	0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20.00	0.00
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30.00	0.00
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30.00	0.00
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/23	5/26/23	30.00	0.00
Spillway modification - Improve access road	8/21/23	9/8/23	15.00	0.00
Spillway modification - Site clearing/grading of staging areas	9/11/23	10/6/23	20.00	0.00
Spillway modification - Installation of erosion control/silt fencing	9/11/23	9/22/23	10.00	0.00
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/23	1/26/24	60.00	0.00
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/24	4/19/24	60.00	0.00
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/24	4/19/24	20.00	0.00
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/24	10/4/24	120.00	0.00
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/24	10/4/24	80.00	0.00
Spillway modification - Site cleanup and demobilization	10/7/24	11/1/24	20.00	0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15.00	0.00
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15.00	0.00
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15.00	0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30.00	0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30.00	0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20.00	0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30.00	0.00
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/23	4/12/24	200.00	0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30.00	0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5.00	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180.00	0.00
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30.00	0.00
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15.00	0.00
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180.00	0.00
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30.00	0.00



**Mechanical or Explosive Dismemberment**

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

EF emission factor (lb/ton)  
 k particle size multiplier, AP-42 default for PM10: 0.35; PM2.5: 0.053  
 U mean wind speed, m/s to mph  
 M material moisture content (%), AP-42 Default: 2

Parameter	PM10	PM2.5	CalEEMod Wind Speed (m/s)	Changes based on Project Location
	Value	Value	2.8	CEC Forecast Zone 4
k (unitless)	0.35	0.053	<--confirm these parameters for location	
U (m/s to mph)	6.26	6.26	<--confirm these parameters for location	
M (%)	2	2	<--confirm these parameters for location	
<b>EF (lb/ton)</b>	<b>1.50E-03</b>	<b>2.27E-04</b>		

**Debris Loading**

$$EF_L = k \times EF_{L-TSP}$$

EF<sub>L</sub> emission factor (lb/ton)  
 k particle size multiplier, AP-42 default for PM10: 0.35; PM2.5: 0.053

Default EF<sub>L-TSP</sub> 0.058

lb/ton of debris	
PM10	PM2.5
0.0203	0.003074

**Total DEMO EF**

lb/ton of debris	
PM10	PM2.5
2.18E-02	3.30E-03

**Mechanical or Explosive Dismemberment**  
 Based on the MRI report, there is no AP-42 emission factor data available for this mechanical or explosive dismemberment. Thus, the emission factor for dismemberment and collapse of a structure is calculated using the following AP-42 equation for batch drop operations:

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

Where:  
 EF<sub>D</sub> = emission factor (lb PM/ton of debris)  
 EF<sub>D-PM10</sub> = 0.0011 lb PM<sub>10</sub>/ton of debris  
 EF<sub>D-PM2.5</sub> = 0.00017 lb PM<sub>2.5</sub>/ton of debris  
 k = particle size multiplier. The AP-42 default value for PM<sub>10</sub> is 0.35 and that for PM<sub>2.5</sub> is 0.053.  
 U = mean wind speed. The program selects the default mean wind speed based on the wind speed (m/s) provided on the project characteristics screen.  
 M = material moisture content. The program uses 2% as the default based on the MRI report.

The dust emissions are calculated by multiplying the above emission factors with the total weight of building waste using the following equation:

$$E_D = EF_D \times W$$

Where:  
 E<sub>D</sub> = emissions (lb of PM)  
 EF<sub>D</sub> = emission factor (lb of PM/ton of debris)  
 W = building waste (ton of debris)

<sup>10</sup>Midwest Research Institute. 1988. Gap Filling PM10 Emission Factors for Selected Open Area Dust Sources.

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**Debris Loading**  
 The dust emission factor of PM<sub>10</sub> and PM<sub>2.5</sub> in pounds per ton building waste is estimated based on the measured total suspended particulates (TSP) emission factor using the following equation:

$$EF_L = k \times EF_{L-TSP}$$

Where:  
 EF<sub>L</sub> = emission factor (lb/ton)  
 k = particle size multiplier. The AP-42 default value for PM<sub>10</sub> is 0.35 and that for PM<sub>2.5</sub> is 0.053.

The default value for EF<sub>L-TSP</sub> is 0.058 lb/ton, the average of the two TSP factor (i.e. 0.053 and 0.063 lb/ton) measured from two tests of the filling of trucks with crushed limestone using a front-end loader.

The dust emissions from debris loading are then calculated following the same methodology used for mechanical and or explosive dismemberment:

$$E_L = EF_L \times SF \times 0.046(\text{ton} / \text{ft}^2)$$

Where:  
 E<sub>L</sub> = emissions (lb)  
 EF<sub>L</sub> = emission factor (lb/ton)  
 SF = building square footage (ft<sup>2</sup>)

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Truck Loading Emissions

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

- EF emission factor (lb/ton)
- k particle size multiplier, AP-42 default for PM10: 0.35; PM2.5: 0.053
- U mean wind speed, m/s to mph
- M material moisture content (%), AP-42 Default: 12

Parameter	CalEEMod Wind Speed (m/s)		Changes based on Project Location
	PM10	PM2.5	2.8 CEC Forecast Zone 4
k (unitless)	0.35	0.053	<--confirm these parameters for location
U (m/s to mph)	6.26	6.26	<--confirm these parameters for location
M (%)	14	14	MJA, DRAFT - Preliminary Geotechnical Design Recommendations , February 2019.
EF (lb/ton)	9.85E-05	1.49E-05	

**Emissions** **E=EF x TP**

EF	Emission factor (lb/ton)
TP	Throughput (tons)
CY	173367 <--Enter in Project Value
tons/CY	1.2641662
TP	219164.7
# of days with truck loading	275

13.2.4.2

EMISSION FACTORS

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Table 13.2.4-1. TYPICAL SILT AND MOISTURE CONTENTS OF MATERIALS AT VARIOUS INDUSTRIES\*

Industry	No. Of Facilities	Material	Silt Content (%)			Moisture Content (%)		
			No. Of Samples	Range	Mean	No. Of Samples	Range	Mean
Iron and steel production	9	Pellet ore	13	1.3 - 13	4.3	11	0.64 - 4.0	2.2
		Lump ore	9	2.8 - 19	9.5	6	1.6 - 8.0	5.4
		Coal	12	2.0 - 7.7	4.6	11	2.8 - 11	4.8
		Slag	3	3.0 - 7.3	5.3	3	0.25 - 2.0	0.92
		Flue dust	3	2.7 - 23	13	1	—	7
		Coke breeze	2	4.4 - 5.4	4.9	2	6.4 - 9.2	7.8
		Blended ore	1	—	15	1	—	6.6
		Sinter	1	—	0.7	0	—	—
		Limestone	3	0.4 - 2.3	1.0	2	ND	0.2
		Crushed limestone	2	1.3 - 1.9	1.6	2	0.3 - 1.1	0.7
Stone quarrying and processing	2	Various limestone products	8	0.8 - 14	3.9	8	0.46 - 5.0	2.1
		Pellets	9	2.2 - 5.4	3.4	7	0.05 - 2.0	0.9
Taconite mining and processing	1	Tailings	2	ND	11	1	—	0.4
		Coal	15	3.4 - 16	6.2	7	2.8 - 20	6.9
Western surface coal mining	4	Overburden	15	3.8 - 15	7.5	0	—	—
		Exposed ground	3	5.1 - 21	15	3	0.8 - 6.4	3.4
		Coal (as received)	60	0.6 - 4.8	2.2	59	2.7 - 7.4	4.5
Coal-fired power plant	1	Sand	1	—	2.6	1	—	7.4
		Slag	2	3.0 - 4.7	3.8	2	2.3 - 4.9	3.6
Municipal solid waste landfills	4	Cover	5	5.0 - 16	9.0	5	8.9 - 16	12
		Clay/dirt mix	1	—	9.2	1	—	14
		Clay	2	4.5 - 7.4	6.0	2	8.9 - 11	10
		Fly ash	4	78 - 81	80	4	26 - 29	27
		Misc. fill materials	1	—	12	1	—	11

\* References 1-10. ND = no data.

**Truck Loading**

Processes such as truck dumping on the pile or loading out from the pile to a truck with a front-end loader also cause fugitive dust emissions. The program calculates these emissions using the methodology described in Section 13.2, Introduction to Fugitive Dust Sources, of USEPA AP-42. The emission factor that is based on the material moisture content and mean wind speed is calculated using the following formula:

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

Where:

EF = emission factor (lb/ton)

K = particle size multiplier. The AP-42 default value for PM<sub>10</sub> is 0.35 and that for PM<sub>2.5</sub> is 0.053

U = mean wind speed. The program selects wind speed based on the value listed on the Project Characteristics screen. It has been converted internally to miles per hour.

M = material moisture content (%). The moisture contents of different materials are listed in Table 13.2.4-1 of AP-42. The program uses the moisture content of cover (12%) as default.

The fugitive dust emissions are calculated by multiplying the emission factor with the throughput of loaded and unloaded material that is entered by the user.

$$E = EF \times TP$$

Where:

E = emissions (lb)

EF = emission factor (lb/ton)

TP = throughput of loaded and unloaded materials (ton)

CalEEMod assumes that 1.2641662 tons per cubic yard based on a bulk density of 1.5 grams per cubic centimeter. Typical soil densities range from about 1.25 to about 1.6 and 1.5 is the approximate density of a silty loam soil which is relatively common in most other parts of the state. The density reported above does not account for watering to suppress dust, it only accounts for natural moisture.

**Bulldozing Emissions**

$$EF_{TSP} = \frac{C_{TSP} \times S^{1.2}}{M^{1.3}}, \text{ and } EF_{PM_{2.5}} = EF_{TSP} \times F_{PM_{2.5}}$$

$$EF_{PM_{15}} = \frac{C_{PM_{15}} \times S^{1.5}}{M^{1.4}}, \text{ and } EF_{PM_{10}} = EF_{PM_{15}} \times F_{PM_{10}}$$

EF emission factor (lb/hr)  
 C arbitrary coefficient use by AP-42  
 M material moisture content (%)  
 S material silt content (%)  
 F scaling factor

C <sub>TSP</sub> (unitless)	5.7
C <sub>PM15</sub> (unitless)	1
M(%)	7.9
s (%)	6.9
F <sub>PM10</sub> (unitless)	0.75
F <sub>PM2.5</sub> (unitless)	0.105

EF <sub>TSP</sub>	3.941
EF <sub>PM15</sub>	1.004

**Emission Factors (lb/hr)**

EF <sub>PM10</sub>	<b>0.753</b> Emission Factor Method Confirmed with comparison to CalEEMod outputs
EF <sub>PM2.5</sub>	<b>0.414</b> Emission Factor Method Confirmed with comparison to CalEEMod outputs

**Bulldozing**

Similar to the grading equipment passes emission estimation, the bulldozing emission factors for PM<sub>10</sub> and PM<sub>2.5</sub> are scaled from those of PM<sub>15</sub> and TSP. Based on Section 11.9 of AP-42, the dust emission factor for bulldozing is calculated using the following equations:

$$EF_{TSP} = \frac{C_{TSP} \times S^{1.2}}{M^{1.3}}, \text{ and } EF_{PM_{2.5}} = EF_{TSP} \times F_{PM_{2.5}}$$

$$EF_{PM_{15}} = \frac{C_{PM_{15}} \times S^{1.5}}{M^{1.4}}, \text{ and } EF_{PM_{10}} = EF_{PM_{15}} \times F_{PM_{10}}$$

Where:

EF = emission factor (lb/hr)  
 C = arbitrary coefficient used by AP-42  
 M = material moisture content (%)  
 S = material silt content (%)  
 F = scaling factor

C, M, s, and F vary depending on the bulldozed material. The following table summarizes the constants for overburden<sup>8</sup> presented in AP-42<sup>9</sup>.

**Bulldozing Fugitive Emission Factors**

Constant	Overburden
C <sub>TSP</sub>	5.7
C <sub>PM15</sub>	1.0
M	7.9%
s	6.9%
F <sub>PM10</sub>	0.75
F <sub>PM2.5</sub>	0.105

The program uses the constants associated with overburden as default for calculation of bulldozing dust emissions since overburden more closely models the bulldozed materials during the development construction. The dust emissions are calculated by multiplying the emission factor with the hours of operation for the dozers listed in the equipment list using the formula below:

$$E = EF \times Hr$$

Where:

E = emissions (lb)  
 EF = emission factor (lb/hr)  
 Hr = hours of operation

<sup>8</sup> The earth that is between the topsoil and the coal seam (USEPA AP-42).

<sup>9</sup> Tables 11.9-1 and 11.9-3 of USEPA AP-42

**Grading Emissions**

EF<sub>PM15</sub>

$$EF_{PM15} = 0.051 \times (S)^{2.0}, \text{ and } EF_{PM10} = EF_{PM15} \times F_{PM10}$$

$$EF_{TSP} = 0.04 \times (S)^{2.5}, \text{ and } EF_{PM2.5} = EF_{TSP} \times F_{PM2.5}$$

EF	Emission Factor (lb/VMT)	
S	mean vehicle speed (mph), AP-42 Default: 7.1 mph	
F <sub>PM2.5</sub>	PM2.5 scaling factor, AP-42 default: 0.031	
F <sub>PM10</sub>	PM10 scaling factor, AP-42 default: 0.6	
S	7.1	
F <sub>PM2.5</sub>	0.031	
F <sub>PM10</sub>	0.6	
EF <sub>PM15</sub>	2.57	
EF <sub>TSP</sub>	5.37	
Emission factor (lb/VMT)		
EF <sub>PM10</sub>	1.543	
EF <sub>PM2.5</sub>	0.167	

**Emissions= EF x VMT**

VMT:

A <sub>site</sub>	acreage of grading site
W <sub>b</sub>	Width of blade, default: 12 feet
Feet/acre conversion	43560
feet/mile conversion	5280
Acres per 8-hr day	amount of acres graded per day, see calc below

The grading dust emissions are calculated by multiplying the emission factors with the total vehicle miles traveled (VMT) for the grading equipment (i.e., grader). The VMT are estimated based on the dimensions of the grading area and the blade width of the grading equipment.

$$E = EF \times VMT, \text{ and}$$

$$VMT = A_s / W_b \times 43,560(\text{sqft} / \text{acre}) / 5,280(\text{ft} / \text{mile})$$

Where:

- E: emissions (lb)
- EF: emission factor (lb/VMT)
- VMT: vehicle miles traveled (mile)
- A<sub>s</sub>: the acreage of the grading site (acre)
- W<sub>b</sub>: Blade width of the grading equipment. The program uses a default blade width of 12 ft. based on Caterpillar's 140 Motor Grader<sup>7</sup>.

Note that the dimensions (e.g., length and width) of the grading site have no impact on the calculation, only the total area to be graded. In order to properly grade a piece of land multiple passes with equipment may be required. The acres is based on the equipment list and days in grading or site preparation phase according to the anticipated maximum number of acres a given piece of equipment can pass over in an 8-hour workday. The equipment-specific grading rates are given in the following table as determined by SCAQMD in consultation with building estimator references.

Equipment Type	Acres/8hr-day
Crawler Tractors	0.5
Graders	0.5
Rubber Tired Dozers	0.5
Scrapers	1







Craines	2018	11	130	0.18088	0.812	7.8075	4.4237	0.005	0.388	0.536	488.1373	0.153
Craines	2018	11	175	0.179223	0.821	5.972	3.6671	0.005	0.351	0.323	491.0451	0.153
Craines	2018	176	250	0.187877	0.843	5.7729	2.13445	0.005	0.25	0.23	491.4609	0.153
Craines	2018	191	500	0.48024	0.37	4.8431	1.871	0.005	0.137	0.126	489.0536	0.152
Craines	2018	501	750	0.120248	0.271	3.7688	1.61304	0.005	0.137	0.126	489.0536	0.152
Craines	2018	9999	0.18147	0.122	2.1354	0.9232	0.005	0.038	0.034	489.0532	0.153	
Craines	2019	28	50	2.434147	2.045	5.95197	7.24465	0.005	0.615	0.566	529.4626	0.168
Craines	2019	11	120	0.190986	0.803	6.9786	4.2641	0.005	0.5	0.46	488.2261	0.152
Craines	2019	111	175	0.193554	0.168	5.94625	3.5663	0.005	0.183	0.169	485.1817	0.154
Craines	2019	176	250	0.167091	0.427	5.0842	1.94079	0.005	0.216	0.198	481.4616	0.153
Craines	2019	9999	0.141451	0.368	2.9664	2.9683	0.005	0.039	0.035	483.2466	0.153	
Craines	2019	501	750	0.239943	0.252	3.42801	1.44568	0.005	0.124	0.114	481.1102	0.152
Craines	2019	9999	0.192058	0.172	2.14854	0.9912	0.005	0.039	0.035	483.2466	0.153	
Craines	2020	28	50	2.47956	2.084	5.9471	7.17625	0.005	0.624	0.574	517.5263	0.168
Craines	2020	11	120	0.197056	0.722	6.18117	4.1714	0.005	0.453	0.417	489.8821	0.152
Craines	2020	111	175	0.183941	0.137	5.1687	3.56122	0.005	0.298	0.274	474.5399	0.153
Craines	2020	176	250	0.16660	0.384	4.56229	1.7904	0.005	0.188	0.173	472.9688	0.152
Craines	2020	9999	0.181467	0.321	2.8624	2.8697	0.005	0.035	0.031	484.2029	0.153	
Craines	2020	501	750	0.187724	0.242	3.10471	1.44353	0.005	0.116	0.107	470.4254	0.152
Craines	2020	9999	0.187077	0.128	2.3634	0.99943	0.005	0.036	0.032	470.4254	0.152	
Craines	2021	28	50	2.114627	2.115	6.01375	7.48883	0.005	0.631	0.581	517.8995	0.167
Craines	2021	11	120	0.17522	0.651	5.7085	4.05057	0.005	0.398	0.366	489.8867	0.152
Craines	2021	111	175	0.189174	0.488	5.1125	3.15448	0.005	0.273	0.251	474.5458	0.153
Craines	2021	176	250	0.141905	0.349	4.0459	1.7824	0.005	0.167	0.153	472.8057	0.153
Craines	2021	9999	0.151488	0.236	2.8421	2.84831	0.005	0.039	0.037	472.8057	0.153	
Craines	2021	501	750	0.171141	0.228	2.72729	1.43956	0.005	0.107	0.098	470.5495	0.152
Craines	2021	9999	0.128348	0.102	2.19402	1.00751	0.005	0.041	0.039	470.5495	0.152	
Craines	2022	28	50	2.41359	2.028	5.8991	7.34628	0.005	0.603	0.555	517.8722	0.167
Craines	2022	11	120	0.187851	0.178	5.14893	3.97388	0.005	0.246	0.218	489.9929	0.152
Craines	2022	111	175	0.149327	0.457	4.4169	3.4753	0.005	0.246	0.227	474.5887	0.153
Craines	2022	176	250	0.175091	0.336	3.54469	1.60264	0.005	0.147	0.135	472.8812	0.153
Craines	2022	9999	0.11051	0.261	2.8936	2.21205	0.005	0.037	0.038	472.8812	0.153	
Craines	2022	501	750	0.153848	0.17	2.22087	1.28309	0.005	0.089	0.082	470.4755	0.152
Craines	2022	9999	0.129059	0.201	2.38641	1.05144	0.005	0.042	0.041	470.4755	0.152	
Craines	2023	28	50	2.435627	2.047	5.9225	7.42524	0.005	0.608	0.559	517.8722	0.167
Craines	2023	11	120	0.187851	0.178	5.14893	3.97388	0.005	0.246	0.218	489.9929	0.152
Craines	2023	111	175	0.150363	0.423	4.22184	3.44284	0.005	0.224	0.206	474.595	0.153
Craines	2023	176	250	0.153866	0.297	2.27296	1.25262	0.005	0.112	0.104	472.9358	0.153
Craines	2023	9999	0.121021	0.216	2.1105	2.1	0.005	0.039	0.039	472.9358	0.153	
Craines	2023	501	750	0.123027	0.195	2.07257	1.28213	0.005	0.084	0.077	470.2508	0.152
Craines	2023	9999	0.120842	0.211	2.19827	1.02212	0.005	0.048	0.048	470.2508	0.152	
Craines	2024	28	50	2.304795	1.917	5.8796	7.24822	0.005	0.577	0.531	517.8722	0.167
Craines	2024	11	120	0.187851	0.178	5.14893	3.97388	0.005	0.246	0.218	489.9929	0.152
Craines	2024	111	175	0.143764	0.381	3.3029	3.3893	0.005	0.196	0.18	474.6388	0.154
Craines	2024	176	250	0.124159	0.261	2.9595	1.52029	0.005	0.112	0.11	472.9265	0.153
Craines	2024	9999	0.124159	0.261	2.9595	1.52029	0.005	0.098	0.089	472.9265	0.153	
Craines	2024	501	750	0.127021	0.191	1.89979	1.28334	0.005	0.08	0.079	470.3366	0.152
Craines	2024	9999	0.121552	0.22	2.4502	1.02883	0.005	0.04	0.039	470.3366	0.152	
Craines	2025	28	50	2.153227	2.181	5.81662	7.07388	0.005	0.543	0.499	517.8722	0.167
Craines	2025	11	120	0.181865	0.463	4.18523	3.40821	0.005	0.26	0.24	489.9929	0.152
Craines	2025	111	175	0.179798	0.338	3.16039	3.13164	0.005	0.166	0.153	474.7477	0.154
Craines	2025	176	250	0.11058	0.265	2.68228	1.4687	0.005	0.114	0.105	472.9798	0.152
Craines	2025	9999	0.109944	0.218	2.1424	1.83833	0.005	0.088	0.081	471.9671	0.153	
Craines	2025	501	750	0.134836	0.172	1.61763	1.27896	0.005	0.088	0.082	470.2766	0.152
Craines	2025	9999	0.127209	0.229	2.42218	1.02813	0.005	0.048	0.047	470.2766	0.152	
Craines	2026	28	50	2.188	0.884	1.998	3.366	0.007	0.075	0.075	568.299	0.061
Craines	2026	11	120	1.941	0.341	1.897	1.812	0.006	0.039	0.039	568.299	0.061
Craines	2026	111	175	1.293	0.251	0.916	1.316	0.006	0.04	0.04	568.299	0.062
Craines	2026	176	250	1.285	0.224	0.748	1.147	0.006	0.024	0.024	568.299	0.062
Craines	2026	9999	0.112	0.222	0.897	1.09	0.005	0.023	0.023	568.299	0.062	
Craines	2026	501	750	1.602	0.222	0.709	1.09	0.005	0.024	0.024	568.299	0.062
Craines	2026	9999	0.81	0.245	2.8	1.108	0.005	0.04	0.04	568.299	0.022	
Craines	2026	28	50	1.568	0.6	1.401	2.292	0.007	0.039	0.039	568.299	0.064
Craines	2026	11	120	1.568	0.3	1.476	1.802	0.006	0.03	0.03	568.299	0.064
Craines	2026	111	175	1.923	0.212	0.519	1.317	0.006	0.024	0.024	568.299	0.064
Craines	2026	176	250	1.568	0.209	0.453	1.143	0.006	0.016	0.016	568.299	0.064
Craines	2026	9999	0.111	0.202	0.441	1.087	0.005	0.016	0.016	568.299	0.068	
Craines	2026	501	750	1.923	0.202	0.446	1.087	0.005	0.016	0.016	568.299	0.068
Craines	2026	9999	22.949	0.209	2.618	1.089	0.005	0.031	0.031	568.299	0.018	
Craines	2040	28	50	1.483	0.567	1.324	3.268	0.007	0.024	0.024	568.299	0.061
Craines	2040	11	120	1.598	0.262	1.52	2.797	0.006	0.021	0.021	568.299	0.022
Craines	2040	111	175	1.79	0.197	0.371	1.318	0.006	0.016	0.016	568.299	0.017
Craines	2040	176	250	1.465	0.195	0.344	1.144	0.006	0.013	0.013	568.299	0.017
Craines	2040	9999	3.958	0.195	0.34	1.087	0.005	0.013	0.013	568.299	0.017	
Craines	2040	501	750	1.681	0.195	0.341	1.087	0.005	0.013	0.013	568.299	0.017
Craines	2040	9999	21.703	0.198	2.534	1.087	0.005	0.027	0.027	568.299	0.017	
Craines	1990	28	50	11.254	4.903	7.983	9.907	0.871	1.191	1.191	568.299	0.446
Craines	1990	11	120	14.413	1.274	4.962	5.79	0.791	1.323	1.323	568.299	0.244
Craines	1990	111	175	19.135	1.729	13.979	16.079	0.758	0.962	0.962	568.299	0.167
Craines	1990	176	250	26.505	1.728	13.979	16.079	0.758	0.962	0.962	568.299	0.167
Craines	1990	9999	36.145	1.528	11.238	11.319	0.642	0.822	0.822	568.299	0.137	
Craines	1990	501	750	85.509	1.528	11.238	11.319	0.642	0.822	0.822	568.299	0.137
Craines	1990	9999	92.189	1.528	11.238	11.319	0.642	0.822	0.822	568.299	0.137	
Craines	2000	28	50	30.848	4.73	7.197	9.675	0.606	0.973	0.973	568.299	0.426
Craines	2000	11	120	11.54	1.964	1.897	4.884	0.56	0.946	0.946	568.299	0.177
Craines	2000	111	175	14.976	1.339	10.157	4.018	0.057	0.57	0.57	568.299	0.152
Craines	2000	176	250	17.901	1.168	1.843	3.807	0.057	0.466	0.466	568.299	0.152
Craines	2000	9999	25.1	1.049	0.341	1.849	0.5	0.424	0.424	568.299	0.094	
Craines	2000	501	750	45.011	0.818	0.809	9.124	0.048	0.424	0.424	568.299	0.094
Craines	2000	9999	66.528	1.095	9.844	6.349	0.052	0.407	0.407	568.299	0.094	
Craines	2005	28	50	19.921	4.223	6.809	9.124	0.048	0.419	0.419	568.299	0.39
Craines	2005	11	120	10.48	1.759	7.5	4.63	0.06	0.903	0.903	568.299	0.154
Craines	2005	111	175	11.006	1.163	8.886	3.749	0.057	0.513	0.513	568.299	0.104
Craines	2005	176	250	11.95	0.91	1.521	2.057	0.071	0.771	0.771		











Other Construction Equipment	Year	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
Other Construction Equipment	2005	11	130	31.145	1.977	6.067	4.041	0.06	0.770	0.770	568.299	0.126	
Other Construction Equipment	2005	121	175	28.235	0.903	3.739	3.208	0.07	0.302	0.302	568.299	0.081	
Other Construction Equipment	2005	251	500	41.035	0.35	6.134	2.051	0.05	0.22	0.22	568.299	0.049	
Other Construction Equipment	2010	16	15	11.2864	1.284	5.5407	5.2076	0.005	0.487	0.487	587.5495	0.171	
Other Construction Equipment	2010	36	50	11.2864	1.284	5.5407	5.2076	0.005	0.487	0.487	587.5495	0.171	
Other Construction Equipment	2010	61	130	92.739	0.779	7.11752	3.8993	0.005	0.540	0.540	531.1661	0.152	
Other Construction Equipment	2010	111	175	0.78022	0.847	7.30949	3.4768	0.005	0.38	0.38	532.1231	0.152	
Other Construction Equipment	2011	6	50	0.80274	0.926	6.78126	3.2634	0.005	0.219	0.219	530.8514	0.153	
Other Construction Equipment	2011	16	15	13.1741	1.287	5.5686	5.3062	0.005	0.499	0.499	586.0703	0.171	
Other Construction Equipment	2011	26	25	13.1741	1.287	5.5686	5.3062	0.005	0.499	0.499	586.0703	0.171	
Other Construction Equipment	2011	51	130	0.80794	0.764	6.80331	3.8073	0.005	0.549	0.549	531.1283	0.153	
Other Construction Equipment	2011	111	175	0.75704	0.81	6.3098	3.41832	0.005	0.361	0.361	530.464	0.152	
Other Construction Equipment	2011	251	500	0.84964	0.778	6.4776	3.0483	0.005	0.258	0.258	530.3697	0.153	
Other Construction Equipment	2012	6	15	1.54875	1.301	5.56169	5.47004	0.005	0.503	0.503	584.6639	0.171	
Other Construction Equipment	2012	16	25	1.54875	1.301	5.56169	5.47004	0.005	0.503	0.503	584.6639	0.171	
Other Construction Equipment	2012	26	50	0.80724	0.765	6.95644	3.91674	0.005	0.548	0.548	531.3075	0.152	
Other Construction Equipment	2012	111	175	0.80724	0.616	6.91611	3.4829	0.005	0.363	0.363	530.8246	0.155	
Other Construction Equipment	2012	251	500	0.84869	0.886	5.4234	2.95715	0.005	0.206	0.206	538.246	0.155	
Other Construction Equipment	2013	6	15	1.571874	1.321	5.60561	5.57699	0.005	0.509	0.509	584.2671	0.171	
Other Construction Equipment	2013	16	25	1.571874	1.321	5.60561	5.57699	0.005	0.509	0.509	584.2671	0.171	
Other Construction Equipment	2013	26	50	1.571874	1.321	5.60561	5.57699	0.005	0.509	0.509	584.2671	0.171	
Other Construction Equipment	2013	111	175	0.80724	0.778	6.28661	3.42527	0.005	0.351	0.351	535.9857	0.152	
Other Construction Equipment	2013	251	500	0.849093	0.87	5.44511	2.79519	0.005	0.198	0.198	535.9857	0.152	
Other Construction Equipment	2014	6	15	1.547867	1.301	5.56546	5.60223	0.005	0.502	0.502	578.9991	0.171	
Other Construction Equipment	2014	16	25	1.547867	1.301	5.56546	5.60223	0.005	0.502	0.502	578.9991	0.171	
Other Construction Equipment	2014	26	50	0.848995	0.728	6.43262	3.90508	0.005	0.528	0.528	531.2887	0.152	
Other Construction Equipment	2014	111	175	0.819277	0.827	6.17181	3.38156	0.005	0.319	0.319	534.5164	0.152	
Other Construction Equipment	2014	251	500	0.819277	1.309	6.56027	2.47571	0.005	0.168	0.168	530.9844	0.154	
Other Construction Equipment	2015	6	15	1.577753	1.309	5.63979	5.68123	0.005	0.508	0.508	573.0208	0.171	
Other Construction Equipment	2015	16	25	1.577753	1.309	5.63979	5.68123	0.005	0.508	0.508	573.0208	0.171	
Other Construction Equipment	2015	26	50	0.800334	0.723	6.33649	3.9159	0.005	0.512	0.512	531.1706	0.152	
Other Construction Equipment	2015	111	175	0.80302	0.537	6.2505	3.38318	0.005	0.326	0.326	530.3889	0.152	
Other Construction Equipment	2015	251	500	0.800334	0.537	6.2505	3.38318	0.005	0.326	0.326	530.3889	0.152	
Other Construction Equipment	2016	6	15	1.524022	1.281	5.49921	5.67687	0.005	0.492	0.492	566.9702	0.171	
Other Construction Equipment	2016	16	25	1.524022	1.281	5.49921	5.67687	0.005	0.492	0.492	566.9702	0.171	
Other Construction Equipment	2016	26	50	1.524022	1.281	5.49921	5.67687	0.005	0.492	0.492	566.9702	0.171	
Other Construction Equipment	2016	111	175	0.814211	0.524	5.81873	3.36472	0.005	0.306	0.306	531.9641	0.152	
Other Construction Equipment	2016	251	500	0.814211	0.524	5.81873	3.36472	0.005	0.306	0.306	531.9641	0.152	
Other Construction Equipment	2017	6	15	1.480622	1.244	5.42066	5.65059	0.005	0.477	0.477	558.0007	0.171	
Other Construction Equipment	2017	16	25	1.480622	1.244	5.42066	5.65059	0.005	0.477	0.477	558.0007	0.171	
Other Construction Equipment	2017	26	50	0.804436	0.676	6.09995	3.85427	0.005	0.475	0.475	537.3812	0.154	
Other Construction Equipment	2017	111	175	0.805527	0.5	6.04261	3.33927	0.005	0.29	0.29	537.9911	0.152	
Other Construction Equipment	2018	6	15	1.9068	1.169	5.71761	5.54108	0.005	0.448	0.448	548.9388	0.171	
Other Construction Equipment	2018	16	25	1.9068	1.169	5.71761	5.54108	0.005	0.448	0.448	548.9388	0.171	
Other Construction Equipment	2018	26	50	1.9068	1.169	5.71761	5.54108	0.005	0.448	0.448	548.9388	0.171	
Other Construction Equipment	2018	111	175	0.813194	0.598	6.44227	3.78613	0.005	0.381	0.381	530.1914	0.153	
Other Construction Equipment	2018	251	500	0.813194	0.598	6.44227	3.78613	0.005	0.381	0.381	530.1914	0.153	
Other Construction Equipment	2019	6	15	1.370844	1.152	5.20318	5.54123	0.005	0.437	0.437	539.7349	0.171	
Other Construction Equipment	2019	16	25	1.370844	1.152	5.20318	5.54123	0.005	0.437	0.437	539.7349	0.171	
Other Construction Equipment	2019	26	50	1.370844	1.152	5.20318	5.54123	0.005	0.437	0.437	539.7349	0.171	
Other Construction Equipment	2019	111	175	0.800004	0.55	5.94813	3.7535	0.005	0.379	0.379	482.2177	0.153	
Other Construction Equipment	2019	251	500	0.800004	0.55	5.94813	3.7535	0.005	0.379	0.379	482.2177	0.153	
Other Construction Equipment	2020	6	15	1.760209	1.072	5.08265	5.40446	0.005	0.405	0.405	537.7656	0.171	
Other Construction Equipment	2020	16	25	1.760209	1.072	5.08265	5.40446	0.005	0.405	0.405	537.7656	0.171	
Other Construction Equipment	2020	26	50	1.760209	1.072	5.08265	5.40446	0.005	0.405	0.405	537.7656	0.171	
Other Construction Equipment	2020	111	175	0.818777	0.519	6.7712	3.71319	0.005	0.354	0.354	472.2382	0.153	
Other Construction Equipment	2020	251	500	0.818777	0.519	6.7712	3.71319	0.005	0.354	0.354	472.2382	0.153	
Other Construction Equipment	2021	6	15	1.604446	0.92	4.71117	5.16732	0.005	0.348	0.348	529.1825	0.171	
Other Construction Equipment	2021	16	25	1.604446	0.92	4.71117	5.16732	0.005	0.348	0.348	529.1825	0.171	
Other Construction Equipment	2021	26	50	1.604446	0.92	4.71117	5.16732	0.005	0.348	0.348	529.1825	0.171	
Other Construction Equipment	2021	111	175	0.813863	0.44	6.09884	3.66213	0.005	0.288	0.288	472.3178	0.153	
Other Construction Equipment	2021	251	500	0.813863	0.44	6.09884	3.66213	0.005	0.288	0.288	472.3178	0.153	
Other Construction Equipment	2022	6	15	1.694446	0.92	4.71117	5.16732	0.005	0.348	0.348	529.1825	0.171	
Other Construction Equipment	2022	16	25	1.694446	0.92	4.71117	5.16732	0.005	0.348	0.348	529.1825	0.171	
Other Construction Equipment	2022	26	50	1.694446	0.92	4.71117	5.16732	0.005	0.348	0.348	529.1825	0.171	
Other Construction Equipment	2022	111	175	0.811187	0.295	6.99471	3.15539	0.005	0.144	0.144	488.6126	0.154	
Other Construction Equipment	2022	251	500	0.811187	0.295	6.99471	3.15539	0.005	0.144	0.144	488.6126	0.154	
Other Construction Equipment	2023	6	15	1.609598	0.886	4.90446	5.07948	0.005	0.322	0.322	529.3389	0.171	
Other Construction Equipment	2023	16	25	1.609598	0.886	4.90446	5.07948	0.005	0.322	0.322	529.3389	0.171	
Other Construction Equipment	2023	26	50	1.609598	0.886	4.90446	5.07948	0.005	0.322	0.322	529.3389	0.171	
Other Construction Equipment	2023	111	175	0.814421	0.388	6.11203	3.25128	0.005	0.217	0.217	489.8817	0.154	
Other Construction Equipment	2023	251	500	0.814421	0.388	6.11203	3.25128	0.005	0.217	0.217	489.8817	0.154	
Other Construction Equipment	2024	6	15	1.501423	1.01	4.90294	5.30749	0.005	0.382	0.382	531.7814	0.171	
Other Construction Equipment	2024	16	25	1.501423	1.01	4.90294	5.30749	0.005	0.382	0.382	531.7814	0.171	
Other Construction Equipment	2024	26	50	1.501423	1.01	4.90294	5.30749	0.005	0.382	0.382	531.7814	0.171	
Other Construction Equipment	2024	111	175	0.813121	0.482	6.4538	3.70204	0.005	0.313	0.313	492.215	0.154	
Other Construction Equipment	2024	251	500	0.813121	0.482	6.4538	3.70204	0.005	0.313	0.313	492.215	0.154	
Other Construction Equipment	2025	6	15	1.694446	0.92	4.71117	5.16732	0.005	0.348	0.348	529.1825	0.171	

Year	Month	Day	Hour	PM10	PM2.5	CO	NOx	SO2	Ozone			
2011	12	15	175	0.102394	0.254	3.24746	3.2421	0.005	0.123	0.111	471.8903	0.153
2011	12	15	176	0.124448	0.204	2.0939	1.17138	0.005	0.07	0.064	471.2211	0.153
2011	12	15	177	0.132592	0.195	1.76224	1.22956	0.005	0.064	0.059	472.929	0.153
2011	12	15	178	0.137551	0.166	1.8827	1.48325	0.005	0.064	0.05	471.4638	0.153
2011	12	15	179	0.138265	0.276	4.87557	1.0291	0.005	0.12	0.11	472.0545	0.153
2011	12	15	180	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	1	15	181	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	1	16	182	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	1	17	183	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	1	18	184	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	1	19	185	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	1	20	186	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	1	21	187	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	1	22	188	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	1	23	189	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	1	24	190	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	1	25	191	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	1	26	192	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	1	27	193	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	1	28	194	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	1	29	195	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	1	30	196	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	1	31	197	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	1	198	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	2	199	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	3	200	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	4	201	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	5	202	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	6	203	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	7	204	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	8	205	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	9	206	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	10	207	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	11	208	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	12	209	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	13	210	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	14	211	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	15	212	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	16	213	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	17	214	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	18	215	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	19	216	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	20	217	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	21	218	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	22	219	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	23	220	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	24	221	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	25	222	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	26	223	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	27	224	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	28	225	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	29	226	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	30	227	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	2	31	228	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	1	229	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	2	230	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	3	231	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	4	232	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	5	233	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	6	234	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	7	235	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	8	236	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	9	237	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	10	238	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	11	239	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	12	240	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	13	241	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	14	242	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	15	243	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	16	244	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	17	245	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	18	246	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	19	247	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	20	248	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	21	249	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	22	250	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	23	251	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	24	252	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	25	253	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	26	254	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	27	255	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	28	256	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	29	257	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	30	258	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	3	31	259	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	4	1	260	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	4	2	261	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	4	3	262	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	4	4	263	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	4	5	264	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.1761	0.17
2012	4	6	265	0.133231	0.702	4.19687	5.07951	0.005	0.238	0.219	526.	

Pavers	2014	251	00	0141481	0.18	3.90734	1.00409	0.005	0.320	0.009	531.388	0.151
Pavers	2015	18	25	2.05076	1.83	5.63731	6.34019	0.005	0.379	0.133	571.089	0.17
Pavers	2015	26	50	2.05076	1.83	5.63731	6.34019	0.005	0.379	0.133	571.089	0.17
Pavers	2015	11	130	0.20163	0.68	6.4006	3.78632	0.007	0.441	0.09	509.267	0.153
Pavers	2015	121	175	0.182459	0.489	5.13669	3.11546	0.005	0.277	0.250	511.6457	0.153
Pavers	2015	176	250	0.16974	0.214	4.16051	1.01211	0.005	0.037	0.008	513.4682	0.153
Pavers	2015	201	500	0.109561	0.176	2.91741	0.97787	0.005	0.007	0.009	506.0973	0.151
Pavers	2016	16	25	2.174792	1.827	5.17882	6.19991	0.005	0.568	0.124	566.2131	0.17
Pavers	2016	26	50	2.174792	1.827	5.17882	6.19991	0.005	0.568	0.124	566.2131	0.17
Pavers	2016	51	120	0.173362	0.65	5.88646	3.78854	0.005	0.457	0.42	503.7795	0.152
Pavers	2016	176	250	0.154126	0.214	4.02384	1.03991	0.005	0.104	0.096	508.0688	0.153
Pavers	2016	201	500	0.110464	0.18	2.89493	1.0029	0.005	0.096	0.009	500.9364	0.151
Pavers	2017	18	25	2.059621	1.731	5.48276	6.19932	0.005	0.54	0.496	556.4528	0.17
Pavers	2017	26	50	2.059621	1.731	5.48276	6.19932	0.005	0.54	0.496	556.4528	0.17
Pavers	2017	51	120	0.174072	0.623	5.68243	3.75882	0.005	0.437	0.402	495.9213	0.151
Pavers	2017	176	250	0.148289	0.389	4.35312	1.06282	0.005	0.214	0.197	498.967	0.153
Pavers	2017	201	500	0.107923	0.208	3.89866	1.03652	0.005	0.1	0.009	499.1617	0.153
Pavers	2017	251	500	0.109378	0.168	2.86874	0.97942	0.005	0.087	0.08	491.7943	0.151
Pavers	2018	16	25	1.810355	1.539	5.12103	5.8493	0.005	0.478	0.44	547.6785	0.17
Pavers	2018	26	50	1.810355	1.539	5.12103	5.8493	0.005	0.478	0.44	547.6785	0.17
Pavers	2018	121	175	0.160099	0.339	3.7472	1.03913	0.005	0.183	0.168	491.122	0.153
Pavers	2018	176	250	0.135831	0.198	3.47428	1.03446	0.005	0.002	0.005	491.541	0.153
Pavers	2018	201	500	0.106447	0.164	2.92002	0.98125	0.005	0.081	0.076	484.2714	0.153
Pavers	2019	16	25	1.807029	1.438	4.91634	5.65687	0.005	0.436	0.401	538.2346	0.17
Pavers	2019	26	50	1.807029	1.438	4.91634	5.65687	0.005	0.436	0.401	538.2346	0.17
Pavers	2019	51	120	0.169904	0.496	4.37048	3.62215	0.005	0.345	0.318	480.2509	0.152
Pavers	2019	121	175	0.155588	0.299	3.24713	1.01213	0.005	0.189	0.146	481.2938	0.153
Pavers	2019	176	250	0.122293	0.187	3.11084	1.01811	0.005	0.084	0.077	483.1743	0.153
Pavers	2019	201	500	0.108213	0.166	2.9092	0.98386	0.005	0.082	0.075	476.7907	0.153
Pavers	2020	16	25	1.80718	1.338	4.79651	5.23465	0.005	0.402	0.37	526.2088	0.17
Pavers	2020	26	50	1.80718	1.338	4.79651	5.23465	0.005	0.402	0.37	526.2088	0.17
Pavers	2020	51	120	0.158949	0.47	4.07131	3.60405	0.005	0.326	0.299	486.8615	0.151
Pavers	2020	121	175	0.134615	0.273	2.91831	1.0097	0.005	0.142	0.131	472.7746	0.153
Pavers	2020	176	250	0.110526	0.176	2.77099	1.0384	0.005	0.07	0.07	473.8317	0.153
Pavers	2020	201	500	0.109499	0.165	2.71394	0.98677	0.005	0.077	0.071	466.2039	0.151
Pavers	2021	16	25	1.42708	1.208	4.01025	5.20261	0.005	0.37	0.34	526.5153	0.17
Pavers	2021	26	50	1.42708	1.208	4.01025	5.20261	0.005	0.37	0.34	526.5153	0.17
Pavers	2021	51	120	0.140935	0.42	4.02622	3.56291	0.005	0.285	0.262	489.7736	0.152
Pavers	2021	121	175	0.104153	0.256	4.0948	3.05647	0.005	0.13	0.12	475.2522	0.153
Pavers	2021	176	250	0.108999	0.165	2.4844	1.02422	0.005	0.107	0.084	472.4765	0.153
Pavers	2021	201	500	0.105105	0.164	2.62926	0.98077	0.005	0.08	0.08	465.5863	0.151
Pavers	2022	16	25	1.199052	1.092	4.42092	5.11433	0.005	0.33	0.303	536.8963	0.17
Pavers	2022	26	50	1.199052	1.092	4.42092	5.11433	0.005	0.33	0.303	536.8963	0.17
Pavers	2022	51	120	0.144951	0.373	3.69332	3.55111	0.005	0.248	0.228	470.1854	0.151
Pavers	2022	121	175	0.115688	0.215	2.17958	2.09478	0.005	0.104	0.095	472.7599	0.153
Pavers	2022	176	250	0.107123	0.14	1.89985	1.02121	0.005	0.051	0.05	486.6018	0.151
Pavers	2022	201	500	0.107845	0.11	1.83028	0.98238	0.005	0.063	0.058	488.0042	0.151
Pavers	2023	16	25	1.188118	1.007	4.28464	5.09667	0.005	0.299	0.275	526.8995	0.17
Pavers	2023	26	50	1.188118	1.007	4.28464	5.09667	0.005	0.299	0.275	526.8995	0.17
Pavers	2023	51	120	0.155607	0.348	3.45661	3.50733	0.005	0.238	0.228	470.8039	0.151
Pavers	2023	121	175	0.127199	0.199	1.95517	2.99398	0.005	0.082	0.08	472.7138	0.153
Pavers	2023	176	250	0.134288	0.13	1.6106	1.01018	0.005	0.047	0.043	472.6051	0.153
Pavers	2023	201	500	0.10964	0.122	1.77621	0.98623	0.005	0.042	0.04	466.6018	0.151
Pavers	2024	16	25	1.130978	0.95	4.20208	4.95625	0.005	0.279	0.257	526.8995	0.17
Pavers	2024	26	50	1.130978	0.95	4.20208	4.95625	0.005	0.279	0.257	526.8995	0.17
Pavers	2024	51	120	0.140111	0.337	3.2771	3.50794	0.005	0.213	0.196	470.2162	0.152
Pavers	2024	121	175	0.120916	0.191	1.88883	1.0042	0.005	0.084	0.079	473.6655	0.153
Pavers	2024	176	250	0.141954	0.119	1.84323	1.00872	0.005	0.041	0.038	473.2362	0.153
Pavers	2024	201	500	0.109789	0.143	1.84799	0.98824	0.005	0.054	0.049	467.1711	0.153
Pavers	2025	16	25	1.092919	0.958	4.13111	4.94451	0.005	0.26	0.241	482.6131	0.17
Pavers	2025	26	50	1.092919	0.958	4.13111	4.94451	0.005	0.26	0.241	482.6131	0.17
Pavers	2025	51	120	0.137454	0.314	3.06788	3.40289	0.005	0.175	0.175	469.888	0.151
Pavers	2025	121	175	0.137499	0.18	1.64936	1.0071	0.005	0.077	0.071	472.485	0.153
Pavers	2025	176	250	0.117944	0.107	1.65493	1.00414	0.005	0.041	0.041	473.4812	0.153
Pavers	2025	201	500	0.116633	0.115	1.13351	0.98892	0.005	0.039	0.036	461.8024	0.151
Pavers	2030	16	25	1.84	0.685	4.132	3.339	0.007	0.161	0.161	568.299	0.061
Pavers	2030	26	50	1.84	0.685	4.132	3.339	0.007	0.161	0.161	568.299	0.061
Pavers	2030	51	120	1.42	0.845	3.841	3.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	121	175	1.42	0.845	3.841	3.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	176	250	1.42	0.845	3.841	3.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	201	500	1.42	0.845	3.841	3.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	51	120	1.42	0.845	3.841	3.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	121	175	1.42	0.845	3.841	3.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	176	250	1.42	0.845	3.841	3.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	201	500	1.42	0.845	3.841	3.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	51	120	1.42	0.845	3.841	3.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	121	175	1.42	0.845	3.841	3.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	176	250	1.42	0.845	3.841	3.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	201	500	1.42	0.845	3.841	3.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	51	120	1.42	0.845	3.841	3.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	121	175	1.42	0.845	3.841	3.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	176	250	1.42	0.845	3.841	3.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	201	500	1.42	0.845	3.841	3.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	51	120	1.42	0.845	3.841	3.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	121	175	1.42	0.845	3.841	3.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	176	250	1.42	0.845	3.841	3.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	201	500	1.42	0.845	3.841	3.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	51	120	1.42	0.845	3.841	3.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	121	175	1.42	0.845	3.841	3.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	176	250	1.42	0.845	3.841	3.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	201	500	1.42	0.845	3.841	3.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	51	120	1.42	0.845	3.841	3.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	121	175	1.42	0.845	3.841	3.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	1										

Pressure Washers	2012	4	15	3,183	0.863	5,874	1,874	0.008	0.338	0.338	568.299	0.079
Pressure Washers	2012	16	25	3,564	0.884	5,239	3,043	0.007	0.307	0.307	568.299	0.079
Pressure Washers	2012	26	50	30,983	1.363	5,306	4,238	0.007	0.402	0.402	568.299	0.121
Pressure Washers	2012	51	120	35,437	0.777	5,178	3,431	0.006	0.4	0.4	568.299	0.069
Pressure Washers	2012	121	175	35,56	0.551	5,109	2,941	0.006	0.244	0.244	568.299	0.049
Pressure Washers	2012	176	250	31,837	0.175	5,749	3,986	0.006	0.046	0.046	568.299	0.013
Pressure Washers	2013	4	15	2,7	0.823	5,616	3,796	0.008	0.318	0.318	568.299	0.074
Pressure Washers	2013	16	25	3,431	0.851	5,117	2,907	0.007	0.289	0.289	568.299	0.074
Pressure Washers	2013	26	50	4,897	1.258	5,086	4,092	0.007	0.367	0.367	568.299	0.111
Pressure Washers	2013	51	120	8,523	0.701	5,226	3,399	0.006	0.366	0.366	568.299	0.063
Pressure Washers	2013	121	175	8,263	0.515	4,803	2,915	0.006	0.229	0.229	568.299	0.046
Pressure Washers	2013	176	250	12,508	0.154	5,468	3,986	0.006	0.021	0.021	568.299	0.013
Pressure Washers	2014	4	15	3,16	0.793	5,369	3,723	0.008	0.298	0.298	568.299	0.071
Pressure Washers	2014	16	25	3,308	0.821	5	2,78	0.007	0.272	0.272	568.299	0.074
Pressure Washers	2014	26	50	8,833	0.96	4,873	3,913	0.007	0.322	0.322	568.299	0.088
Pressure Washers	2014	51	120	8,168	0.634	4,812	3,367	0.006	0.332	0.332	568.299	0.057
Pressure Washers	2014	121	175	30,292	0.469	4,513	2,923	0.006	0.206	0.206	568.299	0.047
Pressure Washers	2014	176	250	11,167	0.137	5,067	3,986	0.006	0.018	0.018	568.299	0.012
Pressure Washers	2015	4	15	2,059	0.747	5,141	3,657	0.008	0.28	0.28	568.299	0.067
Pressure Washers	2015	16	25	3,196	0.793	4,89	2,466	0.007	0.256	0.256	568.299	0.071
Pressure Washers	2015	26	50	7,868	0.976	4,885	3,833	0.007	0.3	0.3	568.299	0.084
Pressure Washers	2015	51	120	7,703	0.567	4,511	2,78	0.006	0.297	0.297	568.299	0.051
Pressure Washers	2015	121	175	27,567	0.427	4,115	2,917	0.006	0.187	0.187	568.299	0.038
Pressure Washers	2015	176	250	9,884	0.121	5,69	3,986	0.006	0.01	0.01	568.299	0.011
Pressure Washers	2016	4	15	1,96	0.72	4,978	3,623	0.008	0.264	0.264	568.299	0.065
Pressure Washers	2016	16	25	3,116	0.773	4,803	2,804	0.007	0.244	0.244	568.299	0.069
Pressure Washers	2016	26	50	8,97	0.865	4,515	3,728	0.007	0.269	0.269	568.299	0.073
Pressure Washers	2016	51	120	8,339	0.504	4,209	3,308	0.006	0.264	0.264	568.299	0.045
Pressure Washers	2016	121	175	24,906	0.386	3,726	2,923	0.006	0.168	0.168	568.299	0.034
Pressure Washers	2016	176	250	8,667	0.107	3,999	3,986	0.006	0.009	0.009	568.299	0.009
Pressure Washers	2017	4	15	1,927	0.699	4,847	3,599	0.008	0.25	0.25	568.299	0.063
Pressure Washers	2017	16	25	3,051	0.757	4,729	2,564	0.007	0.219	0.219	568.299	0.068
Pressure Washers	2017	26	50	6,126	0.736	4,355	3,623	0.007	0.24	0.24	568.299	0.064
Pressure Washers	2017	51	120	6,031	0.444	4,888	3,263	0.006	0.218	0.218	568.299	0.04
Pressure Washers	2017	121	175	22,349	0.346	3,349	2,51	0.006	0.149	0.149	568.299	0.031
Pressure Washers	2017	176	250	8,238	0.103	3,217	3,986	0.006	0.009	0.009	568.299	0.009
Pressure Washers	2018	4	15	1,874	0.679	4,728	3,58	0.008	0.237	0.237	568.299	0.061
Pressure Washers	2018	16	25	2,997	0.744	4,861	2,511	0.007	0.224	0.224	568.299	0.067
Pressure Washers	2018	26	50	5,132	0.661	4,022	3,142	0.006	0.212	0.212	568.299	0.059
Pressure Washers	2018	51	120	5,276	0.388	3,584	3,30	0.006	0.203	0.203	568.299	0.037
Pressure Washers	2018	121	175	31,96	0.309	3,989	3,986	0.006	0.132	0.132	568.299	0.027
Pressure Washers	2018	176	250	8,072	0.099	3,277	3,986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2019	4	15	1,824	0.662	4,627	3,529	0.008	0.234	0.234	568.299	0.066
Pressure Washers	2019	16	25	2,947	0.711	4,596	2,505	0.007	0.214	0.214	568.299	0.064
Pressure Washers	2019	26	50	5,565	0.599	4,053	3,457	0.006	0.184	0.184	568.299	0.051
Pressure Washers	2019	51	120	4,575	0.337	3,295	3,24	0.006	0.174	0.174	568.299	0.031
Pressure Washers	2019	121	175	38,102	0.28	2,67	2,907	0.006	0.117	0.117	568.299	0.025
Pressure Washers	2019	176	250	8,005	0.086	3,265	3,986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2020	4	15	1,78	0.646	4,516	3,546	0.008	0.212	0.212	568.299	0.061
Pressure Washers	2020	16	25	2,904	0.721	4,538	2,473	0.007	0.205	0.205	568.299	0.068
Pressure Washers	2020	26	50	4,025	0.499	3,917	3,393	0.007	0.161	0.161	568.299	0.045
Pressure Washers	2020	51	120	4,048	0.298	3,056	2,225	0.006	0.151	0.151	568.299	0.026
Pressure Washers	2020	121	175	36,638	0.258	2,383	2,907	0.006	0.104	0.104	568.299	0.023
Pressure Washers	2020	176	250	8,005	0.086	3,265	3,986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2021	4	15	1,747	0.634	4,441	3,511	0.008	0.201	0.201	568.299	0.057
Pressure Washers	2021	16	25	2,87	0.712	4,497	2,446	0.007	0.196	0.196	568.299	0.064
Pressure Washers	2021	26	50	4,542	0.439	3,795	3,328	0.007	0.161	0.161	568.299	0.041
Pressure Washers	2021	51	120	3,192	0.264	2,766	3,31	0.006	0.139	0.139	568.299	0.032
Pressure Washers	2021	121	175	31,389	0.238	2,118	2,907	0.006	0.093	0.093	568.299	0.021
Pressure Washers	2021	176	250	8,005	0.086	3,265	3,986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2022	4	15	1,725	0.626	4,39	3,519	0.008	0.193	0.193	568.299	0.056
Pressure Washers	2022	16	25	2,847	0.706	4,47	2,426	0.007	0.188	0.188	568.299	0.062
Pressure Washers	2022	26	50	3,213	0.398	3,649	2,91	0.007	0.117	0.117	568.299	0.035
Pressure Washers	2022	51	120	3,281	0.241	2,56	2,302	0.006	0.112	0.112	568.299	0.021
Pressure Washers	2022	121	175	34,232	0.211	1,871	2,907	0.006	0.082	0.082	568.299	0.019
Pressure Washers	2022	176	250	8,005	0.086	3,265	3,986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2023	4	15	1,706	0.618	4,345	3,508	0.008	0.186	0.186	568.299	0.055
Pressure Washers	2023	16	25	2,827	0.701	4,447	2,407	0.007	0.182	0.182	568.299	0.062
Pressure Washers	2023	26	50	2,928	0.363	3,541	3,30	0.007	0.101	0.101	568.299	0.032
Pressure Washers	2023	51	120	3,012	0.222	2,377	3,196	0.006	0.097	0.097	568.299	0.021
Pressure Washers	2023	121	175	34,244	0.205	1,660	2,907	0.006	0.077	0.077	568.299	0.008
Pressure Washers	2023	176	250	8,005	0.086	3,265	3,986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2024	4	15	1,689	0.612	4,305	3,499	0.008	0.181	0.181	568.299	0.051
Pressure Washers	2024	16	25	2,811	0.697	4,426	2,39	0.007	0.178	0.178	568.299	0.062
Pressure Washers	2024	26	50	2,885	0.313	3,441	2,313	0.007	0.087	0.087	568.299	0.031
Pressure Washers	2024	51	120	2,78	0.204	2,229	3,191	0.006	0.084	0.084	568.299	0.018
Pressure Washers	2024	121	175	31,332	0.191	1,482	2,907	0.006	0.062	0.062	568.299	0.017
Pressure Washers	2024	176	250	8,005	0.086	3,265	3,986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2025	4	15	1,674	0.607	4,269	3,491	0.008	0.178	0.178	568.299	0.054
Pressure Washers	2025	16	25	2,797	0.694	4,407	2,376	0.007	0.175	0.175	568.299	0.061
Pressure Washers	2025	26	50	2,472	0.306	3,344	3,31	0.007	0.075	0.075	568.299	0.027
Pressure Washers	2025	51	120	2,175	0.189	2,1	3,188	0.006	0.072	0.072	568.299	0.017
Pressure Washers	2025	121	175	31,476	0.178	1,31	2,907	0.006	0.053	0.053	568.299	0.014
Pressure Washers	2025	176	250	8,005	0.086	3,265	3,986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2026	4	15	1,62	0.592	4,164	3,47	0.008	0.166	0.166	568.299	0.051
Pressure Washers	2026	16	25	2,766	0.686	4,347	2,334	0.007	0.165	0.165	568.299	0.061
Pressure Washers	2026	26	50	2,785	0.215	3,089	3,124	0.007	0.031	0.031	568.299	0.019
Pressure Washers	2026	51	120	1,821	0.134	1,594	1,167	0.006	0.028	0.028	568.299	0.012
Pressure Washers	2026	121	175	31,778	0.126	1,039	1,907	0.006	0.023	0.023	568.299	0.008
Pressure Washers	2026	176	250	8,005	0.086	3,265	3,986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2027	4	15	1,604	0.589	4,143	3,417	0.008	0.162	0.162	568.299	0.051
Pressure Washers	2027	16	25	2,761	0.685	4,332	2,34	0.007	0.162	0.162	568.299	0.061
Pressure Washers	2027	26	50	2,515	0.188	2,882	3,101	0.007	0.051	0.051	568.299	0.014
Pressure Washers	2027	51	120	1,16	0.116	1,421	1,161	0.006	0.044	0.044	568.299	0.011
Pressure Washers	2027	121	175	30,52	0.109	0,382	2,907	0.006	0.033	0.033	568.299	0.009
Pressure Washers	2027	176	250	8,005	0.086	3,26						



Pumps	2023	16	25	6.105	0.728	4.447	7.407	0.007	0.188	0.188	568.299	0.006
Pumps	2023	26	50	5.899	0.565	3.734	4.007	0.007	0.133	0.133	568.299	0.001
Pumps	2023	51	120	6.838	0.299	2.511	3.398	0.006	0.123	0.123	568.299	0.026
Pumps	2023	117	175	6.189	0.227	1.620	1.971	0.006	0.075	0.075	568.299	0.001
Pumps	2023	176	250	10.47	0.177	1.351	1.021	0.006	0.04	0.04	568.299	0.015
Pumps	2023	301	500	17.411	0.171	1.246	0.998	0.005	0.038	0.038	568.299	0.001
Pumps	2023	501	750	28.971	0.173	1.271	0.998	0.005	0.039	0.039	568.299	0.015
Pumps	2023	1001	9999	82.123	0.207	1.33	1.041	0.006	0.039	0.039	568.299	0.048
Pumps	2024	6	15	1.503	0.68	4.163	4.814	0.007	0.188	0.188	568.299	0.051
Pumps	2024	16	25	4.107	0.728	4.426	7.39	0.007	0.181	0.181	568.299	0.064
Pumps	2024	26	50	3.722	0.523	3.83	3.974	0.007	0.148	0.148	568.299	0.047
Pumps	2024	51	120	6.391	0.279	2.352	3.393	0.006	0.107	0.107	568.299	0.025
Pumps	2024	117	175	6.769	0.213	1.486	1.973	0.006	0.065	0.065	568.299	0.009
Pumps	2024	176	250	9.948	0.168	1.189	1.018	0.006	0.034	0.034	568.299	0.015
Pumps	2024	301	500	16.61	0.164	1.098	0.994	0.005	0.031	0.031	568.299	0.004
Pumps	2024	501	750	27.614	0.164	1.12	0.994	0.005	0.034	0.034	568.299	0.014
Pumps	2024	1001	9999	70.184	0.196	1.296	1.031	0.005	0.034	0.034	568.299	0.037
Pumps	2025	6	15	1.488	0.683	4.278	4.81	0.007	0.183	0.183	568.299	0.051
Pumps	2025	16	25	4.058	0.709	4.407	7.376	0.007	0.177	0.177	568.299	0.064
Pumps	2025	26	50	3.891	0.485	3.528	3.943	0.007	0.099	0.099	568.299	0.044
Pumps	2025	51	120	5.988	0.261	2.213	3.389	0.006	0.092	0.092	568.299	0.023
Pumps	2025	117	175	6.209	0.199	1.318	1.974	0.006	0.056	0.056	568.299	0.008
Pumps	2025	176	250	9.449	0.159	1.038	1.016	0.006	0.029	0.029	568.299	0.014
Pumps	2025	301	500	15.837	0.156	0.958	0.992	0.005	0.028	0.028	568.299	0.014
Pumps	2025	501	750	26.308	0.157	0.977	0.992	0.005	0.029	0.029	568.299	0.014
Pumps	2025	1001	9999	74.054	0.186	1.24	1.02	0.005	0.049	0.049	568.299	0.056
Pumps	2030	6	15	1.445	0.663	4.164	4.87	0.008	0.166	0.166	568.299	0.059
Pumps	2030	16	25	3.928	0.687	4.347	7.34	0.007	0.165	0.165	568.299	0.061
Pumps	2030	26	50	3.513	0.348	3.146	3.814	0.007	0.04	0.04	568.299	0.031
Pumps	2030	51	120	4.416	0.193	1.862	3.867	0.006	0.036	0.036	568.299	0.017
Pumps	2030	117	175	5.842	0.142	0.61	2.973	0.006	0.024	0.024	568.299	0.022
Pumps	2030	176	250	7.699	0.13	0.511	1.021	0.006	0.016	0.016	568.299	0.011
Pumps	2030	301	500	11.115	0.129	0.482	0.989	0.005	0.016	0.016	568.299	0.011
Pumps	2030	501	750	21.709	0.129	0.488	0.989	0.005	0.016	0.016	568.299	0.011
Pumps	2030	1001	9999	55.475	0.139	0.504	0.99	0.005	0.03	0.03	568.299	0.012
Pumps	2035	6	15	1.44	0.663	4.143	4.869	0.008	0.166	0.166	568.299	0.059
Pumps	2035	16	25	3.919	0.685	4.312	7.34	0.007	0.162	0.162	568.299	0.061
Pumps	2035	26	50	3.889	0.306	3.028	3.778	0.007	0.029	0.029	568.299	0.027
Pumps	2035	51	120	4.881	0.17	1.47	3.8	0.006	0.024	0.024	568.299	0.011
Pumps	2035	117	175	5.209	0.123	0.377	2.973	0.006	0.014	0.014	568.299	0.007
Pumps	2035	176	250	7.07	0.119	0.335	1.021	0.006	0.015	0.015	568.299	0.01
Pumps	2035	301	500	12.118	0.119	0.331	0.989	0.005	0.011	0.011	568.299	0.01
Pumps	2035	501	750	20.934	0.119	0.331	0.989	0.005	0.011	0.011	568.299	0.011
Pumps	2035	1001	9999	49.373	0.124	0.338	0.989	0.005	0.023	0.023	568.299	0.015
Pumps	2040	6	15	1.44	0.663	4.142	4.869	0.008	0.166	0.166	568.299	0.059
Pumps	2040	16	25	3.919	0.685	4.312	7.339	0.007	0.161	0.161	568.299	0.061
Pumps	2040	26	50	3.056	0.303	2.976	3.77	0.007	0.023	0.023	568.299	0.027
Pumps	2040	51	120	3.777	0.161	1.41	3.308	0.006	0.016	0.016	568.299	0.011
Pumps	2040	117	175	4.771	0.116	0.295	2.971	0.006	0.01	0.01	568.299	0.011
Pumps	2040	176	250	6.779	0.114	0.279	1.021	0.006	0.009	0.009	568.299	0.011
Pumps	2040	301	500	11.622	0.114	0.279	0.989	0.005	0.009	0.009	568.299	0.011
Pumps	2040	501	750	21.224	0.114	0.279	0.989	0.005	0.009	0.009	568.299	0.011
Pumps	2040	1001	9999	46.343	0.116	0.247	0.989	0.005	0.02	0.02	568.299	0.01
Refiners	1990	6	15	7.421	1.804	9.999	4.999	1.849	0.975	0.975	568.299	0.162
Refiners	1990	16	25	6.903	1.211	6.989	4.999	0.851	0.741	0.741	568.299	0.199
Refiners	1990	26	50	46.466	4.738	7.927	9.938	0.871	1.256	1.256	568.299	0.427
Refiners	1990	51	120	51.677	2.372	5.111	5.754	0.791	1.332	1.332	568.299	0.214
Refiners	1990	117	175	71.451	1.889	14.858	11.616	0.718	1.046	1.046	568.299	0.17
Refiners	1990	176	250	86.808	1.889	14.858	11.616	0.718	1.046	1.046	568.299	0.17
Refiners	1990	301	500	105.091	1.669	14.101	11.266	0.642	0.896	0.896	568.299	0.15
Refiners	2000	6	15	3.444	1.475	8.242	4.49	0.979	0.678	0.678	568.299	0.133
Refiners	2000	16	25	3.681	1.054	5.358	4.53	0.646	0.563	0.563	568.299	0.174
Refiners	2000	26	50	36.643	4.027	6.941	6.379	0.646	0.884	0.884	568.299	0.363
Refiners	2000	51	120	40.862	1.791	6.424	4.581	0.646	0.844	0.844	568.299	0.369
Refiners	2000	117	175	46.347	1.31	9.301	3.749	0.657	0.303	0.303	568.299	0.391
Refiners	2000	176	250	49.24	1.047	9.211	3.108	0.657	0.427	0.427	568.299	0.394
Refiners	2000	301	500	77.413	0.956	8.821	5.254	0.65	0.379	0.379	568.299	0.386
Refiners	2005	6	15	3.788	0.768	5.228	4.483	0.976	0.361	0.361	568.299	0.086
Refiners	2005	16	25	4.53	0.933	5.412	2.642	0.665	0.347	0.347	568.299	0.082
Refiners	2005	26	50	34.997	3.647	6.11	7.844	0.666	0.808	0.808	568.299	0.329
Refiners	2005	51	120	34.946	1.561	6.963	4.289	0.66	0.79	0.79	568.299	0.344
Refiners	2005	117	175	40.834	1.023	6.18	3.44	0.657	0.441	0.441	568.299	0.392
Refiners	2005	176	250	44.944	0.768	6.822	2.262	0.657	0.319	0.319	568.299	0.371
Refiners	2005	301	500	56.466	0.697	7.196	1.183	0.65	0.282	0.282	568.299	0.362
Refiners	2010	6	15	3.67329	0.776	5.08863	5.19619	0.005	0.518	0.476	568.4125	0.17
Refiners	2010	16	25	3.63729	1.376	5.08863	5.19619	0.005	0.518	0.476	568.4125	0.17
Refiners	2010	26	50	3.63729	1.376	5.08863	5.19619	0.005	0.518	0.476	568.4125	0.17
Refiners	2010	51	120	3.63729	1.376	5.08863	5.19619	0.005	0.518	0.476	568.4125	0.17
Refiners	2010	117	175	3.63729	1.376	5.08863	5.19619	0.005	0.518	0.476	568.4125	0.17
Refiners	2010	176	250	3.63729	1.376	5.08863	5.19619	0.005	0.518	0.476	568.4125	0.17
Refiners	2010	301	500	3.63729	1.376	5.08863	5.19619	0.005	0.518	0.476	568.4125	0.17
Refiners	2011	6	15	3.63729	1.376	5.08863	5.19619	0.005	0.518	0.476	568.4125	0.17
Refiners	2011	16	25	3.63729	1.376	5.08863	5.19619	0.005	0.518	0.476	568.4125	0.17
Refiners	2011	26	50	3.63729	1.376	5.08863	5.19619	0.005	0.518	0.476	568.4125	0.17
Refiners	2011	51	120	3.63729	1.376	5.08863	5.19619	0.005	0.518	0.476	568.4125	0.17
Refiners	2011	117	175	3.63729	1.376	5.08863	5.19619	0.005	0.518	0.476	568.4125	0.17
Refiners	2011	176	250	3.63729	1.376	5.08863	5.19619	0.005	0.518	0.476	568.4125	0.17
Refiners	2011	301	500	3.63729	1.376	5.08863	5.19619	0.005	0.518	0.476	568.4125	0.17
Refiners	2012	6	15	3.63729	1.376	5.08863	5.19619	0.005	0.518	0.476	568.4125	0.17
Refiners	2012	16	25	3.63729	1.376	5.08863	5.19619	0.005	0.518	0.476	568.4125	0.17
Refiners	2012	26	50	3.63729	1.376	5.08863	5.19619	0.005	0.518	0.476	568.4125	0.17
Refiners	2012	51	120	3.63729	1.376	5.08863	5.19619	0.005	0.518	0.476	568.4125	0.17
Refiners	2012	117	175	3.63729	1.376	5.08863	5.19619	0.005	0.518	0.476	568.4125	0.17
Refiners	2012	176	250	3.63729	1.376	5.08863	5.19619	0.005	0.518	0.476	568.4125	0.17
Refiners	2012	301	500	3.63729	1.376	5.08863	5.19619	0.005	0.518	0.476	568.4125	0.17
Refiners												



Rubber Tires Loaders	2011	121	175	0.078141	0.055	8.0978	3.58315	0.005	0.341	0.133	345.407	0.152
Rubber Tires Loaders	2011	176	250	0.482342	0.405	5.9027	1.47886	0.005	0.183	0.169	568.9127	0.152
Rubber Tires Loaders	2015	251	500	0.649223	0.415	5.0195	2.33208	0.005	0.19	0.174	506.3733	0.152
Rubber Tires Loaders	2015	501	1000	0.649223	0.395	4.5523	1.79628	0.005	0.179	0.181	510.0449	0.152
Rubber Tires Loaders	2015	751	1500	0.649223	0.42	6.7162	1.46167	0.005	0.197	0.181	510.0449	0.152
Rubber Tires Loaders	2016	16	35	2.44921	2.055	6.0258	7.79111	0.005	0.66	0.607	561.9032	0.169
Rubber Tires Loaders	2016	26	50	2.44921	2.055	6.0258	7.79111	0.005	0.66	0.607	561.9032	0.169
Rubber Tires Loaders	2016	51	100	0.01014	0.003	6.0334	4.2123	0.005	0.061	0.132	499.0931	0.151
Rubber Tires Loaders	2016	111	175	0.2521	0.262	5.7556	3.62636	0.005	0.159	0.206	405.1338	0.152
Rubber Tires Loaders	2016	176	250	0.482342	0.393	5.1151	1.42122	0.005	0.174	0.16	503.6542	0.152
Rubber Tires Loaders	2016	251	500	0.649223	0.404	4.7411	1.46404	0.005	0.183	0.169	504.6314	0.151
Rubber Tires Loaders	2016	501	1000	0.649223	0.373	4.1765	1.70263	0.005	0.164	0.151	491.9183	0.148
Rubber Tires Loaders	2016	751	1500	0.649223	0.395	4.5523	1.79628	0.005	0.179	0.181	510.0449	0.152
Rubber Tires Loaders	2017	18	25	2.12864	1.957	5.9377	7.69933	0.005	0.633	0.582	533.3811	0.17
Rubber Tires Loaders	2017	26	50	2.12864	1.957	5.9377	7.69933	0.005	0.633	0.582	533.3811	0.17
Rubber Tires Loaders	2017	51	100	0.008482	0.757	6.23569	4.17083	0.005	0.133	0.487	491.8511	0.151
Rubber Tires Loaders	2017	111	175	0.02054	0.522	5.19252	3.1575	0.005	0.289	0.266	497.3533	0.152
Rubber Tires Loaders	2017	176	250	0.482342	0.372	4.74743	1.41212	0.005	0.162	0.149	493.2089	0.152
Rubber Tires Loaders	2017	251	500	0.649223	0.369	4.2314	2.00646	0.005	0.16	0.147	492.2754	0.151
Rubber Tires Loaders	2017	501	1000	0.649223	0.367	4.5068	1.70044	0.005	0.16	0.147	492.2754	0.151
Rubber Tires Loaders	2017	751	1500	0.649223	0.414	6.15129	1.45441	0.005	0.192	0.176	496.8966	0.152
Rubber Tires Loaders	2018	16	25	2.105235	1.765	5.7925	7.29915	0.005	0.576	0.53	545.0529	0.17
Rubber Tires Loaders	2018	26	50	2.105235	1.765	5.7925	7.29915	0.005	0.576	0.53	545.0529	0.17
Rubber Tires Loaders	2018	51	100	0.778656	0.655	5.47021	4.04742	0.005	0.462	0.436	484.0911	0.151
Rubber Tires Loaders	2018	111	175	0.131198	0.468	4.9844	3.42162	0.005	0.242	0.223	489.5114	0.152
Rubber Tires Loaders	2018	176	250	0.482342	0.333	4.31131	1.34644	0.005	0.14	0.129	487.9023	0.152
Rubber Tires Loaders	2018	251	500	0.649223	0.334	3.70621	1.84687	0.005	0.14	0.128	484.8209	0.151
Rubber Tires Loaders	2018	501	1000	0.649223	0.311	3.1437	1.55549	0.005	0.14	0.129	476.5663	0.148
Rubber Tires Loaders	2018	751	1500	0.649223	0.336	4.57121	1.21289	0.005	0.164	0.142	488.4037	0.152
Rubber Tires Loaders	2018	1001	1500	0.649223	0.336	4.57121	1.21289	0.005	0.164	0.142	488.4037	0.152
Rubber Tires Loaders	2018	16	25	1.906195	1.602	5.4193	6.97789	0.005	0.518	0.476	536.2214	0.17
Rubber Tires Loaders	2018	26	50	1.906195	1.602	5.4193	6.97789	0.005	0.518	0.476	536.2214	0.17
Rubber Tires Loaders	2018	51	100	0.90265	1.622	5.4193	6.97789	0.005	0.518	0.476	536.2214	0.17
Rubber Tires Loaders	2018	111	175	0.482139	0.405	3.09121	3.38094	0.005	0.213	0.196	481.7394	0.152
Rubber Tires Loaders	2018	176	250	0.482139	0.309	3.74611	1.30248	0.005	0.126	0.109	480.0907	0.151
Rubber Tires Loaders	2018	251	500	0.649223	0.306	3.2975	1.7248	0.005	0.123	0.113	477.0451	0.151
Rubber Tires Loaders	2018	501	1000	0.649223	0.293	2.8875	1.45157	0.005	0.126	0.109	471.1874	0.149
Rubber Tires Loaders	2018	751	1500	0.649223	0.323	3.4926	1.20834	0.005	0.146	0.134	480.513	0.152
Rubber Tires Loaders	2019	16	25	1.791911	1.48	5.2369	6.76793	0.005	0.474	0.436	534.7914	0.17
Rubber Tires Loaders	2019	26	50	1.791911	1.48	5.2369	6.76793	0.005	0.474	0.436	534.7914	0.17
Rubber Tires Loaders	2019	51	100	0.661111	0.558	4.0864	3.94839	0.005	0.367	0.339	485.6735	0.151
Rubber Tires Loaders	2019	111	175	0.490668	0.379	3.11731	3.38089	0.005	0.194	0.178	471.2135	0.151
Rubber Tires Loaders	2019	176	250	0.493699	0.29	3.42116	1.24885	0.005	0.114	0.104	469.5127	0.152
Rubber Tires Loaders	2019	251	500	0.649223	0.289	2.95665	1.6284	0.005	0.112	0.105	466.709	0.152
Rubber Tires Loaders	2019	501	1000	0.649223	0.277	2.7672	1.39991	0.005	0.107	0.099	462.193	0.149
Rubber Tires Loaders	2019	751	1500	0.649223	0.311	3.5259	1.20565	0.005	0.127	0.117	469.5127	0.152
Rubber Tires Loaders	2019	1001	1500	0.649223	0.311	3.5259	1.20565	0.005	0.127	0.117	469.5127	0.152
Rubber Tires Loaders	2019	16	25	1.571749	1.335	4.97429	6.44855	0.005	0.409	0.376	524.5505	0.17
Rubber Tires Loaders	2019	26	50	1.571749	1.335	4.97429	6.44855	0.005	0.409	0.376	524.5505	0.17
Rubber Tires Loaders	2019	51	100	0.870259	0.468	4.9844	3.42162	0.005	0.242	0.223	489.5114	0.152
Rubber Tires Loaders	2019	111	175	0.481896	0.346	3.11893	3.31381	0.005	0.171	0.157	471.0904	0.152
Rubber Tires Loaders	2019	176	250	0.481896	0.266	2.4977	1.24024	0.005	0.1	0.092	468.4037	0.152
Rubber Tires Loaders	2019	251	500	0.649223	0.264	2.61037	1.57922	0.005	0.097	0.09	467.9277	0.151
Rubber Tires Loaders	2019	501	1000	0.649223	0.271	2.44001	1.37073	0.005	0.102	0.094	463.5568	0.149
Rubber Tires Loaders	2019	751	1500	0.649223	0.294	4.97489	1.2055	0.005	0.128	0.118	471.2577	0.152
Rubber Tires Loaders	2019	1001	1500	0.649223	0.294	4.97489	1.2055	0.005	0.128	0.118	471.2577	0.152
Rubber Tires Loaders	2020	16	25	1.462641	1.179	4.74812	6.20445	0.005	0.354	0.326	534.7914	0.17
Rubber Tires Loaders	2020	26	50	1.462641	1.179	4.74812	6.20445	0.005	0.354	0.326	534.7914	0.17
Rubber Tires Loaders	2020	51	100	0.523774	0.44	3.7484	3.83931	0.005	0.297	0.245	486.4936	0.151
Rubber Tires Loaders	2020	111	175	0.50075	0.295	2.5181	3.82028	0.005	0.188	0.178	470.2754	0.151
Rubber Tires Loaders	2020	176	250	0.493699	0.236	2.46991	1.188	0.005	0.079	0.072	469.9041	0.152
Rubber Tires Loaders	2020	251	500	0.649223	0.227	2.17252	1.441	0.005	0.084	0.075	468.2284	0.151
Rubber Tires Loaders	2020	501	1000	0.649223	0.233	2.0971	1.31124	0.005	0.08	0.074	463.8194	0.15
Rubber Tires Loaders	2020	751	1500	0.649223	0.233	2.0971	1.31124	0.005	0.08	0.074	463.8194	0.15
Rubber Tires Loaders	2020	1001	1500	0.649223	0.233	2.0971	1.31124	0.005	0.08	0.074	463.8194	0.15
Rubber Tires Loaders	2020	16	25	1.487484	1.049	4.52111	5.97271	0.005	0.366	0.279	524.5505	0.17
Rubber Tires Loaders	2020	26	50	1.487484	1.049	4.52111	5.97271	0.005	0.366	0.279	524.5505	0.17
Rubber Tires Loaders	2020	51	100	0.49027	0.412	3.11813	3.42678	0.005	0.238	0.216	476.5663	0.151
Rubber Tires Loaders	2020	111	175	0.510411	0.249	2.19585	3.29198	0.005	0.118	0.108	470.4601	0.152
Rubber Tires Loaders	2020	176	250	0.493699	0.231	2.09661	1.17136	0.005	0.085	0.083	468.4037	0.152
Rubber Tires Loaders	2020	251	500	0.649223	0.217	1.86229	1.38396	0.005	0.086	0.084	466.466	0.152
Rubber Tires Loaders	2020	501	1000	0.649223	0.226	1.87778	1.23287	0.005	0.089	0.089	464.563	0.15
Rubber Tires Loaders	2020	751	1500	0.649223	0.226	1.87778	1.23287	0.005	0.089	0.089	464.563	0.15
Rubber Tires Loaders	2020	1001	1500	0.649223	0.226	1.87778	1.23287	0.005	0.089	0.089	464.563	0.15
Rubber Tires Loaders	2020	16	25	1.205113	1.009	4.48751	5.88888	0.005	0.286	0.263	534.2299	0.17
Rubber Tires Loaders	2020	26	50	1.205113	1.009	4.48751	5.88888	0.005	0.286	0.263	534.2299	0.17
Rubber Tires Loaders	2020	51	100	0.472864	0.397	3.13893	3.33209	0.005	0.22	0.203	466.8084	0.151
Rubber Tires Loaders	2020	111	175	0.472864	0.246	2.48303	3.28213	0.005	0.1	0.092	470.3567	0.152
Rubber Tires Loaders	2020	176	250	0.493699	0.197	1.80598	1.1607	0.005	0.08	0.076	469.7975	0.152
Rubber Tires Loaders	2020	251	500	0.649223	0.209	1.76166	1.3181	0.005	0.083	0.08	468.1333	0.151
Rubber Tires Loaders	2020	501	1000	0.649223	0.226	1.88137	1.33327	0.005	0.077	0.066	464.8656	0.15
Rubber Tires Loaders	2020	751	1500	0.649223	0.231	3.34316	1.19144	0.005	0.075	0.066	471.2614	0.152
Rubber Tires Loaders	2020	1001	1500	0.649223	0.231	3.34316	1.19144	0.005	0.075	0.066	471.2614	0.152
Rubber Tires Loaders	2020	16	25	1.42721	0.96	4.94846	5.9411	0.005	0.298	0.228	532.9076	0.169
Rubber Tires Loaders	2020	26	50	1.42721	0.96	4.94846	5.9411	0.005	0.298	0.228	532.9076	0.169
Rubber Tires Loaders	2020	51	100	0.418779	0.352	2.97028	3.70888	0.005	0.176	0.165	466.8862	0.151
Rubber Tires Loaders	2020	111	175	0.526202	0.224	1.90221	3.28059	0.005	0.084	0.077	470.4594	0.152
Rubber Tires Loaders	2020	176	250	0.510771	0.177	1.44027	1.1417	0.005	0.048	0.046	469.9111	0.152
Rubber Tires Loaders	2020	251	500	0.649223	0.193	1.42364						

Year	Month	Day	Hour	PM10	PM2.5	PM10-2.5	CO	NO2	NO	O3	SO2	GHG
2012	12	11	175	34.082	0.611	3.346	1.077	0.006	0.276	0.276	588.3	0.005
2012	12	11	176	25.308	0.469	5.81	1.483	0.007	0.173	0.173	686.65	0.047
2012	12	11	177	1.04	0.861	4.142	3.489	0.008	0.161	0.161	588.299	0.059
2012	12	11	178	14.887	1.808	3.822	1.427	0.007	0.465	0.465	588.299	0.163
2012	12	11	179	17.043	0.833	1.532	1.684	0.006	0.456	0.456	588.299	0.075
2012	12	11	180	22.253	0.564	4.929	1.007	0.006	0.252	0.252	588.3	0.05
2012	12	11	181	31.66	0.439	3.969	1.439	0.007	0.156	0.156	686.65	0.059
2012	12	11	182	1.04	0.861	4.142	3.489	0.008	0.161	0.161	588.299	0.059
2012	12	11	183	15.055	0.522	1.139	1.211	0.007	0.422	0.422	588.299	0.064
2012	12	11	184	15.539	0.739	1.186	1.658	0.006	0.434	0.434	588.299	0.068
2012	12	11	185	22.042	0.82	4.862	1.008	0.006	0.228	0.228	588.299	0.064
2012	12	11	186	22.034	0.428	4.857	1.402	0.007	0.141	0.141	686.65	0.064
2012	12	11	187	1.04	0.861	4.142	3.489	0.008	0.161	0.161	588.299	0.059
2012	12	11	188	11.489	1.461	4.943	1.068	0.007	0.382	0.382	588.299	0.131
2012	12	11	189	16.827	0.827	1.791	1.624	0.006	0.371	0.371	588.299	0.062
2012	12	11	190	18.094	0.474	4.136	1.052	0.006	0.205	0.205	588.299	0.041
2012	12	11	191	20.523	0.38	4.365	1.371	0.007	0.127	0.127	686.65	0.034
2012	12	11	192	1.04	0.861	4.142	3.489	0.008	0.161	0.161	588.299	0.059
2012	12	11	193	12.261	1.306	4.761	4.521	0.007	0.343	0.343	588.299	0.117
2012	12	11	194	15.053	0.628	4.434	1.304	0.006	0.31	0.31	588.299	0.059
2012	12	11	195	16.949	0.43	3.708	1.047	0.006	0.183	0.183	588.299	0.038
2012	12	11	196	19.106	0.354	3.994	1.344	0.007	0.114	0.114	686.65	0.031
2012	12	11	197	1.04	0.861	4.142	3.489	0.008	0.161	0.161	588.299	0.059
2012	12	11	198	30.095	1.158	4.59	4.795	0.007	0.306	0.306	588.299	0.104
2012	12	11	199	11.32	0.553	4.059	1.566	0.006	0.29	0.29	588.299	0.069
2012	12	11	200	15.322	0.388	3.305	1.044	0.006	0.161	0.161	588.299	0.035
2012	12	11	201	17.81	0.31	1.452	1.331	0.007	0.105	0.105	588.299	0.029
2012	12	11	202	1.04	0.861	4.142	3.489	0.008	0.161	0.161	588.299	0.059
2012	12	11	203	9.4	1.028	4.427	4.057	0.007	0.27	0.27	588.299	0.099
2012	12	11	204	10.078	0.492	3.723	1.341	0.006	0.232	0.232	588.299	0.044
2012	12	11	205	11.836	0.351	2.91	1.043	0.006	0.141	0.141	588.299	0.031
2012	12	11	206	16.878	0.309	1.04	1.306	0.007	0.09	0.09	686.65	0.027
2012	12	11	207	1.04	0.861	4.142	3.47	0.008	0.161	0.161	588.299	0.059
2012	12	11	208	11.89	0.827	4.272	4.338	0.007	0.236	0.236	588.299	0.09
2012	12	11	209	11.938	0.437	1.41	1.519	0.006	0.216	0.216	588.299	0.039
2012	12	11	210	15.077	0.221	1.021	1.043	0.007	0.105	0.105	588.299	0.029
2012	12	11	211	16.482	0.291	2.478	1.292	0.007	0.08	0.08	686.65	0.026
2012	12	11	212	1.04	0.861	4.142	3.489	0.008	0.161	0.161	588.299	0.059
2012	12	11	213	7.8	0.788	1.122	1.448	0.006	0.205	0.205	588.299	0.029
2012	12	11	214	8.081	0.395	1.314	1.504	0.006	0.137	0.137	588.299	0.035
2012	12	11	215	11.756	0.298	1.309	1.941	0.006	0.11	0.11	588.299	0.029
2012	12	11	216	14.813	0.274	2.35	1.281	0.007	0.071	0.071	686.65	0.024
2012	12	11	217	1.04	0.861	4.142	3.489	0.008	0.161	0.161	588.299	0.059
2012	12	11	218	5.198	0.714	4.002	4.38	0.007	0.179	0.179	588.299	0.064
2012	12	11	219	7.424	0.363	2.889	1.493	0.006	0.162	0.162	588.299	0.023
2012	12	11	220	10.965	0.278	2.043	1.043	0.006	0.098	0.098	588.299	0.025
2012	12	11	221	14.033	0.26	2.053	1.273	0.007	0.063	0.063	686.65	0.023
2012	12	11	222	1.04	0.861	4.142	3.489	0.008	0.161	0.161	588.299	0.059
2012	12	11	223	6.047	0.855	3.88	4.325	0.007	0.154	0.154	588.299	0.059
2012	12	11	224	6.908	0.327	6.484	1.484	0.006	0.086	0.086	588.299	0.023
2012	12	11	225	10.249	0.26	1.801	1.044	0.006	0.086	0.086	588.299	0.023
2012	12	11	226	11.327	0.247	1.762	1.266	0.007	0.055	0.055	686.65	0.022
2012	12	11	227	1.04	0.861	4.142	3.489	0.008	0.161	0.161	588.299	0.059
2012	12	11	228	1.57	0.603	3.767	4.262	0.007	0.132	0.132	588.299	0.054
2012	12	11	229	1.489	0.315	1.472	1.478	0.006	0.122	0.122	588.299	0.028
2012	12	11	230	9.819	0.244	1.602	1.045	0.006	0.075	0.075	588.299	0.027
2012	12	11	231	12.478	0.235	1.623	1.263	0.007	0.042	0.042	686.65	0.022
2012	12	11	232	1.04	0.861	4.142	3.489	0.008	0.161	0.161	588.299	0.059
2012	12	11	233	1.68	0.559	1.662	1.247	0.007	0.114	0.114	588.299	0.05
2012	12	11	234	6.055	0.296	2.115	1.474	0.006	0.105	0.105	588.299	0.026
2012	12	11	235	7.047	0.229	1.427	1.047	0.006	0.060	0.060	588.299	0.022
2012	12	11	236	1.04	0.861	4.142	3.47	0.008	0.161	0.161	588.299	0.059
2012	12	11	237	1.04	0.861	4.142	3.489	0.008	0.161	0.161	588.299	0.059
2012	12	11	238	4.839	0.322	1.041	1.427	0.008	0.086	0.086	588.299	0.029
2012	12	11	239	5.705	0.278	1.179	1.47	0.006	0.089	0.089	588.299	0.031
2012	12	11	240	6.5	0.235	1.262	1.048	0.006	0.055	0.055	588.299	0.029
2012	12	11	241	11.509	0.213	1.192	1.257	0.007	0.035	0.035	686.65	0.029
2012	12	11	242	1.04	0.861	4.142	3.47	0.008	0.161	0.161	588.299	0.059
2012	12	11	243	3.611	0.393	1.193	4.099	0.007	0.04	0.04	588.299	0.035
2012	12	11	244	4.366	0.213	1.657	1.461	0.006	0.039	0.039	588.3	0.039
2012	12	11	245	1.201	0.137	1.586	1.046	0.004	0.024	0.024	686.65	0.024
2012	12	11	246	9.484	0.176	0.394	1.205	0.007	0.019	0.019	686.65	0.013
2012	12	11	247	1.04	0.861	4.142	3.489	0.008	0.161	0.161	588.299	0.059
2012	12	11	248	3.294	0.356	1.082	4.067	0.007	0.02	0.02	588.299	0.012
2012	12	11	249	4.039	0.158	1.482	1.444	0.006	0.018	0.018	588.299	0.017
2012	12	11	250	5.439	0.138	0.372	1.048	0.006	0.014	0.014	588.299	0.012
2012	12	11	251	7.675	0.162	0.401	1.264	0.007	0.014	0.014	686.65	0.014
2012	12	11	252	1.04	0.861	4.142	3.489	0.008	0.161	0.161	588.299	0.059
2012	12	11	253	3.289	0.336	1.037	4.074	0.007	0.014	0.014	588.299	0.012
2012	12	11	254	1.488	0.188	1.438	1.447	0.006	0.013	0.013	588.299	0.014
2012	12	11	255	1.177	0.131	0.296	1.05	0.006	0.011	0.011	588.299	0.011
2012	12	11	256	4.473	0.137	0.341	1.205	0.007	0.012	0.012	686.65	0.014
2012	12	11	257	4.828	2.213	6.919	4.999	0.005	0.741	0.741	588.299	0.199
2012	12	11	258	1.84	4.466	7.821	9.113	0.01	1.202	1.202	588.299	0.409
2012	12	11	259	11.551	1.824	4.506	5.536	0.01	1.202	1.202	588.299	0.188
2012	12	11	260	4.809	2.092	6.403	7.277	0.006	0.568	0.568	588.299	0.188
2012	12	11	261	11.318	1.721	1.731	7.485	0.006	0.816	0.816	588.299	0.193
2012	12	11	262	10.502	1.579	1.028	1.162	0.006	0.779	0.779	588.299	0.142
2012	12	11	263	1.352	1.505	3.333	3.709	0.005	0.463	0.463	588.299	0.135
2012	12	11	264	12.458	1.024	0.686	6.864	0.006	0.716	0.716	588.3	0.227
2012	12	11	265	1.248	1.339	3.633	4.08	0.006	0.712	0.712	588.299	0.11
2012	12	11	266	1.89544	1	5.29745	4.48486	0.005	0.435	0.435	588.3356	0.171
2012	12	11	267	1.89544	1	5.29745	4.48486	0.005	0.435	0.435	588.3356	0.171
2012	12	11	268	0.040432	0.424	0.19916	3.40766	0.005	0.346	0.346	588.4915	0.131
2012	12	11	269	1.605747	0.887	5.2163	4.32754	0.005	0.402	0.402	588.7285	0.171

Surfacing Equipment	2023	176	250	0.12776	0.032	3.0502	1.2398	0.005	0.002	0.075	470.9006	0.154
Surfacing Equipment	2023	251	500	0.155473	0.131	1.47554	1.16229	0.005	0.006	0.051	470.3746	0.152
Surfacing Equipment	2023	501	750	0.191512	0.11	1.28060	0.98543	0.005	0.04	0.037	472.4466	0.153
Surfacing Equipment	2024	26	50	0.09445	0.333	3.20509	3.66333	0.006	0.16	0.107	538.2094	0.123
Surfacing Equipment	2024	51	120	0.29879	0.215	2.8828	3.3893	0.005	0.142	0.131	475.3806	0.154
Surfacing Equipment	2024	121	175	0.271726	0.228	2.46373	2.93962	0.005	0.12	0.115	470.0267	0.152
Surfacing Equipment	2024	176	250	0.209156	0.176	2.26358	1.8272	0.005	0.071	0.065	477.096	0.154
Surfacing Equipment	2024	251	500	0.193181	0.134	1.47760	1.16761	0.005	0.06	0.051	470.2521	0.152
Surfacing Equipment	2024	501	750	0.117613	0.222	0.94660	0.94663	0.005	0.124	0.114	479.7856	0.154
Surfacing Equipment	2025	26	50	0.179229	0.225	3.17642	3.17373	0.006	0.082	0.075	536.14	0.173
Surfacing Equipment	2025	51	120	0.174613	0.232	2.6925	3.38355	0.005	0.124	0.114	476.7956	0.154
Surfacing Equipment	2025	121	175	0.222452	0.187	1.9937	2.26262	0.005	0.094	0.087	471.0493	0.152
Surfacing Equipment	2025	176	250	0.176268	0.148	1.74737	1.14337	0.005	0.055	0.051	477.11	0.154
Surfacing Equipment	2025	251	500	0.151215	0.128	1.3268	1.18861	0.005	0.051	0.047	470.2827	0.152
Surfacing Equipment	2025	501	750	0.161486	0.085	0.76868	0.9776	0.005	0.027	0.025	470.1588	0.152
Surfacing Equipment	2030	26	50	1.988	0.133	1.4	4.295	0.007	0.075	0.075	568.299	0.046
Surfacing Equipment	2030	51	120	1.281	0.264	1.959	3.492	0.006	0.068	0.068	568.299	0.023
Surfacing Equipment	2030	121	175	1.286	0.197	0.939	1.071	0.006	0.048	0.048	568.299	0.027
Surfacing Equipment	2030	176	250	1.134	0.172	0.789	1.064	0.006	0.026	0.026	568.299	0.013
Surfacing Equipment	2030	251	500	1.062	0.169	0.738	1.023	0.005	0.025	0.025	568.299	0.013
Surfacing Equipment	2030	501	750	0.953	0.169	0.749	1.052	0.005	0.025	0.025	568.299	0.015
Surfacing Equipment	2035	26	50	0.836	0.439	1.103	4.221	0.007	0.041	0.041	568.299	0.029
Surfacing Equipment	2035	51	120	1.954	0.226	1.659	3.462	0.006	0.038	0.038	568.299	0.02
Surfacing Equipment	2035	121	175	1.887	0.162	0.567	3.072	0.006	0.025	0.025	568.299	0.044
Surfacing Equipment	2035	176	250	1.725	0.149	0.927	1.05	0.006	0.016	0.016	568.299	0.023
Surfacing Equipment	2035	251	500	4.436	0.148	0.471	1.018	0.005	0.026	0.026	568.299	0.013
Surfacing Equipment	2035	501	750	0.867	0.148	0.477	1.018	0.005	0.016	0.016	568.299	0.013
Surfacing Equipment	2040	26	50	0.753	0.395	1.114	4.183	0.007	0.025	0.025	568.299	0.035
Surfacing Equipment	2040	51	120	1.782	0.206	1.521	4.477	0.006	0.024	0.024	568.299	0.028
Surfacing Equipment	2040	121	175	1.491	0.146	0.397	3.073	0.006	0.017	0.017	568.299	0.013
Surfacing Equipment	2040	176	250	2.566	0.14	0.37	1.047	0.006	0.023	0.023	568.299	0.012
Surfacing Equipment	2040	251	500	1.197	0.14	0.368	1.051	0.005	0.022	0.022	568.299	0.012
Surfacing Equipment	2040	501	750	1.59	0.14	0.361	1.055	0.005	0.023	0.023	568.299	0.012
Seewepers/Scrubbers	1990	6	15	1.471	0.804	1.909	5	0.813	0.968	0.968	568.299	0.153
Seewepers/Scrubbers	1990	16	25	30.029	2.213	1.92	5	0.879	0.775	0.775	568.299	0.199
Seewepers/Scrubbers	1990	26	50	32.867	4.522	2.26	6.999	0.822	1.202	1.202	568.299	0.407
Seewepers/Scrubbers	1990	51	120	39.044	2.254	14.467	5.3	0.828	1.209	1.209	568.299	0.203
Seewepers/Scrubbers	1990	121	175	48.128	1.505	12.811	4.861	0.602	0.838	0.838	568.299	0.175
Seewepers/Scrubbers	1990	176	250	28.322	1.061	12.811	4.861	0.602	0.838	0.838	568.299	0.175
Seewepers/Scrubbers	2000	6	15	1.886	1.047	7.362	4.258	0.079	0.428	0.428	568.299	0.094
Seewepers/Scrubbers	2000	16	25	1.933	1.089	6.325	4.408	0.064	0.442	0.442	568.299	0.088
Seewepers/Scrubbers	2000	26	50	30.182	4.144	6.934	8.622	0.266	0.882	0.882	568.299	0.373
Seewepers/Scrubbers	2000	51	120	28.955	1.706	6.702	4.294	0.059	0.84	0.84	568.299	0.154
Seewepers/Scrubbers	2000	121	175	37.084	1.155	8.929	3.49	0.057	0.481	0.481	568.299	0.104
Seewepers/Scrubbers	2000	176	250	34.378	0.724	6.156	2.98	0.057	0.371	0.371	568.299	0.104
Seewepers/Scrubbers	2005	6	15	1.951	0.708	4.885	3.469	0.079	0.35	0.35	568.299	0.063
Seewepers/Scrubbers	2005	16	25	1.905	0.774	5.326	3.526	0.064	0.323	0.323	568.299	0.069
Seewepers/Scrubbers	2005	26	50	21.808	0.845	6.52	8.25	0.844	0.844	0.844	568.299	0.346
Seewepers/Scrubbers	2005	51	120	27.209	1.509	8.338	4.233	0.059	0.826	0.826	568.299	0.14
Seewepers/Scrubbers	2005	121	175	33.776	1.021	6.348	3.461	0.051	0.45	0.45	568.299	0.104
Seewepers/Scrubbers	2005	176	250	31.002	0.668	7.318	1.76	0.057	0.258	0.258	568.299	0.06
Seewepers/Scrubbers	2010	6	15	2.54595	1.81	6.025	6.34286	0.005	0.615	0.568	568.682	0.17
Seewepers/Scrubbers	2010	16	25	2.14935	1.81	6.025	6.34286	0.005	0.615	0.568	568.682	0.17
Seewepers/Scrubbers	2010	26	50	2.14935	1.81	6.025	6.34286	0.005	0.615	0.568	568.682	0.17
Seewepers/Scrubbers	2010	51	120	1.89749	0.929	6.0962	6.30449	0.005	0.627	0.566	568.682	0.17
Seewepers/Scrubbers	2010	121	175	1.89152	0.999	6.3099	6.21023	0.005	0.378	0.332	532.6912	0.153
Seewepers/Scrubbers	2010	176	250	6.9312	0.683	4.7446	2.95028	0.005	0.294	0.292	562.825	0.153
Seewepers/Scrubbers	2011	6	15	2.10466	1.768	5.80117	6.34227	0.005	0.608	0.557	562.239	0.17
Seewepers/Scrubbers	2011	16	25	2.10466	1.768	5.80117	6.34227	0.005	0.608	0.557	562.239	0.17
Seewepers/Scrubbers	2011	26	50	2.10466	1.768	5.80117	6.34227	0.005	0.608	0.557	562.239	0.17
Seewepers/Scrubbers	2011	51	120	1.870041	0.899	6.49949	6.40877	0.005	0.651	0.599	524.473	0.153
Seewepers/Scrubbers	2011	121	175	1.24136	0.821	6.07277	1.46105	0.005	0.54	0.509	524.127	0.153
Seewepers/Scrubbers	2011	176	250	0.833199	0.824	7.00991	2.14425	0.005	0.284	0.284	531.9566	0.152
Seewepers/Scrubbers	2012	6	15	2.17627	1.83	6.00151	6.45493	0.005	0.621	0.571	569.797	0.17
Seewepers/Scrubbers	2012	16	25	2.17627	1.83	6.00151	6.45493	0.005	0.621	0.571	569.797	0.17
Seewepers/Scrubbers	2012	26	50	2.17627	1.83	6.00151	6.45493	0.005	0.621	0.571	569.797	0.17
Seewepers/Scrubbers	2012	51	120	1.978889	0.907	7.02029	4.12474	0.005	0.609	0.606	534.1613	0.153
Seewepers/Scrubbers	2012	121	175	1.14423	0.999	6.95689	4.12474	0.005	0.613	0.513	531.8267	0.153
Seewepers/Scrubbers	2012	176	250	0.83151	0.532	7.05573	2.17756	0.005	0.286	0.284	535.7507	0.152
Seewepers/Scrubbers	2013	6	15	2.124198	1.785	5.97778	6.54294	0.005	0.608	0.559	572.8612	0.17
Seewepers/Scrubbers	2013	16	25	2.124198	1.785	5.97778	6.54294	0.005	0.608	0.559	572.8612	0.17
Seewepers/Scrubbers	2013	26	50	2.124198	1.785	5.97778	6.54294	0.005	0.608	0.559	572.8612	0.17
Seewepers/Scrubbers	2013	51	120	1.495929	0.827	6.14775	4.07628	0.005	0.628	0.576	530.4493	0.153
Seewepers/Scrubbers	2013	121	175	1.122038	0.943	6.76332	4.12302	0.005	0.547	0.503	530.4493	0.153
Seewepers/Scrubbers	2013	176	250	0.970826	0.496	6.68373	2.05413	0.005	0.242	0.242	531.889	0.152
Seewepers/Scrubbers	2014	6	15	2.103399	1.767	5.75157	6.50249	0.005	0.603	0.555	574.9427	0.17
Seewepers/Scrubbers	2014	16	25	2.103399	1.767	5.75157	6.50249	0.005	0.603	0.555	574.9427	0.17
Seewepers/Scrubbers	2014	26	50	2.103399	1.767	5.75157	6.50249	0.005	0.603	0.555	574.9427	0.17
Seewepers/Scrubbers	2014	51	120	1.909916	0.833	6.93387	4.07085	0.005	0.61	0.562	518.8913	0.153
Seewepers/Scrubbers	2014	121	175	1.484244	0.475	6.97072	4.04141	0.005	0.603	0.463	517.6568	0.153
Seewepers/Scrubbers	2014	176	250	0.800544	0.505	6.70399	2.06093	0.005	0.265	0.244	534.5271	0.152
Seewepers/Scrubbers	2015	6	15	2.105959	1.807	5.77191	6.75408	0.005	0.612	0.562	569.1058	0.17
Seewepers/Scrubbers	2015	16	25	2.105959	1.807	5.77191	6.75408	0.005	0.612	0.562	569.1058	0.17
Seewepers/Scrubbers	2015	26	50	2.105959	1.807	5.77191	6.75408	0.005	0.612	0.562	569.1058	0.17
Seewepers/Scrubbers	2015	51	120	1.918025	0.807	6.77191	6.75408	0.005	0.611	0.562	569.1058	0.17
Seewepers/Scrubbers	2015	121	175	0.892826	0.839	6.89682	3.98279	0.005	0.479	0.441	512.5489	0.153
Seewepers/Scrubbers	2015	176	250	0.430202	0.533	1.9446	2.07774	0.005	0.246	0.246	533.9152	0.153
Seewepers/Scrubbers	2016	6	15	2.119969	1.781	5.72609	6.78154	0.005	0.603	0.555	563.2688	0.17
Seewepers/Scrubbers	2016	16	25	2.119969	1.781	5.72609	6.78154	0.005	0.603	0.555	563.2688	0.17
Seewepers/Scrubbers	2016	26	50	2.119969	1.781	5.72609	6.78154	0.005	0.603	0.555	563.2688	0.17

Fractor/Loaden/Backhoe	2018	251	600	0.38444	0.232	3.0877	1.4454	0.005	0.005	0.008	488.299	0.151
Fractor/Loaden/Backhoe	2018	502	750	0.322751	0.271	3.40215	1.6008	0.005	0.124	0.114	485.099	0.151
Fractor/Loaden/Backhoe	2019	16	25	1.695282	0.92	4.0029	5.2027	0.005	0.33	0.304	527.6843	0.167
Fractor/Loaden/Backhoe	2019	26	50	1.695282	0.92	4.0029	5.2027	0.005	0.33	0.304	527.6843	0.167
Fractor/Loaden/Backhoe	2019	51	120	0.437701	0.368	3.0257	3.6377	0.005	0.247	0.227	485.8548	0.154
Fractor/Loaden/Backhoe	2019	121	175	0.321856	0.27	3.29413	1.5128	0.005	0.14	0.129	477.9511	0.151
Fractor/Loaden/Backhoe	2019	176	250	0.291458	0.245	3.14683	1.22027	0.005	0.102	0.094	481.4206	0.152
Fractor/Loaden/Backhoe	2019	201	300	0.516176	0.236	2.34454	1.38918	0.005	0.082	0.075	479.0626	0.152
Fractor/Loaden/Backhoe	2019	301	750	0.118173	0.262	3.1264	1.6021	0.005	0.117	0.107	479.0256	0.152
Fractor/Loaden/Backhoe	2020	16	25	0.887255	0.83	4.39784	5.0481	0.005	0.288	0.265	515.874	0.167
Fractor/Loaden/Backhoe	2020	26	50	0.887255	0.83	4.39784	5.0481	0.005	0.288	0.265	515.874	0.167
Fractor/Loaden/Backhoe	2020	51	120	0.393883	0.331	3.32571	3.6247	0.005	0.21	0.199	475.1543	0.154
Fractor/Loaden/Backhoe	2020	121	175	0.321856	0.264	2.44467	1.50138	0.005	0.123	0.112	467.7337	0.151
Fractor/Loaden/Backhoe	2020	176	250	0.368236	0.225	2.73794	1.19592	0.005	0.09	0.083	470.4988	0.152
Fractor/Loaden/Backhoe	2020	201	300	0.52031	0.194	2.09776	1.26315	0.005	0.079	0.067	488.2487	0.151
Fractor/Loaden/Backhoe	2020	301	750	0.118173	0.248	3.11254	1.60984	0.005	0.117	0.108	468.6682	0.151
Fractor/Loaden/Backhoe	2021	16	25	0.889672	0.756	4.22641	4.90172	0.005	0.254	0.234	515.1213	0.167
Fractor/Loaden/Backhoe	2021	26	50	0.889672	0.756	4.22641	4.90172	0.005	0.254	0.234	515.1213	0.167
Fractor/Loaden/Backhoe	2021	51	120	0.35209	0.296	2.995	3.57072	0.005	0.177	0.162	475.3621	0.154
Fractor/Loaden/Backhoe	2021	121	175	0.326265	0.231	2.96221	1.09021	0.005	0.104	0.096	469.2265	0.151
Fractor/Loaden/Backhoe	2021	176	250	0.349239	0.209	2.36922	1.18805	0.005	0.08	0.074	470.5716	0.152
Fractor/Loaden/Backhoe	2021	201	300	0.521479	0.179	1.776	1.24147	0.005	0.064	0.059	489.3025	0.152
Fractor/Loaden/Backhoe	2021	301	750	0.294477	0.247	2.75417	1.42544	0.005	0.104	0.096	466.4564	0.151
Fractor/Loaden/Backhoe	2022	16	25	0.818675	0.688	4.03024	4.73554	0.005	0.218	0.2	514.4613	0.166
Fractor/Loaden/Backhoe	2022	26	50	0.818675	0.688	4.03024	4.73554	0.005	0.218	0.2	514.4613	0.166
Fractor/Loaden/Backhoe	2022	51	120	0.329669	0.26	2.47478	3.33551	0.005	0.142	0.131	475.8975	0.154
Fractor/Loaden/Backhoe	2022	121	175	0.317965	0.2	1.75231	1.07944	0.005	0.089	0.082	469.2265	0.151
Fractor/Loaden/Backhoe	2022	176	250	0.322321	0.187	1.94251	1.14248	0.005	0.067	0.062	470.1296	0.152
Fractor/Loaden/Backhoe	2022	201	300	0.507711	0.16	1.49934	1.26236	0.005	0.053	0.049	489.2262	0.151
Fractor/Loaden/Backhoe	2022	301	750	0.274438	0.232	2.4512	1.35272	0.005	0.094	0.087	466.6327	0.151
Fractor/Loaden/Backhoe	2023	16	25	0.778824	0.621	3.86988	4.42935	0.005	0.185	0.17	513.7962	0.166
Fractor/Loaden/Backhoe	2023	26	50	0.778824	0.621	3.86988	4.42935	0.005	0.185	0.17	513.7962	0.166
Fractor/Loaden/Backhoe	2023	51	120	0.345472	0.239	2.42607	3.25294	0.005	0.122	0.111	476.4307	0.154
Fractor/Loaden/Backhoe	2023	121	175	0.319306	0.184	1.50959	1.0777	0.005	0.075	0.07	468.421	0.151
Fractor/Loaden/Backhoe	2023	176	250	0.301205	0.149	1.50768	1.14809	0.005	0.058	0.053	469.7518	0.152
Fractor/Loaden/Backhoe	2023	201	300	0.508248	0.122	1.24701	1.27023	0.005	0.049	0.045	489.4622	0.151
Fractor/Loaden/Backhoe	2023	301	750	0.277885	0.234	2.41861	1.36081	0.005	0.095	0.087	466.6756	0.151
Fractor/Loaden/Backhoe	2024	16	25	0.751029	0.59	3.78811	4.30009	0.005	0.166	0.153	513.8517	0.166
Fractor/Loaden/Backhoe	2024	26	50	0.751029	0.59	3.78811	4.30009	0.005	0.166	0.153	513.8517	0.166
Fractor/Loaden/Backhoe	2024	51	120	0.327057	0.227	2.28795	3.5313	0.005	0.125	0.109	475.7513	0.154
Fractor/Loaden/Backhoe	2024	121	175	0.329421	0.176	1.37643	1.08813	0.005	0.068	0.062	469.4029	0.151
Fractor/Loaden/Backhoe	2024	176	250	0.319431	0.148	1.49111	1.15125	0.005	0.054	0.05	469.9543	0.152
Fractor/Loaden/Backhoe	2024	201	300	0.519829	0.15	1.62321	1.277	0.005	0.045	0.041	489.2262	0.151
Fractor/Loaden/Backhoe	2024	301	750	0.282856	0.221	2.21548	1.31051	0.005	0.086	0.079	466.6381	0.151
Fractor/Loaden/Backhoe	2025	16	25	0.745825	0.585	3.65261	4.25934	0.005	0.162	0.149	513.8265	0.166
Fractor/Loaden/Backhoe	2025	26	50	0.745825	0.585	3.65261	4.25934	0.005	0.162	0.149	513.8265	0.166
Fractor/Loaden/Backhoe	2025	51	120	0.348412	0.209	2.09134	3.3242	0.005	0.089	0.079	477.188	0.154
Fractor/Loaden/Backhoe	2025	121	175	0.319527	0.162	1.80291	1.08213	0.005	0.064	0.064	469.2262	0.151
Fractor/Loaden/Backhoe	2025	176	250	0.318368	0.154	1.24518	1.14504	0.005	0.047	0.044	470.3976	0.152
Fractor/Loaden/Backhoe	2025	201	300	0.517862	0.144	1.04675	1.24845	0.005	0.049	0.046	489.2262	0.151
Fractor/Loaden/Backhoe	2025	301	750	0.322941	0.187	1.46868	1.26139	0.005	0.067	0.062	466.4517	0.151
Fractor/Loaden/Backhoe	2030	16	25	1.765	0.685	4.322	5.239	0.007	0.265	0.259	568.299	0.161
Fractor/Loaden/Backhoe	2030	26	50	1.6157	0.539	3.299	4.486	0.007	0.033	0.033	568.299	0.161
Fractor/Loaden/Backhoe	2030	51	120	1.285	0.772	3.824	3.705	0.006	0.03	0.03	568.299	0.161
Fractor/Loaden/Backhoe	2030	121	175	1.178	0.193	1.485	1.273	0.006	0.02	0.02	568.299	0.161
Fractor/Loaden/Backhoe	2030	176	250	1.112	0.183	0.418	1.115	0.006	0.014	0.014	568.299	0.161
Fractor/Loaden/Backhoe	2030	201	300	1.0236	0.182	1.403	1.066	0.006	0.014	0.014	568.299	0.161
Fractor/Loaden/Backhoe	2030	301	750	1.163	0.182	0.467	1.066	0.006	0.014	0.014	568.299	0.161
Fractor/Loaden/Backhoe	2035	16	25	1.765	0.685	4.322	5.239	0.007	0.265	0.259	568.299	0.161
Fractor/Loaden/Backhoe	2035	26	50	1.6157	0.539	3.299	4.486	0.007	0.033	0.033	568.299	0.161
Fractor/Loaden/Backhoe	2035	51	120	1.285	0.772	3.824	3.705	0.006	0.03	0.03	568.299	0.161
Fractor/Loaden/Backhoe	2035	121	175	1.178	0.193	1.485	1.273	0.006	0.02	0.02	568.299	0.161
Fractor/Loaden/Backhoe	2035	176	250	1.112	0.183	0.418	1.115	0.006	0.014	0.014	568.299	0.161
Fractor/Loaden/Backhoe	2035	201	300	1.0236	0.182	1.403	1.066	0.006	0.014	0.014	568.299	0.161
Fractor/Loaden/Backhoe	2035	301	750	1.163	0.182	0.467	1.066	0.006	0.014	0.014	568.299	0.161
Fractor/Loaden/Backhoe	2040	16	25	1.765	0.685	4.322	5.239	0.007	0.265	0.259	568.299	0.161
Fractor/Loaden/Backhoe	2040	26	50	1.6157	0.539	3.299	4.486	0.007	0.033	0.033	568.299	0.161
Fractor/Loaden/Backhoe	2040	51	120	1.285	0.772	3.824	3.705	0.006	0.03	0.03	568.299	0.161
Fractor/Loaden/Backhoe	2040	121	175	1.178	0.193	1.485	1.273	0.006	0.02	0.02	568.299	0.161
Fractor/Loaden/Backhoe	2040	176	250	1.112	0.183	0.418	1.115	0.006	0.014	0.014	568.299	0.161
Fractor/Loaden/Backhoe	2040	201	300	1.0236	0.182	1.403	1.066	0.006	0.014	0.014	568.299	0.161
Fractor/Loaden/Backhoe	2040	301	750	1.163	0.182	0.467	1.066	0.006	0.014	0.014	568.299	0.161
Fences	1990	6	15	1.484	1.404	1.905	4.995	1.048	0.975	0.975	568.299	0.161
Fences	1990	16	25	1.841	2.213	6.919	4.999	0.855	0.741	0.741	568.3	0.199
Fences	1990	26	50	1.758	4.535	3.449	4.732	0.871	1.215	1.215	568.3	0.199
Fences	1990	51	120	1.7159	2.296	14.752	5.621	0.791	1.284	1.284	568.299	0.207
Fences	1990	121	175	1.81364	1.748	14.125	6.014	0.718	0.86	0.86	568.299	0.157
Fences	1990	176	250	1.8132	1.748	14.125	6.014	0.718	0.86	0.86	568.299	0.157
Fences	1990	201	300	1.71771	1.531	11.45	10.572	0.642	0.827	0.827	568.299	0.164
Fences	1990	301	750	2.0237	1.031	11.45	10.572	0.642	0.841	0.841	568.299	0.164
Fences	2000	6	15	1.824	1.325	7.475	4.257	0.979	0.61	0.61	568.299	0.159
Fences	2000	16	25	1.813	1.908	6.126	4.488	0.958	0.555	0.555	568.299	0.172
Fences	2000	26	50	1.8495	4.218	7.029	8.713	0.966	0.89	0.89	568.299	0.138
Fences	2000	51	120	1.809	1.891	10.88	4.777	0.96	0.882	0.882	568.299	0.137
Fences	2000	121	175	1.859	1.796	11.868	3.969	0.947	0.541	0.541	568.299	0.114
Fences	2000	176	250	1.8445	1.311	8.8	3.402	0.957	0.474	0.474	568.299	0.103
Fences	2000	201	300	1.8478	1.042	1.854	3.221	0.91	0.416	0.416	568.299	0.094
Fences	2000	301	750	1.9138	1.042	9.364	4.221	0.952	0.416	0.416	568.299	0.094
Fences	2005	6	15	1.82	0.763	1.481	1.408	0.979	0.31	0.31	568.299	0.064
Fences	2005	16	25	1.743	0.849	1.321	2.529	0.966	0.33			

Tranchem	2040	001	750	38.123	0.811	0.549	1.081	0.005	0.03	0.03	568.299	0.017
Walters	1990	6	11	4.525	0.804	9.999	4.999	1.018	0.974	0.974	568.299	0.162
Walters	1990	16	25	30.092	2.213	6.919	4.999	8.83	0.74	0.74	568.299	0.199
Walters	1990	26	50	40.899	3.899	7.611	6.078	0.844	1.095	1.095	568.3	0.191
Walters	1990	51	120	31.632	2.107	11.999	5.112	0.748	1.146	1.146	568.3	0.19
Walters	1990	117	175	17.219	1.442	11.998	4.703	0.776	0.761	0.761	568.299	0.11
Walters	1990	176	250	69.387	1.442	12.998	4.703	0.776	0.761	0.761	568.299	0.11
Walters	1990	251	500	88.123	1.404	12.144	6.704	0.842	0.872	0.872	568.3	0.117
Walters	2000	6	11	4.123	1.721	0.68	4.719	0.979	0.947	0.947	568.299	0.155
Walters	2000	16	25	9.556	2.095	6.405	4.783	0.065	0.588	0.588	568.299	0.189
Walters	2000	26	50	8.412	1.664	6.797	7.708	0.066	0.803	0.803	568.299	0.131
Walters	2000	51	120	27.205	1.704	10.046	4.433	0.56	0.791	0.791	568.3	0.153
Walters	2000	117	175	45.269	1.14	8.126	1.61	0.037	0.468	0.468	568.299	0.103
Walters	2000	176	250	45.902	0.954	8.783	2.869	0.057	0.384	0.384	568.299	0.086
Walters	2000	251	500	39.114	0.878	8.468	4.719	0.05	0.344	0.344	568.299	0.079
Walters	2005	6	11	3.497	1.934	7.817	4.18	0.079	0.621	0.621	568.299	0.125
Walters	2005	16	25	7.401	1.622	6.014	3.922	0.065	0.483	0.483	568.299	0.146
Walters	2005	26	50	34.241	1.264	8.342	7.144	0.066	0.746	0.746	568.299	0.094
Walters	2005	51	120	23.288	1.459	8.459	4.096	0.56	0.733	0.733	568.299	0.131
Walters	2005	117	175	17.817	0.931	7.736	1.26	0.037	0.405	0.405	568.299	0.086
Walters	2005	176	250	32.839	0.682	7.302	1.941	0.057	0.268	0.268	568.299	0.061
Walters	2005	251	500	41.097	0.606	6.755	2.566	0.05	0.241	0.241	568.299	0.054
Walters	2010	6	11	1.82	1.134	6.554	4.027	0.008	0.473	0.473	568.3	0.101
Walters	2010	16	25	5.78	1.267	5.477	3.309	0.007	0.384	0.384	568.299	0.114
Walters	2010	26	50	27.885	2.658	1.944	6.571	0.007	0.623	0.623	568.299	0.239
Walters	2010	51	120	18.341	1.149	6.999	3.928	0.006	0.61	0.61	568.299	0.103
Walters	2010	117	175	18.16	0.762	6.205	1.165	0.006	0.318	0.318	568.299	0.068
Walters	2010	176	250	21.908	0.496	5.897	1.431	0.006	0.189	0.189	568.299	0.044
Walters	2010	251	500	30.15	0.445	5.26	1.421	0.005	0.174	0.174	568.299	0.04
Walters	2011	6	11	3.677	1.067	6.283	3.952	0.008	0.441	0.441	568.299	0.096
Walters	2011	16	25	5.436	1.132	5.36	3.179	0.007	0.365	0.365	568.3	0.107
Walters	2011	26	50	28.104	2.488	1.86	6.992	0.007	0.593	0.593	568.299	0.214
Walters	2011	51	120	17.199	1.077	6.632	3.891	0.006	0.584	0.584	568.3	0.097
Walters	2011	117	175	18.505	0.718	5.91	1.173	0.006	0.320	0.320	568.299	0.064
Walters	2011	176	250	22.03	0.437	5.462	1.34	0.006	0.17	0.17	568.299	0.041
Walters	2011	251	500	27.869	0.411	4.886	1.473	0.005	0.157	0.157	568.299	0.037
Walters	2012	6	11	3.527	1.007	5.999	3.874	0.008	0.407	0.407	568.299	0.09
Walters	2012	16	25	5.076	1.113	5.239	3.043	0.007	0.337	0.337	568.299	0.1
Walters	2012	26	50	24.122	1.299	1.615	6.101	0.006	0.546	0.546	568.299	0.207
Walters	2012	51	120	15.992	1.001	6.232	3.852	0.006	0.549	0.549	568.299	0.09
Walters	2012	117	175	16.786	0.673	5.543	1.31	0.006	0.303	0.303	568.299	0.058
Walters	2012	176	250	20.543	0.427	5.087	1.281	0.006	0.154	0.154	568.299	0.038
Walters	2012	251	500	25.151	0.386	4.523	1.309	0.005	0.144	0.144	568.299	0.038
Walters	2013	6	11	3.178	0.948	5.716	3.796	0.008	0.373	0.373	568.299	0.085
Walters	2013	16	25	4.718	1.034	5.117	2.907	0.007	0.314	0.314	568.299	0.093
Walters	2013	26	50	22.037	1.101	5.136	5.967	0.007	0.517	0.517	568.299	0.189
Walters	2013	51	120	14.766	0.925	5.836	3.813	0.006	0.507	0.507	568.3	0.083
Walters	2013	117	175	14.864	0.627	5.195	1.311	0.006	0.279	0.279	568.299	0.056
Walters	2013	176	250	19.136	0.402	4.723	1.241	0.006	0.141	0.141	568.299	0.036
Walters	2013	251	500	24.728	0.365	4.191	1.291	0.005	0.131	0.131	568.299	0.034
Walters	2014	6	11	3.237	0.891	5.445	3.723	0.008	0.341	0.341	568.3	0.08
Walters	2014	16	25	4.261	0.96	5	2.78	0.007	0.276	0.276	568.299	0.084
Walters	2014	26	50	18.935	1.9	5.308	5.749	0.007	0.473	0.473	568.3	0.171
Walters	2014	51	120	13.522	0.849	5.481	3.374	0.006	0.464	0.464	568.299	0.076
Walters	2014	117	175	12.927	0.561	4.862	1.341	0.006	0.250	0.250	568.299	0.052
Walters	2014	176	250	18.135	0.376	4.297	1.207	0.006	0.128	0.128	568.299	0.034
Walters	2014	251	500	21.294	0.341	3.798	1.227	0.005	0.119	0.119	568.299	0.031
Walters	2015	6	11	3.109	0.84	5.196	3.658	0.008	0.311	0.311	568.299	0.075
Walters	2015	16	25	4.078	0.884	4.89	2.668	0.007	0.27	0.27	568.299	0.08
Walters	2015	26	50	17.994	1.715	5.113	5.562	0.007	0.43	0.43	568.3	0.154
Walters	2015	51	120	13.337	0.772	5.077	3.738	0.006	0.419	0.419	568.299	0.069
Walters	2015	117	175	12.119	0.522	4.408	1.133	0.006	0.21	0.21	568.299	0.041
Walters	2015	176	250	16.974	0.352	3.88	1.178	0.006	0.116	0.116	568.299	0.031
Walters	2015	251	500	20.193	0.324	3.398	1.176	0.006	0.108	0.108	568.299	0.029
Walters	2016	6	11	3.03	0.809	5.023	3.622	0.008	0.289	0.289	568.299	0.073
Walters	2016	16	25	4.903	0.855	4.603	2.604	0.007	0.250	0.250	568.299	0.077
Walters	2016	26	50	16.155	1.54	4.936	5.395	0.007	0.389	0.389	568.299	0.138
Walters	2016	51	120	11.105	0.699	4.692	3.705	0.006	0.376	0.376	568.3	0.063
Walters	2016	117	175	19.285	0.486	3.973	1.128	0.006	0.206	0.206	568.299	0.041
Walters	2016	176	250	13.901	0.33	3.481	1.133	0.006	0.104	0.104	568.299	0.029
Walters	2016	251	500	16.711	0.306	3.021	1.134	0.007	0.097	0.097	568.299	0.027
Walters	2017	6	11	1.973	0.796	4.387	3.599	0.008	0.272	0.272	568.299	0.07
Walters	2017	16	25	3.795	0.833	4.729	2.564	0.007	0.243	0.243	568.299	0.074
Walters	2017	26	50	14.392	1.372	4.768	5.239	0.007	0.35	0.35	568.299	0.123
Walters	2017	51	120	10.06	0.63	4.128	3.676	0.006	0.312	0.312	568.299	0.064
Walters	2017	117	175	17.561	0.442	3.562	1.124	0.006	0.183	0.183	568.299	0.039
Walters	2017	176	250	14.942	0.31	3.105	1.133	0.006	0.094	0.094	568.299	0.028
Walters	2017	251	500	16.750	0.29	2.711	1.132	0.006	0.086	0.086	568.299	0.026
Walters	2017	6	11	1.923	0.736	4.297	3.58	0.008	0.256	0.256	568.3	0.069
Walters	2018	16	25	1.684	0.807	4.661	3.511	0.007	0.212	0.212	568.299	0.071
Walters	2018	26	50	12.698	1.21	4.607	5.092	0.007	0.311	0.311	568.299	0.109
Walters	2018	51	120	10.06	0.564	3.98	3.648	0.006	0.29	0.29	568.299	0.058
Walters	2018	117	175	15.966	0.402	3.178	1.123	0.006	0.162	0.162	568.299	0.036
Walters	2018	176	250	14.684	0.292	2.751	1.118	0.006	0.084	0.084	568.299	0.028
Walters	2018	251	500	16.804	0.277	2.41	1.08	0.006	0.08	0.08	568.299	0.025
Walters	2019	6	11	1.877	0.748	4.647	3.562	0.008	0.241	0.241	568.299	0.067
Walters	2019	16	25	1.902	0.797	4.596	3.501	0.007	0.222	0.222	568.299	0.071
Walters	2019	26	50	11.673	1.055	4.449	4.95	0.007	0.273	0.273	568.299	0.093
Walters	2019	51	120	11.023	0.503	3.648	3.633	0.006	0.25	0.25	568.299	0.048
Walters	2019	117	175	14.699	0.37	2.822	1.122	0.006	0.143	0.143	568.3	0.031
Walters	2019	176	250	11.288	0.276	2.412	1.104	0.006	0.071	0.071	568.299	0.024
Walters	2019	251	500	17.937	0.264	2.163	1.065	0.005	0.072	0.072	568.3	0.023
Walters	2020	6	11	1.835	0.711	4.542	3.446	0.008	0.227	0.227	568.299	0.066
Walters	2020	16	25	1.907	0.768	4.338	3.473	0.007	0.212	0.212	568.299	0.069
Walters	2020	26	50	9.83	0.937	4.304	4.84	0.007	0.238	0.238	568.299	0.084
Walters	2020	51	120	11.778								

**Table 3.3 OFFROAD Default Horsepower and Load Factors**

<b>OFFROAD Equipment Type</b>	<b>Horsepower</b>	<b>Load Factor</b>
Aerial Lifts	63	0.31
Air Compressors	78	0.48
Bore/Drill Rigs	221	0.5
Cement and Mortar Mixers	9	0.56
Concrete/Industrial Saws	81	0.73
Cranes	231	0.29
Crawler Tractors	212	0.43
Crushing/Proc. Equipment	85	0.78
Dumpers/Tenders	16	0.38
Excavators	158	0.38
Forklifts	89	0.2
Generator Sets	84	0.74
Graders	187	0.41
Off-Highway Tractors	124	0.44
Off-Highway Trucks	402	0.38
Other Construction Equipment	172	0.42
Other General Industrial Equipment	88	0.34
Other Material Handling Equipment	168	0.4
Pavers	130	0.42
Paving Equipment	132	0.36
Plate Compactors	8	0.43
Pressure Washers	13	0.3
Pumps	84	0.74
Rollers	80	0.38
Rough Terrain Forklifts	100	0.4
Rubber Tired Dozers	247	0.4
Rubber Tired Loaders	203	0.36
Scrapers	367	0.48
Signal Boards	6	0.82
Skid Steer Loaders	65	0.37
Surfacing Equipment	263	0.3
Sweepers/Scrubbers	64	0.46
Tractors/Loaders/Backhoes	97	0.37
Trenchers	78	0.5
Welders	46	0.45



**Table G-13. Offroad Equipment Emission Factors by Engine Tier (grams per horsepower-hour)**

Tier	Low HP	High HP	CO	NOX	PM10	PM2.5	ROG	TOG
Tier 1	25	49	4.100	5.260	0.480	0.440	1.320	1.340
Tier 1	50	74	8.500	6.540	0.550	0.510	0.900	0.910
Tier 1	75	119	8.500	6.540	0.550	0.510	0.900	0.910
Tier 1	120	174	8.500	6.540	0.300	0.280	0.620	0.630
Tier 1	175	299	8.500	5.930	0.120	0.110	0.290	0.290
Tier 1	300	599	8.500	5.930	0.120	0.110	0.290	0.290
Tier 1	600	750	8.500	5.930	0.120	0.110	0.290	0.290
Tier 1	751	999	8.500	5.930	0.120	0.110	0.290	0.290
Tier 2	25	49	4.100	4.630	0.280	0.260	0.220	0.220
Tier 2	50	74	3.700	4.750	0.190	0.180	0.170	0.170
Tier 2	75	119	3.700	4.750	0.190	0.180	0.170	0.170
Tier 2	120	174	3.700	4.150	0.130	0.120	0.150	0.150
Tier 2	175	299	2.600	4.150	0.090	0.080	0.110	0.110
Tier 2	300	599	2.600	3.790	0.090	0.080	0.090	0.090
Tier 2	600	750	2.600	3.790	0.090	0.080	0.090	0.090
Tier 2	751	999	2.600	3.790	0.090	0.080	0.090	0.090
Tier 3	25	49	4.100	4.630	0.280	0.260	0.220	0.220
Tier 3	50	74	3.700	2.740	0.190	0.180	0.090	0.090
Tier 3	75	119	3.700	2.740	0.110	0.100	0.090	0.090
Tier 3	120	174	3.700	2.320	0.110	0.100	0.090	0.090
Tier 3	175	299	2.600	2.320	0.090	0.080	0.090	0.090
Tier 3	300	599	2.600	2.320	0.090	0.080	0.090	0.090
Tier 3	600	750	2.600	2.320	0.090	0.080	0.090	0.090
Tier 3	751	999	2.600	2.320	0.090	0.080	0.090	0.090
Tier 4 Final	25	49	4.100	2.750	0.010	0.010	0.090	0.090
Tier 4 Final	50	74	3.700	2.740	0.010	0.010	0.090	0.090
Tier 4 Final	75	119	3.700	0.260	0.010	0.010	0.050	0.050
Tier 4 Final	120	174	3.700	0.260	0.010	0.010	0.050	0.050
Tier 4 Final	175	299	2.600	0.260	0.010	0.010	0.050	0.050
Tier 4 Final	300	599	2.600	0.260	0.010	0.010	0.050	0.050
Tier 4 Final	600	750	2.600	0.260	0.010	0.010	0.050	0.050
Tier 4 Final	751	999	2.600	2.240	0.020	0.020	0.050	0.050
Tier 4 Interim	25	49	4.100	4.550	0.130	0.120	0.090	0.090
Tier 4 Interim	50	74	3.700	2.740	0.110	0.100	0.090	0.090
Tier 4 Interim	75	119	3.700	2.150	0.010	0.010	0.080	0.080
Tier 4 Interim	120	174	3.700	2.150	0.010	0.010	0.080	0.080
Tier 4 Interim	175	299	2.600	1.290	0.010	0.010	0.060	0.060
Tier 4 Interim	300	599	2.600	1.290	0.010	0.010	0.060	0.060
Tier 4 Interim	600	750	2.600	1.290	0.010	0.010	0.060	0.060
Tier 4 Interim	751	999	2.600	2.240	0.050	0.050	0.060	0.060

Source: California Air Resources Board (CARB). 2017. The Carl Moyer Program Guidelines. April. Available: [https://ww2.arb.ca.gov/sites/default/files/classic/msprog/moyer/guidelines/2017/2017\\_cmpgl.pdf](https://ww2.arb.ca.gov/sites/default/files/classic/msprog/moyer/guidelines/2017/2017_cmpgl.pdf). Accessed: December 2, 2021.

**Road Dust Emission Factors**

**Daily Paved Road Dust EF<sup>1</sup>**

$$E_{ext} = [ k (sL)^{0.91} \times (W)^{1.02} ]$$

- EF<sub>paved</sub> Annual or other long-term average emission factor in the same units as k
- k particle size multiplier for particle size range and units of interest
- sL road surface silt loading (g/m<sup>2</sup>)
- W average weight (tons) of all the vehicles raveling the road (2.4 tons)
- P Number of "wet" days with at least 0.254 (0.01 in) of precipitation during the averaging period
- N Number of days in the averaging period (e.g. 365 for annual, 91 for seasonal, 30 for monthly)

Parameters	PM10	PM2.5
k (g/VMT) <sup>2</sup>	0.997898	0.244939
sL (g/m <sup>2</sup> )	0.1	0.1
W (tons)	2.4	2.4
EF (g/mi)	3.00E-01	7.36E-02

- 1) CalEEMod User's Guide, Appendix A, p. 29
- 2) AP42: Chapter 13: Miscellaneous Sources, 13.2.1 Paved Roads, Table 13.2.1-1

**Daily Unpaved Road Dust EF<sup>1</sup> - Construction Sites**

$$E.F._{dust,i} = \left( \frac{k(s/12)^1(S/30)^{0.5}}{(M/0.5)^{0.2}} - C \right)$$

- k particle size multiplier for particle size range and units of interest
- s surface material silt content (%)
- M surface material moisture content (%)
- S mean vehicle speed (mph)
- C emission factor for 1980s vehicle fleet exhaust, brakewear and tire wear

Parameters	PM10	PM2.5
k (g/VMT) <sup>2</sup>	816.462	81.6462
s <sup>3</sup>	8.5	8.5
M	0.5	0.5
S	15	15 Mitigated onsite speed of 15 mph for large construction equipment.
C	0.213187	0.163292
EF (g/mi)	408.7259	40.73062

- 1) CalEEMod User's Guide, Appendix A, p. 29
- 2) AP42: Chapter 13: Miscellaneous Sources, 13.2.2 Unpaved Roads, Table 13.2.2-2
- 3) AP42: Chapter 13: Miscellaneous Sources, 13.2.2 Unpaved Roads, Table 13.2.2-1, "Construction sites"

**Daily Unpaved Road Dust EF<sup>1</sup> - Gravel Roads**

$$E.F._{dust,i} = \left( \frac{k(s/12)^1(S/30)^{0.5}}{(M/0.5)^{0.2}} - C \right)$$

- k particle size multiplier for particle size range and units of interest
- s surface material silt content (%)
- M surface material moisture content (%)
- S mean vehicle speed (mph)
- C emission factor for 1980s vehicle fleet exhaust, brakewear and tire wear

Parameters	PM10	PM2.5
k (g/VMT) <sup>2</sup>	816.462	81.6462
s <sup>3</sup>	6.4	6.4
M	0.5	0.5
S	15	15 Mitigated onsite speed of 15 mph for Gravel Roads
C	0.213187	0.163292
EF (g/mi)	307.6939	30.62742

- 1) CalEEMod User's Guide, Appendix A, p. 29

Vendor

**Speed**

- 5
- 10
- 15
- 20
- 25
- 30
- 35
- 40

Haul

**Speed**

- 5
- 10
- 15
- 20
- 25
- 30
- 35
- 40

Worker

**Speed**

- 5
- 10
- 15
- 20
- 25
- 30
- 35
- 40

- 2) AP42: Chapter 13: Miscellaneous Sources, 13.2.2 Unpaved Roads, Table 13.2.2-2
- 3) AP42: Chapter 13: Miscellaneous Sources, 13.2.2 Unpaved Roads, Table 13.2.2-1, "Publicly Accessible Roads"

Project Name:MCWRA ILT Project SLOAPCD Portion - Mitigated  
-Construction Days per week

Construction Schedule<sup>1</sup>

Phase feature <sup>5</sup>	Phase Name <sup>5</sup>	Combined Phase Name <sup>5</sup>	Code <sup>5</sup>	Start Date <sup>5</sup>	End Date <sup>5</sup>	# of Workdays <sup>5</sup>
Tunnel Intake Structure	Excavate and support for approach channel and intake structure	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	025	10/2/2023	12/1/2023	45
Tunnel Intake Structure	Construct Intake structure structural elements	Tunnel Intake Structure - Construct Intake structure structural elements	026	12/4/2023	6/28/2024	150
Tunnel Intake Structure	Install mechanical systems	Tunnel Intake Structure - Install mechanical systems	027	7/1/2024	8/9/2024	30
Tunnel Intake Structure	Construct Control Building	Tunnel Intake Structure - Construct Control Building	028	8/12/2024	9/20/2024	30
Tunnel Intake Structure	Install pipe connection from tunnel to intake and backfill	Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	029	11/18/2024	12/13/2024	20
Tunnel Intake Structure	Install fencing and security systems	Tunnel Intake Structure - Install fencing and security systems	030	1/13/2025	1/31/2025	15
Tunnel Intake Structure	Install electrical and control systems	Tunnel Intake Structure - Install electrical and control systems	031	12/16/2024	1/10/2025	20
Tunnel Intake Structure	Testing of control systems	Tunnel Intake Structure - Testing of control systems	032	1/13/2025	1/24/2025	10
Tunnel Intake Structure	Re-vegetation and site demob	Tunnel Intake Structure - Re-vegetation and site demob	033	2/3/2025	2/28/2025	20
Tunnel Intake Structure Portal	Upgrade access road from Nacimiento Reservoir Drive	Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	059	4/17/2023	5/26/2023	30
Tunnel Intake Structure Portal	Install erosion/sediment control and silt fencing	Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	060	5/29/2023	7/7/2023	30
Tunnel Intake Structure Portal	Grade and improve staging/laydown area	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	061	5/29/2023	6/9/2023	10
Tunnel Intake Structure Portal	Install buried power/fiber optic lines	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	062	4/17/2023	6/16/2023	45
Tunnel Intake Structure Portal	Install temporary utilities. Water, power, sewage Handling, communications	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	063	7/10/2023	8/18/2023	30
Tunnel Intake Structure Portal	TBM reception portal excavation and support	Tunnel Intake Structure Portal - TBM reception portal excavation and support	064	8/21/2023	9/29/2023	30
Tunnel Intake Structure Portal	Remove TBM	Tunnel Intake Structure Portal - Remove TBM	065	10/7/2024	11/15/2024	30

SOIL VOLUMES

Soil Export Tunnel Intake Structure

Parameter	Value
Total Export Volume (CY) <sup>1</sup>	76,327.00
Haul Truck Capacity (CY/truck) <sup>2</sup>	16.00
Haul Trucks Required	4,770.44
<b>Total One-Way Haul Trucks</b>	<b>9,542.00</b>

Soil Import Tunnel Intake Structure

Parameter	Value
Total Import Volume (CY) <sup>1</sup>	30,118.00
Haul Truck Capacity (CY/truck) <sup>2</sup>	16.00
Haul Trucks Required	1,882.38
<b>Total One-Way Haul Trucks</b>	<b>3,766.00</b>

Total additional import

Parameter	Value
<b>Total One-Way Truck Trips</b>	<b>13,308.00</b>

CONCRETE POUR

Concrete Volume - Intake Structure

Parameter	Value
Total Concrete Volume (CY) <sup>1</sup>	9,493.00
Max Daily Concrete Volume (CY) <sup>1</sup>	52.74
Concrete Truck Capacity (CY/truck) <sup>2</sup>	8.00
Max Daily Concrete Trucks	6.59
<b>Total One-Way Truck Trips</b>	<b>14.00</b>

Aggregate and Chipseal<sup>6</sup>

Aggregate - South Portal

Parameter	Value
Total Import Volume (CY) <sup>1</sup>	2,316.00
Haul Truck Capacity (CY/truck) <sup>2</sup>	16.00
Haul Trucks Required	144.75
<b>Total One-Way Haul Trucks</b>	<b>290.00</b>

Aggregate - South Portal

Parameter	Value
<b>Total One-Way Truck Trips</b>	<b>290.00</b>

Chip Seal/Paving

Chipseal amount - South Portal

Parameter	Value
Total Chipseal Volume (cubic yards) <sup>1</sup>	3,444.00
Total Chipseal Volume (square feet) <sup>1</sup>	93,000.00
Total Chipseal Volume (Gallons) <sup>7</sup>	1,395.00
Max Daily Chip Seal Gallons (CY) <sup>1</sup>	3,100.00
Chipseal Truck Capacity (Gallon/truck) <sup>8</sup>	600.00
Max Daily Chip Seal Trucks	6.00
<b>Total One-Way Truck Trips</b>	<b>12.00</b>

AMM GEN-8 Avoidance/Minimization Measure

Water 2x a day/ every four hours (unpaved roads) <sup>4</sup>	55%	
Street sweeping (paved roads) <sup>5</sup>	7%	
Cover storage piles (material handling) <sup>4</sup>	90%	
		<b>MITIGATION MEASURES - DUST</b>
Water Truck/Watering PM Reduction <sup>4</sup>	reduction	
Every three hours + 12% moisture	69%	
Every two hours	74%	
Gravel Road /Trackout for connection to paved roads	46%	
Chemical Dust Suppression (unpaved roads) <sup>4</sup> pg6-11	84%	
		<b>ONSITE VEHICLE SPEED</b>
SLO Region Default	32.40	mph
15 mph mitigation	15.00	mph
		<b>Offroad engine Emission Reduction</b>
SLOAPCD BACT	Tier 4 Final for equip. over 50hp	

Vendor Truck Trips<sup>8</sup>

Parameter	Value
<b>Daily Vendor Trips<sup>8</sup></b>	<b>8.00</b>

Sources

- 1 [Project Description](#)
- 2 [Concrete Truck Capacity](#)
- 3 [worker trips](#)
- 4 [https://www.env.nm.gov/wp-content/uploads/sites/2/2017/02/WRAP\\_FDHandbook\\_Rev\\_06.pdf](https://www.env.nm.gov/wp-content/uploads/sites/2/2017/02/WRAP_FDHandbook_Rev_06.pdf)
- 5 [Saved project files](#)
- 6 [Chip sealing trailers, trucks and chip spreaders 518-218-7676 \(pavementgroup.com\)](#)
- 7 [Asphalt Sealcoating and Crack Filling Calculators | Asphalt Sealcoating Direct](#)
- 8 [ILT Data Needs - Vendor Truck info](#)
- 9 [CalEEMod User guide Page 36](#)

Total # of One-Way Worker Trips/day (Roundtrip) <sup>3</sup>	Total # of One-Way Vendor Trips/day (Roundtrip)	Total # of One-Way Haul Trucks Trips (Roundtrip)	Total One-Way Haul Truck Trips/day (Roundtrip)	Offsite Trip Length (mi)			Onsite Trip Length (mi)			Vehicle Class		
				Worker	Vendor	Haul	ONSITE (Worker)	ONSITE (Vendor)	ONSITE (Haul)	Worker	Vendor	Haul
16	8	9542	214	20.95	20.95	5.55	0.14	0.14	1.51	LD_Mix	HDT_Mix	HHDT
18	36	3766	26	20.95	20.95	27.95	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
4	8	0	0	20.95	20.95	0.00	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
6	8	0	0	20.95	20.95	0.00	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
8	8	0	0	20.95	20.95	0.00	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
6	8	0	0	20.95	20.95	0.00	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
6	8	0	0	20.95	20.95	0.00	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
6	0	0	0	20.95	20.95	0.00	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
8	10	0	0	20.95	20.95	27.95	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
8	22	290	10	20.95	20.95	27.95	1.09	1.09	1.09	LD_Mix	HDT_Mix	HHDT
8	8	0	0	20.95	20.95	0.95	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
10	10	0	0	20.95	20.95	0.95	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
6	8	0	0	20.95	20.95	0.95	1.09	1.09	1.09	LD_Mix	HDT_Mix	HHDT
6	12	0	0	20.95	20.95	0.95	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
8	8	0	0	20.95	20.95	27.95	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
56	0	0	0	20.95	20.95	0.95	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT

LD\_Mix LDA, LDT1, LDT2  
HDT\_Mix T6 Instate Construction Heavy/T7 Single Construction  
HHDT T7 Single Construction

Trip Lengths

Location			Source
	feet	miles	
Outlet Staging area to Energy Dissipation Structure - MBARD	737	0.14	Waypoint/PD
Tunnel opening to Soil Disposal Area - MBARD	2000	0.38	Waypoint/PD
Length of the Energy Dissipation/Site Access Road - MBARD	1600	0.30	Waypoint/PD
Length of the ATV Trail - MBARD	3045	0.58	Waypoint/PD
Spillway Work Staging Area to Work Area - MBARD	2750	0.52	Waypoint/PD
Width of Spillway area - MBARD	1800	0.34	Waypoint/PD
Outlet Staging Area Length - MBARD	450	0.09	Waypoint/PD
Intake Staging Area Length - SLOAPCD	750	0.14	Waypoint/PD
Length of Road from Nacimiento Lake Drive to Intake Structure - SLOAPCD	5000	0.95	Waypoint/PD
Vault Site Access Road - MBARD	6600	1.25	Waypoint/PD
Width of Soil disposal area - MBARD	800	0.15	Waypoint/PD
Length of Tunnel within SLOAPCD (underground)	9410	1.78	Google Earth
Distance to Paso Robles Landfill	-	27.00	PD
Distance from Nacimiento Lake Drive to Vault site access Road		4.60	Google Earth
Vault access Road to Soil disposal Area	7220	1.37	Waypoint/PD

Offroad Equipment (Fossil Fuel) Inventory

PLEASE READ

Code	Phase	Equipment Name	General Equipment Category	#/day	Hrs/Day	# of Equipment	Fuel Type	Engine Horsepower (if known)
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	513
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Compactor, Cat 816, 25ton	Other Construction Equipment	45	10	2	Diesel	220
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Mine Truck 20ton/15cy	Off-Highway Trucks	45	10	2	Diesel	214
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Pile Hammer	Bore/Drill Rigs	45	10	1	Diesel	40
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	246
026	Tunnel Intake Structure - Construct Intake structure structural elements	Concrete Pump Truck	--	17	10	2	Diesel	500
026	Tunnel Intake Structure - Construct Intake structure structural elements	Concrete Truck	--	17	4	5	Diesel	300
026	Tunnel Intake Structure - Construct Intake structure structural elements	Pickup	--	45	10	3	--	350
027	Tunnel Intake Structure - Install mechanical systems	Pickup	--	10	10	1	--	350
028	Tunnel Intake Structure - Construct Control Building	Pickup	--	30	10	1	--	350
028	Tunnel Intake Structure - Construct Control Building	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	246
029	Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	Pickup	--	20	10	1	--	350
030	Tunnel Intake Structure - Install fencing and security systems	Pickup	--	15	10	1	--	350
031	Tunnel Intake Structure - Install electrical and control systems	Pickup	--	20	10	1	--	350
032	Tunnel Intake Structure - Testing of control systems	Pickup	--	10	10	1	--	350
033	Tunnel Intake Structure - Re-vegetation and site demob	Pickup	--	10	10	1	--	350
033	Tunnel Intake Structure - Re-vegetation and site demob	Water Truck	--	10	10	1	diesel	350
059	Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	Pickup	--	15	10	1	--	350
059	Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	Pile Hammer	Crushing/Proc. Equipment	15	10	1	diesel	40
060	Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	Pickup	Pickup	10	10	1	--	350
060	Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	Water Truck	--	10	10	1	Diesel	350
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Dozer Cat D6/5.6cy	Rubber Tired Dozers	10	10	1	Diesel	145
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Mine Truck 20ton/15cy	Off-Highway Trucks	10	10	1	Diesel	214
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Water Truck	--	10	10	1	diesel	350
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	10	10	1	Diesel	246
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	513
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Compactor, Cat 816, 25ton	Other Construction Equipment	45	10	2	Diesel	220
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Mine Truck 20ton/15cy	Off-Highway Trucks	45	10	2	Diesel	214
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	246
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	513
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Compactor, Cat 816, 25ton	Other Construction Equipment	30	10	2	Diesel	220
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Mine Truck 20ton/15cy	Off-Highway Trucks	30	10	2	Diesel	214
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	246
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Backhoe Cat 375, 176k/5cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	273
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Crawler Crane 100ton/200'	Cranes	30	10	1	Diesel	265
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Excavator >0.5cy	Excavators	30	10	1	Diesel	100
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Hydraulic Crane 40ton/105'	Cranes	30	10	1	Diesel	152
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Mine Truck 20ton/15cy	Off-Highway Trucks	30	10	1	Diesel	214
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	246
065	Tunnel Intake Structure Portal - Remove TBM	500 Ton Crane	Cranes	30	24	1	Diesel	1325
065	Tunnel Intake Structure Portal - Remove TBM	Compressor, Stationary 1200cfm	Air Compressors	30	24	1	Electric	350
065	Tunnel Intake Structure Portal - Remove TBM	Crawler Crane 100ton/200'	Cranes	30	24	1	Diesel	265
065	Tunnel Intake Structure Portal - Remove TBM	EPBM and Backup 14'9"	Bore/Drill Rigs	30	24	1	Electric	1800
065	Tunnel Intake Structure Portal - Remove TBM	Flat Car, Rail	Other Material Handling Equipment	30	24	1	--	0
065	Tunnel Intake Structure Portal - Remove TBM	Hydraulic Crane 20ton/60'	Cranes	30	24	1	Diesel	130
065	Tunnel Intake Structure Portal - Remove TBM	Locomotive 12ton/120hp	Other Material Handling Equipment	30	24	1	Diesel	120
065	Tunnel Intake Structure Portal - Remove TBM	Pump, trash 200gpm/100ft head	Other Construction Equipment	30	24	1	Electric	10
065	Tunnel Intake Structure Portal - Remove TBM	Ventilation Fan 40hp	Other Construction Equipment	30	24	1	Electric	40
065	Tunnel Intake Structure Portal - Remove TBM	Water Treatment Plant	Other Construction Equipment	30	24	1	Electric	200
065	Tunnel Intake Structure Portal - Remove TBM	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	24	1	Diesel	246
						<b>Total for QC</b>		<b>69</b>

Notes:

- 1. Equipment that will not be modeled.
- 2. Offroad construction equipment is listed.
- 3. Onroad equipment is listed.
- 4. Electric equipment is listed.

SLOAPCD and Tunneling -offroad equipment

Code	Phase	Equipment Name	General Equipment Category	#/day	Hrs/Day	# of Equipment	Fuel Type	Engine Horsepower
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	513
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Compactor, Cat 816, 25ton	Other Construction Equipment	45	10	2	Diesel	220
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Mine Truck 20ton/15cy	Off-Highway Trucks	45	10	2	Diesel	214
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Pile Hammer	Bore/Drill Rigs	45	10	1	Diesel	40
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	246
028	Tunnel Intake Structure - Construct Control Building	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	246
059	Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	Pile Hammer	Crushing/Proc. Equipment	15	10	1	diesel	40
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Dozer Cat D6/5.6cy	Rubber Tired Dozers	10	10	1	Diesel	145
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Mine Truck 20ton/15cy	Off-Highway Trucks	10	10	1	Diesel	214
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	10	10	1	Diesel	246
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	513
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Compactor, Cat 816, 25ton	Other Construction Equipment	45	10	2	Diesel	220
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Mine Truck 20ton/15cy	Off-Highway Trucks	45	10	2	Diesel	214
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	246
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	513
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Compactor, Cat 816, 25ton	Other Construction Equipment	30	10	2	Diesel	220
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Mine Truck 20ton/15cy	Off-Highway Trucks	30	10	2	Diesel	214
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	246
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Backhoe Cat 375, 176k/5cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	273
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Crawler Crane 100ton/200'	Cranes	30	10	1	Diesel	265
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Excavator >0.5cy	Excavators	30	10	1	Diesel	100
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Hydraulic Crane 40ton/105'	Cranes	30	10	1	Diesel	152
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Mine Truck 20ton/15cy	Off-Highway Trucks	30	10	1	Diesel	214
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	246
065	Tunnel Intake Structure Portal - Remove TBM	500 Ton Crane	Cranes	30	24	1	Diesel	1325
065	Tunnel Intake Structure Portal - Remove TBM	Crawler Crane 100ton/200'	Cranes	30	24	1	Diesel	265
065	Tunnel Intake Structure Portal - Remove TBM	Flat Car, Rail	Other Material Handling Equipment	30	24	1	--	0
065	Tunnel Intake Structure Portal - Remove TBM	Hydraulic Crane 20ton/60'	Cranes	30	24	1	Diesel	130
065	Tunnel Intake Structure Portal - Remove TBM	Locomotive 12ton/120hp	Other Material Handling Equipment	30	24	1	Diesel	120
065	Tunnel Intake Structure Portal - Remove TBM	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	24	1	Diesel	246

**Vehicle Inventory - Onroad**

Code	Phase	Equipment Name	General Equipment Category	#/day	Hrs/Day	# of Equipment	Fuel Type	Engine Horsepower (if known)
026	Tunnel Intake Structure - Construct Intake structure structural elements	Concrete Pump Truck	--	17	10	2	Diesel	500
026	Tunnel Intake Structure - Construct Intake structure structural elements	Concrete Truck	--	17	4	5	Diesel	300
026	Tunnel Intake Structure - Construct Intake structure structural elements	Pickup	--	45	10	3	--	350
027	Tunnel Intake Structure - Install mechanical systems	Pickup	--	10	10	1	--	350
028	Tunnel Intake Structure - Construct Control Building	Pickup	--	30	10	1	--	350
029	Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	Pickup	--	20	10	1	--	350
030	Tunnel Intake Structure - Install fencing and security systems	Pickup	--	15	10	1	--	350
031	Tunnel Intake Structure - Install electrical and control systems	Pickup	--	20	10	1	--	350
032	Tunnel Intake Structure - Testing of control systems	Pickup	--	10	10	1	--	350
033	Tunnel Intake Structure - Re-vegetation and site demob	Pickup	--	10	10	1	--	350
033	Tunnel Intake Structure - Re-vegetation and site demob	Water Truck	--	10	10	1	diesel	350
059	Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	Pickup	--	15	10	1	--	350
060	Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	Pickup	Pickup	10	10	1	--	350
060	Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	Water Truck	--	10	10	1	Diesel	350
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Water Truck	--	10	10	1	diesel	350

1. This equipment would just be used to calculate vendor truck trips. Pickup trucks are accounted in the worker trips.



**Offroad Equipment (Electric) Inventory**

1 hp = 0.7456999 kilowatts

Code	Phase	equipment Name	Category	Days	Hours per day	Number	Fuel Type	Horsepower	Kilowatts	Kilowatt Hours (day)	Kilowatt Hours (total)
065	Tunnel Intake Structure Portal - Remove TBM	Compressor, Stationary 1200cfm	Air Compressors	30	24	1	Electric	350	260.99495	6263.878908	187916.3672
065	Tunnel Intake Structure Portal - Remove TBM	EPBM and Backup 14'9"	Bore/Drill Rigs	30	24	1	Electric	1800	1342.2598	32214.23438	966427.0315
065	Tunnel Intake Structure Portal - Remove TBM	Pump, trash 200gpm/100ft head	Other Construction Equipment	30	24	1	Electric	10	7.4569987	178.9679688	5369.039064
065	Tunnel Intake Structure Portal - Remove TBM	Ventilation Fan 40hp	Other Construction Equipment	30	24	1	Electric	40	29.827995	715.8718752	21476.15626
065	Tunnel Intake Structure Portal - Remove TBM	Water Treatment Plant	Other Construction Equipment	30	24	1	Electric	200	149.13997	3579.359376	107380.7813

1. Provided by the contractor. Assumed 100% load factor to calculate kilowatt hours.

Total kWh 1288569.375

Regional Emissions Summary

Phase Name	Start Date	End Date	# of Workdays	Daily Emissions (lb/day)									Daily Emissions (lb/day)			Total MT					
				ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e	
Tunnel Intake Structure - Excav	10/2/23	12/1/23	45	1.6	23.8	77.9	0.2	72.6	0.3	72.9	10.3	0.3	10.6	17642.73	3.18	1.22	360.12	0.06	0.02	369.15	
Tunnel Intake Structure - Const	12/4/23	6/28/24	150	1.6	8.5	2.7	0.1	4.9	0.1	5.0	3.9	0.1	4.0	5545.45	0.02	0.84	377.31	0.00	0.06	394.37	
Tunnel Intake Structure - Install	7/1/24	8/9/24	30	0.0	0.8	0.4	0.0	0.8	0.0	0.8	0.8	0.0	0.8	600.37	0.00	0.09	8.17	0.00	0.00	8.52	
Tunnel Intake Structure - Const	8/12/24	9/20/24	30	0.2	1.4	8.0	0.0	1.0	0.0	1.0	1.2	0.0	1.2	1586.97	0.31	0.09	21.60	0.00	0.00	22.06	
Tunnel Intake Structure - Install	11/18/24	12/13/24	20	0.1	0.9	0.7	0.0	1.1	0.0	1.1	1.5	0.0	1.5	660.30	0.01	0.09	5.99	0.00	0.00	6.23	
Tunnel Intake Structure - Install	1/13/25	1/31/25	15	0.1	0.8	0.5	0.0	1.0	0.0	1.0	1.1	0.0	1.2	623.14	0.00	0.09	4.24	0.00	0.00	4.42	
Tunnel Intake Structure - Install	12/16/24	1/10/25	20	0.1	0.9	0.5	0.0	1.0	0.0	1.0	1.2	0.0	1.2	630.34	0.00	0.09	5.72	0.00	0.00	5.96	
Tunnel Intake Structure - Testin	1/13/25	1/24/25	10	0.0	0.0	0.4	0.0	0.4	0.0	0.4	1.1	0.0	1.1	88.44	0.00	0.00	0.40	0.00	0.00	0.41	
Tunnel Intake Structure - Re-ve	2/3/25	2/28/25	20	0.1	1.0	0.7	0.0	1.2	0.0	1.2	1.5	0.0	1.5	786.30	0.01	0.11	7.13	0.00	0.00	7.43	
Tunnel Intake Structure Portal -	4/17/23	5/26/23	30	0.4	4.6	3.8	0.0	16.4	0.0	16.5	12.4	0.0	12.4	3228.28	0.03	0.43	41.27	0.00	0.01	43.03	
Tunnel Intake Structure Portal -	5/29/23	7/7/23	30	0.1	0.9	0.7	0.0	1.1	0.0	1.1	1.5	0.0	1.6	667.62	0.01	0.09	9.08	0.00	0.00	9.45	
Tunnel Intake Structure Portal -	5/29/23	6/9/23	10	0.4	2.4	16.3	0.0	3.9	0.1	4.0	3.2	0.1	3.3	3249.09	0.79	0.11	14.74	0.00	0.00	14.98	
Tunnel Intake Structure Portal -	4/17/23	6/16/23	45	1.1	6.2	70.8	0.1	6.6	0.2	6.8	8.6	0.2	8.8	10189.05	3.08	0.09	207.98	0.06	0.00	210.13	
Tunnel Intake Structure Portal -	7/10/23	8/18/23	30	1.1	6.5	70.9	0.1	1.2	0.2	1.5	1.2	0.2	1.4	10425.91	3.08	0.13	141.87	0.04	0.00	143.46	
Tunnel Intake Structure Portal -	8/21/23	9/29/23	30	0.6	3.4	31.1	0.1	1.1	0.1	1.2	1.5	0.1	1.6	5192.93	1.47	0.09	70.66	0.02	0.00	71.53	
Tunnel Intake Structure Portal -	10/7/24	11/15/24	30	2.1	9.1	99.6	0.2	3.8	0.3	4.1	10.1	0.3	10.4	16931.99	6.37	0.17	230.41	0.09	0.00	233.26	
0				1.6	23.8	99.6	0.2	72.6	0.3	72.9	21.0	0.3	21.3							Total	1544.39
Max Daily (lb/day)				25.4	99.6	99.6	0.2	72.6	0.3	72.9	21.0	0.3	21.3								
SLOAPCD Regional Thresholds (Daily Thresholds)				137	-	-	-	-	-	-	7	-	-								
Exceeds Threshold?				No	No	No	No	No	No	No	No	No	No								100 -Year Amortization 15

Row Labels	Daily Emissions (lb/day)									
	Max of VOC	Max of NOX	Max of CO	Max of SOX	Max of Fugitive PM10	Max of Exhaust PM10	Max of Total PM10	Max of Fugitive PM2.5	Max of Exhaust PM2.5	Max of Total PM2.5
2023	1.6	23.8	87.8	0.2	72.6	0.3	72.9	21.0	0.3	21.3
2024	2.1	9.1	99.6	0.2	4.9	0.3	5.0	10.1	0.3	10.4
2025	0.1	1.0	0.9	0.0	1.4	0.0	1.4	2.2	0.0	2.2
Max Daily (lbs/day)	2.1	23.8	99.6	0.2	72.6	0.3	72.9	21.0	0.3	21.3
	25.4	99.6	99.6	0.2	72.6	0.3	72.9	21.0	0.3	21.3
SLOAPCD Regional Thresholds (Daily Thresholds)	137	-	-	-	-	-	-	7	-	-
	No	No	No	No	No	No	No	No	No	No

Total GHG Emission Per Phase									
Phase Name	Start Date	End Date	# of Workdays	CO2 (MT)	CH4 (MT)	N2O (MT)	CO2e (MT)	Amortized CO2e (MT)	
Tunnel Intake Structure	10/2/23	2/28/25	370	790.7	0.1	0.1	818.5	8.2	
Tunnel Intake Structure Portal	4/17/23	11/15/24	415	716.0	0.2	0.0	725.8	7.3	

Regional Emissions Summary - Tons per Quarter

Row Labels	Quarters	Sum of VOC Tons	Sum of NOx Tons	Sum of CO tons	Sum of SOx tons	Sum of Fugitive PM10 Tons	Sum of Exhaust PM10 Ton	Sum of Total PM10 Tons	Sum of Fugitive PM2.5 Tons	Sum of Exhaust PM2.5 Tons	Sum of Total PM2.5 Tons	Sum of ROG + NOx
2023	Qtr2	0.0323	0.2320	1.7413	0.0031	0.4269	0.0059	0.4328	0.4154	0.0059	0.4212	0.2642
2023	Qtr3	0.0247	0.1508	1.5307	0.0025	0.0378	0.0048	0.0426	0.0453	0.0048	0.0501	0.1755
2023	Qtr4	0.0518	0.6196	1.7788	0.0045	1.6821	0.0077	1.6898	0.2712	0.0076	0.2788	0.6714
2024	Qtr1	0.0515	0.2747	0.0863	0.0017	0.1589	0.0028	0.1616	0.1273	0.0027	0.1300	0.3262
2024	Qtr2	0.0515	0.2747	0.0863	0.0017	0.1589	0.0028	0.1616	0.1273	0.0027	0.1300	0.3262
2024	Qtr3	0.0091	0.0332	0.1256	0.0003	0.0269	0.0006	0.0274	0.0295	0.0005	0.0300	0.0363
2024	Qtr4	0.0327	0.1503	1.5036	0.0028	0.0737	0.0053	0.0789	0.1730	0.0053	0.1783	0.1830
2025	Qtr1	0.0016	0.0198	0.0146	0.0001	0.0255	0.0002	0.0257	0.0338	0.0002	0.0340	0.0214
2025	Qtr2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2025	Qtr3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2025	Qtr4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Regional Emissions Summary - Quarterly

Quarters	Sum of VOC Tons	Sum of NOx Tons	Sum of CO tons	Sum of SOx tons	Sum of Fugitive PM10 Tons	Sum of Exhaust PM10 Ton	Sum of Total PM10 Tons	Sum of Fugitive PM2.5 Tons	Sum of Exhaust PM2.5 Tons	Sum of Total PM2.5 Tons	Sum of ROG + NOx
Q2 2023	0.0	0.2	1.7	0.0	0.4	0.0	0.4	0.4	0.0	0.4	0.3
Q3 2023	0.0	0.2	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Q4 2023	0.1	0.6	1.8	0.0	1.7	0.0	1.7	0.3	0.0	0.3	0.7
Q1 2024	0.1	0.3	0.1	0.0	0.2	0.0	0.2	0.1	0.0	0.1	0.3
Q2 2024	0.1	0.3	0.1	0.0	0.2	0.0	0.2	0.1	0.0	0.1	0.3
Q3 2024	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Q4 2024	0.0	0.2	1.5	0.0	0.1	0.0	0.1	0.2	0.0	0.2	0.2
Q1 2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Q2 2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Q3 2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Q4 2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Q4 2025	0.1	0.6	1.8	0.0	1.7	0.0	1.7	0.4	0.0	0.4	0.7
SLOAPCD Threshold Tier 1	-	-	-	-	2.50	-	-	-	0.13	-	2.50
Exceed Threshold?	No	No	No	No	No	No	No	No	No	No	No
SLOAPCD Threshold Tier 2	-	-	-	-	2.5	-	-	-	0.32	-	6.30
Exceed Threshold?	No	No	No	No	No	No	No	No	No	No	No
	Q4 2024	Q4 2024	Q4 2024	Q4 2024	Q4 2023	Q4 2024	Q4 2023	Q4 2023	Q4 2024	Q4 2023	Q4 2024

Offroad Equipment

Phase Name	Start	End	# of Workdays	First Year of CSTN	EF Year	Equipment Type	# of Equipment	hours/day	HP	LF
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	2023	Tractors/Loaders/Backhoes	2	10	513	0.37
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	2023	Other Construction Equipment	2	10	220	0.42
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	2023	Off-Highway Trucks	2	10	214	0.38
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	2023	Bore/Drill Rigs	1	10	40	0.5
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	2023	Tractors/Loaders/Backhoes	2	10	246	0.37
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	2024	Tractors/Loaders/Backhoes	1	10	246	0.37
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	15	2023	2023	Crushing/Proc. Equipment	1	10	40	0.78
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	2023	Rubber Tired Dozers	1	10	145	0.4
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	2023	Off-Highway Trucks	1	10	214	0.38
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	2023	Tractors/Loaders/Backhoes	2	10	513	0.37
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	2023	Other Construction Equipment	2	10	220	0.42
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	2023	Off-Highway Trucks	2	10	214	0.38
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	2023	Tractors/Loaders/Backhoes	2	10	246	0.37
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	2023	Tractors/Loaders/Backhoes	2	10	513	0.37
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	2023	Other Construction Equipment	2	10	220	0.42
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	2023	Off-Highway Trucks	2	10	214	0.38
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	2023	Tractors/Loaders/Backhoes	2	10	246	0.37
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	2023	Tractors/Loaders/Backhoes	1	10	273	0.37
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	2023	Cranes	1	10	265	0.29
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	2023	Excavators	1	10	100	0.38
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	2023	Cranes	1	10	152	0.29
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	2023	Off-Highway Trucks	1	10	214	0.38
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	2024	Cranes	1	24	1325	0.29
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	2024	Cranes	1	24	265	0.29
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	2024	Other Material Handling Equipment	1	24	0	0.4
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	2024	Cranes	1	24	130	0.29
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	2024	Other Material Handling Equipment	1	24	120	0.4
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	2024	Tractors/Loaders/Backhoes	1	24	246	0.37

Phase Name	Emission Factor (g/bhp-hr)												
	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	476.43	0.15	0.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.56	0.15	0.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	475.05	0.15	0.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.71	0.15	0.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	476.43	0.15	0.00
Tunnel Intake Structure - Construct Control Building	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	476.73	0.15	0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	568.30	0.03	0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.60	0.15	0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	475.05	0.15	0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	476.43	0.15	0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	476.43	0.15	0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.56	0.15	0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	475.05	0.15	0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	476.43	0.15	0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	476.43	0.15	0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.56	0.15	0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	475.05	0.15	0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	476.43	0.15	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	476.43	0.15	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.97	0.15	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.28	0.15	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.97	0.15	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	475.05	0.15	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	476.43	0.15	0.00
Tunnel Intake Structure Portal - Remove TBM	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.96	0.15	0.00
Tunnel Intake Structure Portal - Remove TBM	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.96	0.15	0.00
Tunnel Intake Structure Portal - Remove TBM	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.22	0.15	0.00
Tunnel Intake Structure Portal - Remove TBM	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.96	0.15	0.00
Tunnel Intake Structure Portal - Remove TBM	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.22	0.15	0.00
Tunnel Intake Structure Portal - Remove TBM	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	476.73	0.15	0.00

Phase Name	Emissions (lb/day)												Total MT				
	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.42	2.18	30.97	0.04	0.00	0.08	0.08	0.00	0.08	0.08	3987.36	1.29	0.00	81.39	0.03	0.00	82.05
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.20	1.06	15.07	0.02	0.00	0.04	0.04	0.00	0.04	0.04	1913.06	0.62	0.00	39.05	0.01	0.00	39.36
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.18	0.93	9.32	0.02	0.00	0.04	0.04	0.00	0.04	0.04	1703.34	0.55	0.00	34.77	0.01	0.00	35.05
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.02	0.11	1.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	207.11	0.07	0.00	4.23	0.00	0.00	4.26
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.20	1.04	14.85	0.02	0.00	0.04	0.04	0.00	0.04	0.04	1912.07	0.62	0.00	39.03	0.01	0.00	39.34
Tunnel Intake Structure - Construct Control Building	0.10	0.52	7.42	0.01	0.00	0.02	0.02	0.00	0.02	0.02	956.64	0.31	0.00	13.02	0.00	0.00	13.12
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	0.03	0.18	2.55	0.00	0.00	0.01	0.01	0.00	0.01	0.01	390.90	0.02	0.00	2.66	0.00	0.00	2.66
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.06	0.33	3.32	0.01	0.00	0.01	0.01	0.00	0.01	0.01	606.86	0.20	0.00	2.75	0.00	0.00	2.77
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.09	0.47	4.66	0.01	0.00	0.02	0.02	0.00	0.02	0.02	851.67	0.28	0.00	3.86	0.00	0.00	3.89
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.10	0.52	7.42	0.01	0.00	0.02	0.02	0.00	0.02	0.02	956.03	0.31	0.00	4.34	0.00	0.00	4.37
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.42	2.18	30.97	0.04	0.00	0.08	0.08	0.00	0.08	0.08	3987.36	1.29	0.00	81.39	0.03	0.00	82.05
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.20	1.06	15.07	0.02	0.00	0.04	0.04	0.00	0.04	0.04	1913.06	0.62	0.00	39.05	0.01	0.00	39.36
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.18	0.93	9.32	0.02	0.00	0.04	0.04	0.00	0.04	0.04	1703.34	0.55	0.00	34.77	0.01	0.00	35.05
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.20	1.04	14.85	0.02	0.00	0.04	0.04	0.00	0.04	0.04	1912.07	0.62	0.00	39.03	0.01	0.00	39.34
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.42	2.18	30.97	0.04	0.00	0.08	0.08	0.00	0.08	0.08	3987.36	1.29	0.00	54.26	0.02	0.00	54.70
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.20	1.06	15.07	0.02	0.00	0.04	0.04	0.00	0.04	0.04	1913.06	0.62	0.00	26.03	0.01	0.00	26.24
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.18	0.93	9.32	0.02	0.00	0.04	0.04	0.00	0.04	0.04	1703.34	0.55	0.00	23.18	0.01	0.00	23.37
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.20	1.04	14.85	0.02	0.00	0.04	0.04	0.00	0.04	0.04	1912.07	0.62	0.00	26.02	0.01	0.00	26.23
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.11	0.58	8.24	0.01	0.00	0.02	0.02	0.00	0.02	0.02	1060.96	0.34	0.00	14.44	0.00	0.00	14.55
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.08	0.44	4.41	0.01	0.00	0.02	0.02	0.00	0.02	0.02	801.34	0.26	0.00	10.90	0.00	0.00	10.99
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.04	0.22	3.10	0.00	0.00	0.01	0.01	0.00	0.01	0.01	395.66	0.13	0.00	5.38	0.00	0.00	5.43
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.05	0.25	2.53	0.00	0.00	0.01	0.01	0.00	0.01	0.01	459.64	0.15	0.00	6.25	0.00	0.00	6.31
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.09	0.47	4.66	0.01	0.00	0.02	0.02	0.00	0.02	0.02	851.67	0.28	0.00	11.59	0.00	0.00	11.68
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.10	0.52	7.42	0.01	0.00	0.02	0.02	0.00	0.02	0.02	956.03	0.31	0.00	13.01	0.00	0.00	13.11
Tunnel Intake Structure Portal - Remove TBM	1.02	5.29	52.86	0.10	0.00	0.20	0.20	0.00	0.20	0.20	9615.89	3.11	0.00	130.85	0.04	0.00	131.91
Tunnel Intake Structure Portal - Remove TBM	0.20	1.06	10.57	0.02	0.00	0.04	0.04	0.00	0.04	0.04	1923.18	0.62	0.00	26.17	0.01	0.00	26.38
Tunnel Intake Structure Portal - Remove TBM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Remove TBM	0.10	0.52	5.19	0.01	0.00	0.02	0.02	0.00	0.02	0.02	943.45	0.31	0.00	12.84	0.00	0.00	12.94
Tunnel Intake Structure Portal - Remove TBM	0.13	0.66	9.40	0.01	0.00	0.03	0.03	0.00	0.03	0.03	1199.31	0.39	0.00	16.32	0.01	0.00	16.45
Tunnel Intake Structure Portal - Remove TBM	0.24	1.25	17.82	0.02	0.00	0.05	0.05	0.00	0.05	0.05	2295.93	0.74	0.00	31.24	0.01	0.00	31.49

Offroad Equipment - Energy Consumption

Phase	Start Date	equipment Name	Category	Year	Days	Hours per day	Number	Fuel Type	Horsepower	Kilowatts	Kilowatt Hours (day)	Kilowatt Hours (total)	lbs of CO2 per day				Total MT			
													CO2	CH4	N2O	CO2e	CO2	CH4	N2O	CO2e
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	Compressor, Stationary 1200cfm	Air compressors	2024	30	24	1	Electric	350	261	6264	187916	16.79	0.17	0.02	27.19	0.23	0.00	0.00	0.37
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	EPBM and Backup 14'9"	Air compressors	2024	30	24	1	Electric	1800	1342	32214	966427	86.33	0.87	0.11	139.81	1.17	0.01	0.00	1.90
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	Pump, trash 200gpm/100ft head	Air compressors	2024	30	24	1	Electric	10	7	179	5369	0.48	0.00	0.00	0.78	0.01	0.00	0.00	0.01
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	Ventilation Fan 40hp	Air compressors	2024	30	24	1	Electric	40	30	716	21476	1.92	0.02	0.00	3.11	0.03	0.00	0.00	0.04
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	Water Treatment Plant	Air compressors	2024	30	24	1	Electric	200	149	3579	107381	9.59	0.10	0.01	15.53	0.13	0.00	0.00	0.21

Notes:

PG&E 2019 CO2 (lbs per MWh) delivered rate 2.68  
 GHG Intensity Factor lb CH4/MWh (Statewide EF's for 2024) 0.03  
 GHG Intensity Factor lb N2O/MWh (Statewide EF's for 2024) 0.00

Source:

1. [https://www.pgecorp.com/corp\\_responsibility/reports/2021/assets/PGE\\_CRSR\\_2021.pdf](https://www.pgecorp.com/corp_responsibility/reports/2021/assets/PGE_CRSR_2021.pdf)

Demolition Fugitive Dust Emissions

Phase Name	Start Date	End Date	Total Days	Year	Demo Debris Weight (tons)	Demo EF (lb/ton throughput)						Emissions (lb/day)					
						PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Construct intake structure structural elements	12/4/23	6/28/24	150	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00



**Truck Loading Fugitive Dust Emissions**

Phase Name	Start Date	End Date	Total Days	Year	Total CY	Tons/CY	Throughput (tons)
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	66794	1.2642	84438.72
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	26362	1.2642	33325.95
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0	1.2642	0.00
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0	1.2642	0.00
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0	1.2642	0.00
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0	1.2642	0.00
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0	1.2642	0.00
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	1.2642	0.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0	1.2642	0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	2030	1.2642	2566.26
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0	1.2642	0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0	1.2642	0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0	1.2642	0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0	1.2642	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0	1.2642	0.00
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	1.2642	0.00

**Truck Loading Fugitive Dust Emissions**

Phase Name	Truck Loading EF (lb/ton throughput)						Emissions (lb/day) <sup>1</sup>					
	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.02		0.02	0.00		0.00
Tunnel Intake Structure - Construct Intake structure structural elements	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install mechanical systems	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Construct Control Building	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install fencing and security systems	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install electrical and control systems	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Testing of control systems	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Re-vegetation and site demob	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00

**Bulldozing Fugitive Dust Emissions**

Phase Name	Start	End	# of Workdays	First Year of CSTN	Equipment Type	# of Equipment	hours/day
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Tractors/Loaders/Backhoes	2	10
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Other Construction Equipment	2	10
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Off-Highway Trucks	2	10
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Bore/Drill Rigs	1	10
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Tractors/Loaders/Backhoes	2	10
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	Tractors/Loaders/Backhoes	1	10
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	15	2023	Crushing/Proc. Equipment	1	10
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	Rubber Tired Dozers	1	10
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	Off-Highway Trucks	1	10
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	Tractors/Loaders/Backhoes	1	10
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	Tractors/Loaders/Backhoes	2	10
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	Other Construction Equipment	2	10
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	Off-Highway Trucks	2	10
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	Tractors/Loaders/Backhoes	2	10
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	Tractors/Loaders/Backhoes	2	10
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	Other Construction Equipment	2	10
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	Off-Highway Trucks	2	10
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	Tractors/Loaders/Backhoes	2	10
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Tractors/Loaders/Backhoes	1	10
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Cranes	1	10
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Excavators	1	10
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Cranes	1	10
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Off-Highway Trucks	1	10
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Tractors/Loaders/Backhoes	1	10
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Cranes	1	24
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Cranes	1	24
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Other Material Handling Equipment	1	24
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Cranes	1	24
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Other Material Handling Equipment	1	24
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Tractors/Loaders/Backhoes	1	24

Bulldozing Fugitive Dust Emissions Phase Name	Emission Factor (lb/hr)						Emissions (lb/day) <sup>1</sup>					
	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Construct Control Building	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.75		0.75	0.41		0.41	2.33		2.33	1.28		1.28
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00

Grading Fugitive Dust Emissions

Phase Name	Start	End	# of Workdays	First Year of		Equipment Type	# of Equipment	Equipment Usage	Acres per 8-	Scaling	Acres per	Daily VMT
				CSTN				(hours/day)	hr day	Factor	day	
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023		Tractors/Loaders/Backhoes	2	10	0	8	0.000	0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023		Other Construction Equipment	2	10	0	8	0.000	0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023		Off-Highway Trucks	2	10	0	8	0.000	0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023		Bore/Drill Rigs	1	10	0	8	0.000	0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023		Tractors/Loaders/Backhoes	2	10	0	8	0.000	0.000
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024		Tractors/Loaders/Backhoes	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	15	2023		Crushing/Proc. Equipment	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023		Rubber Tired Dozers	1	10	0.5	8	0.625	0.430
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023		Off-Highway Trucks	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023		Tractors/Loaders/Backhoes	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023		Tractors/Loaders/Backhoes	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023		Other Construction Equipment	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023		Off-Highway Trucks	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023		Tractors/Loaders/Backhoes	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023		Tractors/Loaders/Backhoes	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023		Other Construction Equipment	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023		Off-Highway Trucks	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023		Tractors/Loaders/Backhoes	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023		Tractors/Loaders/Backhoes	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023		Cranes	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023		Excavators	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023		Cranes	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023		Off-Highway Trucks	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023		Tractors/Loaders/Backhoes	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024		Cranes	1	24	0	8	0.000	0.000
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024		Cranes	1	24	0	8	0.000	0.000
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024		Other Material Handling Equipment	1	24	0	8	0.000	0.000
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024		Cranes	1	24	0	8	0.000	0.000
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024		Other Material Handling Equipment	1	24	0	8	0.000	0.000
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024		Tractors/Loaders/Backhoes	1	24	0	8	0.000	0.000

Grading Fugitive Dust Emissions

Phase Name	Emission Factor (lb/VMT)						Emissions (lb/day)					
	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure - Construct Control Building	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	1.543		1.543	0.167		0.167	0.205		0.205	0.022		0.022
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Remove TBM	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Remove TBM	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Remove TBM	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Remove TBM	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Remove TBM	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Remove TBM	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Remove TBM	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi) <sup>1</sup>	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	16	0.14	0.057	0.136	1.821	0.005	617.129	0.004	617.132	569.943	0.013	569.956	0.011	0.083	0.000
Tunnel Intake Structure - Construct intake structure structural elements	12/4/2023	6/28/2024	150	2023	18	0.14	0.057	0.136	1.821	0.005	617.129	0.004	617.132	569.943	0.013	569.956	0.011	0.083	0.000
Tunnel Intake Structure - Install mechanical systems	7/1/2024	8/9/2024	30	2024	4	0.14	0.051	0.123	1.696	0.005	617.128	0.004	617.132	561.945	0.012	561.957	0.010	0.074	0.000
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	6	0.14	0.051	0.123	1.696	0.005	617.128	0.004	617.132	561.945	0.012	561.957	0.010	0.074	0.000
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/2024	12/13/2024	20	2024	8	0.14	0.051	0.123	1.696	0.005	617.128	0.004	617.132	561.945	0.012	561.957	0.010	0.074	0.000
Tunnel Intake Structure - Install fencing and security systems	1/13/2025	1/31/2025	15	2025	6	0.14	0.046	0.112	1.587	0.005	617.128	0.004	617.132	553.831	0.011	553.842	0.009	0.067	0.000
Tunnel Intake Structure - Install electrical and control systems	12/16/2024	1/10/2025	20	2024	6	0.14	0.051	0.123	1.696	0.005	617.128	0.004	617.132	561.945	0.012	561.957	0.010	0.074	0.000
Tunnel Intake Structure - Testing of control systems	1/13/2025	1/24/2025	10	2025	6	0.14	0.046	0.112	1.587	0.005	617.128	0.004	617.132	553.831	0.011	553.842	0.009	0.067	0.000
Tunnel Intake Structure - Re-vegetation and site demob	2/3/2025	2/28/2025	20	2025	8	0.14	0.046	0.112	1.587	0.005	617.128	0.004	617.132	553.831	0.011	553.842	0.009	0.067	0.000
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	30	2023	8	1.09	0.057	0.136	1.821	0.005	617.129	0.004	617.132	569.943	0.013	569.956	0.011	0.083	0.000
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/2023	7/7/2023	30	2023	8	0.14	0.057	0.136	1.821	0.005	617.129	0.004	617.132	569.943	0.013	569.956	0.011	0.083	0.000
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	10	0.14	0.057	0.136	1.821	0.005	617.129	0.004	617.132	569.943	0.013	569.956	0.011	0.083	0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	6	1.09	0.057	0.136	1.821	0.005	617.129	0.004	617.132	569.943	0.013	569.956	0.011	0.083	0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	6	0.14	0.057	0.136	1.821	0.005	617.129	0.004	617.132	569.943	0.013	569.956	0.011	0.083	0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	8	0.14	0.057	0.136	1.821	0.005	617.129	0.004	617.132	569.943	0.013	569.956	0.011	0.083	0.000
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	56	0.14	0.051	0.123	1.696	0.005	617.128	0.004	617.132	561.945	0.012	561.957	0.010	0.074	0.000

Worker Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi) <sup>1</sup>	Non-Running Emission Factors (g/trip)**												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	16	0.14	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure - Construct intake structure structural elements	12/4/2023	6/28/2024	150	2023	18	0.14	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure - Install mechanical systems	7/1/2024	8/9/2024	30	2024	4	0.14	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	6	0.14	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/2024	12/13/2024	20	2024	8	0.14	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Install fencing and security systems	1/13/2025	1/31/2025	15	2025	6	0.14	1.444	0.361	4.427	0.001	0.000	0.002	0.002	0.000	0.002	0.002	80.445	0.092	0.037
Tunnel Intake Structure - Install electrical and control systems	12/16/2024	1/10/2025	20	2024	6	0.14	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Testing of control systems	1/13/2025	1/24/2025	10	2025	6	0.14	1.444	0.361	4.427	0.001	0.000	0.002	0.002	0.000	0.002	0.002	80.445	0.092	0.037
Tunnel Intake Structure - Re-vegetation and site demob	2/3/2025	2/28/2025	20	2025	8	0.14	1.444	0.361	4.427	0.001	0.000	0.002	0.002	0.000	0.002	0.002	80.445	0.092	0.037
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	30	2023	8	1.09	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/2023	7/7/2023	30	2023	8	0.14	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	10	0.14	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	6	1.09	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	6	0.14	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	8	0.14	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	56	0.14	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038



Worker Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi) <sup>1</sup>	Emissions (lb/day)												Total MT				
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	16	0.14	0.06	0.01	0.18	0.00	0.96	0.00	0.96	2.86	0.00	2.86	2.95	0.00	0.00	0.06	0.00	0.00	0.07
Tunnel Intake Structure - Construct intake structure structural elements	12/4/2023	6/28/2024	150	2023	18	0.14	0.06	0.02	0.21	0.00	1.08	0.00	1.08	3.21	0.00	3.21	3.32	0.00	0.00	0.23	0.00	0.00	0.27
Tunnel Intake Structure - Install mechanical systems	7/1/2024	8/9/2024	30	2024	4	0.14	0.01	0.00	0.04	0.00	0.24	0.00	0.24	0.70	0.00	0.70	0.72	0.00	0.00	0.01	0.00	0.00	0.01
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	6	0.14	0.02	0.01	0.07	0.00	0.36	0.00	0.36	1.06	0.00	1.06	1.09	0.00	0.00	0.01	0.00	0.00	0.02
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/2024	12/13/2024	20	2024	8	0.14	0.03	0.01	0.09	0.00	0.48	0.00	0.48	1.41	0.00	1.41	1.45	0.00	0.00	0.01	0.00	0.00	0.02
Tunnel Intake Structure - Install fencing and security systems	1/13/2025	1/31/2025	15	2025	6	0.14	0.02	0.00	0.06	0.00	0.36	0.00	0.36	1.04	0.00	1.04	1.06	0.00	0.00	0.01	0.00	0.00	0.01
Tunnel Intake Structure - Install electrical and control systems	12/16/2024	1/10/2025	20	2024	6	0.14	0.02	0.01	0.07	0.00	0.36	0.00	0.36	1.06	0.00	1.06	1.09	0.00	0.00	0.01	0.00	0.00	0.01
Tunnel Intake Structure - Testing of control systems	1/13/2025	1/24/2025	10	2025	6	0.14	0.02	0.00	0.06	0.00	0.36	0.00	0.36	1.04	0.00	1.04	1.06	0.00	0.00	0.00	0.00	0.00	0.01
Tunnel Intake Structure - Re-vegetation and site demob	2/3/2025	2/28/2025	20	2025	8	0.14	0.03	0.01	0.08	0.00	0.48	0.00	0.48	1.39	0.00	1.39	1.42	0.00	0.00	0.01	0.00	0.00	0.02
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	30	2023	8	1.09	0.03	0.01	0.12	0.00	3.67	0.00	3.67	10.95	0.00	10.95	1.48	0.00	0.00	0.02	0.00	0.00	0.02
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/2023	7/7/2023	30	2023	8	0.14	0.03	0.01	0.09	0.00	0.48	0.00	0.48	1.43	0.00	1.43	1.48	0.00	0.00	0.02	0.00	0.00	0.02
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	10	0.14	0.03	0.01	0.12	0.00	0.60	0.00	0.60	1.78	0.00	1.78	1.84	0.00	0.00	0.01	0.00	0.00	0.01
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	6	1.09	0.02	0.01	0.09	0.00	2.76	0.00	2.76	8.21	0.00	8.21	1.11	0.00	0.00	0.02	0.00	0.00	0.03
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	6	0.14	0.02	0.01	0.07	0.00	0.36	0.00	0.36	1.07	0.00	1.07	1.11	0.00	0.00	0.02	0.00	0.00	0.02
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	8	0.14	0.03	0.01	0.09	0.00	0.48	0.00	0.48	1.43	0.00	1.43	1.48	0.00	0.00	0.02	0.00	0.00	0.02
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	56	0.14	0.19	0.05	0.61	0.00	3.35	0.00	3.36	9.85	0.00	9.86	10.13	0.01	0.00	0.14	0.00	0.00	0.16

Worker Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	16	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/2023	6/28/2024	150	2023	18	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure - Install mechanical systems	7/1/2024	8/9/2024	30	2024	4	20.9469697	0.017	0.089	0.987	0.003	0.315	0.002	0.316	0.078	0.001	0.079	316.640	0.004	0.007
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	6	20.9469697	0.017	0.089	0.987	0.003	0.315	0.002	0.316	0.078	0.001	0.079	316.640	0.004	0.007
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/2024	12/13/2024	20	2024	8	20.9469697	0.017	0.089	0.987	0.003	0.315	0.002	0.316	0.078	0.001	0.079	316.640	0.004	0.007
Tunnel Intake Structure - Install fencing and security systems	1/13/2025	1/31/2025	15	2025	6	20.9469697	0.016	0.081	0.923	0.003	0.315	0.001	0.316	0.078	0.001	0.079	311.517	0.004	0.007
Tunnel Intake Structure - Install electrical and control systems	12/16/2024	1/10/2025	20	2024	6	20.9469697	0.017	0.089	0.987	0.003	0.315	0.002	0.316	0.078	0.001	0.079	316.640	0.004	0.007
Tunnel Intake Structure - Testing of control systems	1/13/2025	1/24/2025	10	2025	6	20.9469697	0.016	0.081	0.923	0.003	0.315	0.001	0.316	0.078	0.001	0.079	311.517	0.004	0.007
Tunnel Intake Structure - Re-vegetation and site demob	2/3/2025	2/28/2025	20	2025	8	20.9469697	0.016	0.081	0.923	0.003	0.315	0.001	0.316	0.078	0.001	0.079	311.517	0.004	0.007
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	30	2023	8	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/2023	7/7/2023	30	2023	8	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	10	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	6	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	6	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	8	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	56	20.9469697	0.017	0.089	0.987	0.003	0.315	0.002	0.316	0.078	0.001	0.079	316.640	0.004	0.007

1) Accounts for all exhaust and evaporative processes

Worker Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	16	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/2023	6/28/2024	150	2023	18	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure - Install mechanical systems	7/1/2024	8/9/2024	30	2024	4	20.9469697	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	6	20.9469697	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/2024	12/13/2024	20	2024	8	20.9469697	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Install fencing and security systems	1/13/2025	1/31/2025	15	2025	6	20.9469697	1.444	0.361	4.427	0.001	0.000	0.002	0.002	0.000	0.002	0.002	80.445	0.092	0.037
Tunnel Intake Structure - Install electrical and control systems	12/16/2024	1/10/2025	20	2024	6	20.9469697	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Testing of control systems	1/13/2025	1/24/2025	10	2025	6	20.9469697	1.444	0.361	4.427	0.001	0.000	0.002	0.002	0.000	0.002	0.002	80.445	0.092	0.037
Tunnel Intake Structure - Re-vegetation and site demob	2/3/2025	2/28/2025	20	2025	8	20.9469697	1.444	0.361	4.427	0.001	0.000	0.002	0.002	0.000	0.002	0.002	80.445	0.092	0.037
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	30	2023	8	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/2023	7/7/2023	30	2023	8	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	10	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	6	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	6	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	8	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	56	20.9469697	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038

1) Accounts for all exhaust and evaporative processes

Worker Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day)											Total MT					
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	16	20.9469697	0.07	0.09	0.96	0.00	0.13	0.00	0.13	0.06	0.00	0.06	240.64	0.01	0.01	4.91	0.00	0.00	4.96
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/2023	6/28/2024	150	2023	18	20.9469697	0.08	0.10	1.08	0.00	0.14	0.00	0.14	0.06	0.00	0.07	270.72	0.01	0.01	18.42	0.00	0.00	18.60
Tunnel Intake Structure - Install mechanical systems	7/1/2024	8/9/2024	30	2024	4	20.9469697	0.02	0.02	0.22	0.00	0.03	0.00	0.03	0.01	0.00	0.01	59.21	0.00	0.00	0.81	0.00	0.00	0.81
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	6	20.9469697	0.02	0.03	0.34	0.00	0.05	0.00	0.05	0.02	0.00	0.02	88.82	0.00	0.00	1.21	0.00	0.00	1.22
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/2024	12/13/2024	20	2024	8	20.9469697	0.03	0.04	0.45	0.00	0.06	0.00	0.06	0.03	0.00	0.03	118.43	0.00	0.00	1.07	0.00	0.00	1.08
Tunnel Intake Structure - Install fencing and security systems	1/13/2025	1/31/2025	15	2025	6	20.9469697	0.02	0.03	0.31	0.00	0.05	0.00	0.05	0.02	0.00	0.02	87.38	0.00	0.00	0.59	0.00	0.00	0.60
Tunnel Intake Structure - Install electrical and control systems	12/16/2024	1/10/2025	20	2024	6	20.9469697	0.02	0.03	0.34	0.00	0.05	0.00	0.05	0.02	0.00	0.02	88.82	0.00	0.00	0.81	0.00	0.00	0.81
Tunnel Intake Structure - Testing of control systems	1/13/2025	1/24/2025	10	2025	6	20.9469697	0.02	0.03	0.31	0.00	0.05	0.00	0.05	0.02	0.00	0.02	87.38	0.00	0.00	0.40	0.00	0.00	0.40
Tunnel Intake Structure - Re-vegetation and site demob	2/3/2025	2/28/2025	20	2025	8	20.9469697	0.03	0.04	0.42	0.00	0.06	0.00	0.06	0.03	0.00	0.03	116.51	0.00	0.00	1.06	0.00	0.00	1.07
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	30	2023	8	20.9469697	0.03	0.04	0.48	0.00	0.06	0.00	0.06	0.03	0.00	0.03	120.32	0.00	0.00	1.64	0.00	0.00	1.65
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/2023	7/7/2023	30	2023	8	20.9469697	0.03	0.04	0.48	0.00	0.06	0.00	0.06	0.03	0.00	0.03	120.32	0.00	0.00	1.64	0.00	0.00	1.65
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	10	20.9469697	0.04	0.05	0.60	0.00	0.08	0.00	0.08	0.04	0.00	0.04	150.40	0.00	0.00	0.68	0.00	0.00	0.69
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	6	20.9469697	0.03	0.03	0.36	0.00	0.05	0.00	0.05	0.02	0.00	0.02	90.24	0.00	0.00	1.84	0.00	0.00	1.86
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	6	20.9469697	0.03	0.03	0.36	0.00	0.05	0.00	0.05	0.02	0.00	0.02	90.24	0.00	0.00	1.23	0.00	0.00	1.24
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	8	20.9469697	0.03	0.04	0.48	0.00	0.06	0.00	0.06	0.03	0.00	0.03	120.32	0.00	0.00	1.64	0.00	0.00	1.65
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	56	20.9469697	0.23	0.28	3.13	0.01	0.44	0.00	0.44	0.20	0.00	0.21	828.99	0.02	0.02	11.28	0.00	0.00	11.38

1) Accounts for all exhaust and evaporative processes

Vendor Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi) <sup>2</sup>	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	8	0.14	0.093	4.688	0.374	0.020	617.244	0.027	617.271	61.612	0.026	61.638	2158.440	0.004	0.340
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	36	0.14	0.093	4.688	0.374	0.020	617.244	0.027	617.271	61.612	0.026	61.638	2158.440	0.004	0.340
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	8	0.14	0.083	4.481	0.352	0.020	617.243	0.024	617.267	61.612	0.023	61.635	2121.912	0.004	0.334
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	8	0.14	0.083	4.481	0.352	0.020	617.243	0.024	617.267	61.612	0.023	61.635	2121.912	0.004	0.334
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	8	0.14	0.083	4.481	0.352	0.020	617.243	0.024	617.267	61.612	0.023	61.635	2121.912	0.004	0.334
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	8	0.14	0.074	4.254	0.330	0.020	617.243	0.021	617.264	61.612	0.020	61.632	2084.647	0.003	0.328
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	8	0.14	0.083	4.481	0.352	0.020	617.243	0.024	617.267	61.612	0.023	61.635	2121.912	0.004	0.334
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.14	0.074	4.254	0.330	0.020	617.243	0.021	617.264	61.612	0.020	61.632	2084.647	0.003	0.328
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	10	0.14	0.074	4.254	0.330	0.020	617.243	0.021	617.264	61.612	0.020	61.632	2084.647	0.003	0.328
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	22	1.09	0.093	4.688	0.374	0.020	617.244	0.027	617.271	61.612	0.026	61.638	2158.440	0.004	0.340
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	8	0.14	0.093	4.688	0.374	0.020	617.244	0.027	617.271	61.612	0.026	61.638	2158.440	0.004	0.340
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	10	0.14	0.093	4.688	0.374	0.020	617.244	0.027	617.271	61.612	0.026	61.638	2158.440	0.004	0.340
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	8	1.09	0.093	4.688	0.374	0.020	617.244	0.027	617.271	61.612	0.026	61.638	2158.440	0.004	0.340
Tunnel Intake Structure Portal - Install temporary utilities, Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	12	0.14	0.093	4.688	0.374	0.020	617.244	0.027	617.271	61.612	0.026	61.638	2158.440	0.004	0.340
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	8	0.14	0.093	4.688	0.374	0.020	617.244	0.027	617.271	61.612	0.026	61.638	2158.440	0.004	0.340
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.14	0.083	4.481	0.352	0.020	617.243	0.024	617.267	61.612	0.023	61.635	2121.912	0.004	0.334

1) Accounts for all exhaust and evaporative processes  
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Vendor Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi) <sup>2</sup>	Non-Running Emission Factors (g/trip) <sup>1</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	8	0.14	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	36	0.14	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	8	0.14	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	8	0.14	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	8	0.14	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	8	0.14	0.182	5.021	2.801	0.005	0.000	0.003	0.003	0.000	0.002	0.002	496.226	0.008	0.078
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	8	0.14	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.14	0.182	5.021	2.801	0.005	0.000	0.003	0.003	0.000	0.002	0.002	496.226	0.008	0.078
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	10	0.14	0.182	5.021	2.801	0.005	0.000	0.003	0.003	0.000	0.002	0.002	496.226	0.008	0.078
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	22	1.09	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	8	0.14	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	10	0.14	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	8	1.09	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Install temporary utilities, Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	12	0.14	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	8	0.14	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.14	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Vendor Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi) <sup>2</sup>	Emissions (lb/day) <sup>2</sup>											Total MT					
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	8	0.14	0.00	0.10	0.05	0.00	0.48	0.00	0.48	0.05	0.00	0.05	14.47	0.00	0.00	0.30	0.00	0.00	0.31
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	36	0.14	0.02	0.44	0.23	0.00	2.16	0.00	2.16	0.22	0.00	0.22	65.09	0.00	0.01	4.43	0.00	0.00	4.64
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	8	0.14	0.00	0.10	0.05	0.00	0.48	0.00	0.48	0.05	0.00	0.05	14.22	0.00	0.00	0.19	0.00	0.00	0.20
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	8	0.14	0.00	0.10	0.05	0.00	0.48	0.00	0.48	0.05	0.00	0.05	14.22	0.00	0.00	0.19	0.00	0.00	0.20
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	8	0.14	0.00	0.10	0.05	0.00	0.48	0.00	0.48	0.05	0.00	0.05	14.22	0.00	0.00	0.13	0.00	0.00	0.14
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	8	0.14	0.00	0.10	0.05	0.00	0.48	0.00	0.48	0.05	0.00	0.05	13.97	0.00	0.00	0.10	0.00	0.00	0.10
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	8	0.14	0.00	0.10	0.05	0.00	0.48	0.00	0.48	0.05	0.00	0.05	14.22	0.00	0.00	0.13	0.00	0.00	0.14
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	10	0.14	0.00	0.12	0.06	0.00	0.60	0.00	0.60	0.06	0.00	0.06	17.47	0.00	0.00	0.16	0.00	0.00	0.17
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	22	1.09	0.01	0.48	0.15	0.00	9.95	0.00	9.96	0.99	0.00	1.00	136.81	0.00	0.02	1.86	0.00	0.00	1.95
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	8	0.14	0.00	0.10	0.05	0.00	0.48	0.00	0.48	0.05	0.00	0.05	14.47	0.00	0.00	0.20	0.00	0.00	0.21
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	10	0.14	0.00	0.12	0.06	0.00	0.60	0.00	0.60	0.06	0.00	0.06	18.08	0.00	0.00	0.08	0.00	0.00	0.09
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	8	1.09	0.01	0.18	0.06	0.00	3.68	0.00	3.68	0.37	0.00	0.37	50.52	0.00	0.01	1.03	0.00	0.00	1.08
Tunnel Intake Structure Portal - Install temporary utilities, Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	12	0.14	0.01	0.15	0.08	0.00	0.72	0.00	0.72	0.07	0.00	0.07	21.70	0.00	0.00	0.30	0.00	0.00	0.31
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	8	0.14	0.00	0.10	0.05	0.00	0.48	0.00	0.48	0.05	0.00	0.05	14.47	0.00	0.00	0.20	0.00	0.00	0.21
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Vendor Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	8	20.9469697	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	36	20.9469697	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	8	20.9469697	0.026	1.702	0.106	0.013	0.386	0.021	0.407	0.101	0.020	0.122	1400.228	0.001	0.221
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	8	20.9469697	0.026	1.702	0.106	0.013	0.386	0.021	0.407	0.101	0.020	0.122	1400.228	0.001	0.221
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	8	20.9469697	0.026	1.702	0.106	0.013	0.386	0.021	0.407	0.101	0.020	0.122	1400.228	0.001	0.221
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	8	20.9469697	0.023	1.595	0.098	0.013	0.385	0.020	0.405	0.101	0.019	0.120	1385.789	0.001	0.218
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	8	20.9469697	0.026	1.702	0.106	0.013	0.386	0.021	0.407	0.101	0.020	0.122	1400.228	0.001	0.221
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	20.9469697	0.023	1.595	0.098	0.013	0.385	0.020	0.405	0.101	0.019	0.120	1385.789	0.001	0.218
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	10	20.9469697	0.023	1.595	0.098	0.013	0.385	0.020	0.405	0.101	0.019	0.120	1385.789	0.001	0.218
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	22	20.9469697	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	8	20.9469697	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	10	20.9469697	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	8	20.9469697	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure Portal - Install temporary utilities, Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	12	20.9469697	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	8	20.9469697	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	20.9469697	0.026	1.702	0.106	0.013	0.386	0.021	0.407	0.101	0.020	0.122	1400.228	0.001	0.221

1) Accounts for all exhaust and evaporative processes  
 2) Off-site would only be cement trips



Vendor Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	8	20.9469697	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	36	20.9469697	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	8	20.9469697	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	8	20.9469697	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	8	20.9469697	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	8	20.9469697	0.182	5.021	2.801	0.005	0.000	0.003	0.003	0.000	0.002	0.002	496.226	0.008	0.078
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	8	20.9469697	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	20.9469697	0.182	5.021	2.801	0.005	0.000	0.003	0.003	0.000	0.002	0.002	496.226	0.008	0.078
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	10	20.9469697	0.182	5.021	2.801	0.005	0.000	0.003	0.003	0.000	0.002	0.002	496.226	0.008	0.078
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	22	20.9469697	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	8	20.9469697	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	10	20.9469697	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	8	20.9469697	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Install temporary utilities, Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	12	20.9469697	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	8	20.9469697	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	20.9469697	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080

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Vendor Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day)											Total MT					
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	8	20.9469697	0.01	0.75	0.09	0.01	0.08	0.01	0.09	0.04	0.01	0.05	531.36	0.00	0.08	10.85	0.00	0.00	11.36
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	36	20.9469697	0.06	3.39	0.41	0.02	0.35	0.04	0.38	0.17	0.04	0.20	2391.12	0.00	0.38	162.69	0.00	0.03	170.33
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	8	20.9469697	0.01	0.72	0.09	0.00	0.08	0.01	0.08	0.04	0.01	0.04	526.21	0.00	0.08	7.16	0.00	0.00	7.50
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	8	20.9469697	0.01	0.72	0.09	0.00	0.08	0.01	0.08	0.04	0.01	0.04	526.21	0.00	0.08	7.16	0.00	0.00	7.50
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	8	20.9469697	0.01	0.72	0.09	0.00	0.08	0.01	0.08	0.04	0.01	0.04	526.21	0.00	0.08	4.77	0.00	0.00	5.00
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	8	20.9469697	0.01	0.68	0.09	0.00	0.08	0.01	0.08	0.04	0.01	0.04	520.72	0.00	0.08	3.54	0.00	0.00	3.71
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	8	20.9469697	0.01	0.72	0.09	0.00	0.08	0.01	0.08	0.04	0.01	0.04	526.21	0.00	0.08	4.77	0.00	0.00	5.00
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	20.9469697	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	10	20.9469697	0.01	0.85	0.11	0.01	0.10	0.01	0.11	0.05	0.01	0.06	650.90	0.00	0.10	5.90	0.00	0.00	6.18
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	22	20.9469697	0.04	2.04	0.25	0.01	0.21	0.02	0.23	0.10	0.02	0.12	1439.10	0.00	0.23	19.58	0.00	0.00	20.50
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	8	20.9469697	0.01	0.75	0.09	0.01	0.08	0.01	0.09	0.04	0.01	0.05	531.36	0.00	0.08	7.23	0.00	0.00	7.57
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	10	20.9469697	0.02	0.94	0.11	0.01	0.10	0.01	0.11	0.05	0.01	0.06	664.20	0.00	0.10	3.01	0.00	0.00	3.15
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	8	20.9469697	0.01	0.75	0.09	0.01	0.08	0.01	0.09	0.04	0.01	0.05	531.36	0.00	0.08	10.85	0.00	0.00	11.36
Tunnel Intake Structure Portal - Install temporary utilities, Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	12	20.9469697	0.02	1.13	0.14	0.01	0.12	0.01	0.13	0.06	0.01	0.07	797.04	0.00	0.13	10.85	0.00	0.00	11.36
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	8	20.9469697	0.01	0.75	0.09	0.01	0.08	0.01	0.09	0.04	0.01	0.05	531.36	0.00	0.08	7.23	0.00	0.00	7.57
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	20.9469697	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1) Accounts for all exhaust and evaporative processes  
 2) Off-site would only be cement trips

Haul Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	214	1.51	0.07	6.94	0.44	0.03	617.30	0.02	617.32	61.63	0.02	61.65	2725.41	0.00	0.43
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	26	0.14	0.07	6.94	0.44	0.03	617.30	0.02	617.32	61.63	0.02	61.65	2725.41	0.00	0.43
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0	0.14	0.07	6.69	0.42	0.03	617.30	0.02	617.31	61.63	0.02	61.65	2662.66	0.00	0.42
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0	0.14	0.07	6.69	0.42	0.03	617.30	0.02	617.31	61.63	0.02	61.65	2662.66	0.00	0.42
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0	0.14	0.07	6.69	0.42	0.03	617.30	0.02	617.31	61.63	0.02	61.65	2662.66	0.00	0.42
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0	0.14	0.07	6.40	0.40	0.02	617.30	0.02	617.31	61.63	0.02	61.65	2598.69	0.00	0.41
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0	0.14	0.07	6.69	0.42	0.03	617.30	0.02	617.31	61.63	0.02	61.65	2662.66	0.00	0.42
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.14	0.07	6.40	0.40	0.02	617.30	0.02	617.31	61.63	0.02	61.65	2598.69	0.00	0.41
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0	0.14	0.07	6.40	0.40	0.02	617.30	0.02	617.31	61.63	0.02	61.65	2598.69	0.00	0.41
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	10	1.09	0.07	6.94	0.44	0.03	617.30	0.02	617.32	61.63	0.02	61.65	2725.41	0.00	0.43
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0	0.14	0.07	6.94	0.44	0.03	617.30	0.02	617.32	61.63	0.02	61.65	2725.41	0.00	0.43
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0	0.14	0.07	6.94	0.44	0.03	617.30	0.02	617.32	61.63	0.02	61.65	2725.41	0.00	0.43
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0	1.09	0.07	6.94	0.44	0.03	617.30	0.02	617.32	61.63	0.02	61.65	2725.41	0.00	0.43
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0	0.14	0.07	6.94	0.44	0.03	617.30	0.02	617.32	61.63	0.02	61.65	2725.41	0.00	0.43
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0	0.14	0.07	6.94	0.44	0.03	617.30	0.02	617.32	61.63	0.02	61.65	2725.41	0.00	0.43
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.14	0.07	6.69	0.42	0.03	617.30	0.02	617.31	61.63	0.02	61.65	2662.66	0.00	0.42

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Haul Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>													
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	214	1.51	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	26	0.14	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0	0.14	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0	0.14	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0	0.14	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0	0.14	0.34	7.24	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	797.13	0.02	0.13
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0	0.14	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.14	0.34	7.24	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	797.13	0.02	0.13
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0	0.14	0.34	7.24	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	797.13	0.02	0.13
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	10	1.09	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0	0.14	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0	0.14	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0	1.09	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Install temporary utilities, Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0	0.14	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0	0.14	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.14	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Haul Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day) <sup>2</sup>											Total MT					
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	214	1.51	0.21	8.24	2.64	0.02	70.34	0.01	70.35	7.02	0.01	7.04	2331.83	0.01	0.37	47.60	0.00	0.01	49.84
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	26	0.14	0.02	0.46	0.29	0.00	0.80	0.00	0.80	0.08	0.00	0.08	69.69	0.00	0.01	4.74	0.00	0.00	4.97
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	10	1.09	0.01	0.32	0.12	0.00	2.37	0.00	2.37	0.24	0.00	0.24	83.70	0.00	0.01	1.14	0.00	0.00	1.19
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0	1.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Install temporary utilities, Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Haul Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	214	5.546969697	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	26	27.946969697	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0	0	0.02	2.18	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1661.67	0.00	0.26
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0	0	0.02	2.18	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1661.67	0.00	0.26
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0	0	0.02	2.18	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1661.67	0.00	0.26
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0	0	0.02	2.07	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1637.28	0.00	0.26
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0	0	0.02	2.18	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1661.67	0.00	0.26
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0	0.02	2.07	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1637.28	0.00	0.26
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0	27.946969697	0.02	2.07	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1637.28	0.00	0.26
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	10	27.946969697	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0	0.946969697	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0	0.946969697	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0	0.946969697	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure Portal - Install temporary utilities, Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0	0.946969697	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0	27.946969697	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.946969697	0.02	2.18	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1661.67	0.00	0.26

1) Accounts for all exhaust and evaporative processes  
 2) Soil import only. Soil export would be kept on-site.

Haul Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	214	5.546969697	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	26	27.946969697	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0	0	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0	0	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0	0	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0	0	0.34	7.24	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	797.13	0.02	0.13
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0	0	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0	0.34	7.24	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	797.13	0.02	0.13
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0	27.946969697	0.34	7.24	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	797.13	0.02	0.13
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	10	27.946969697	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0	0.946969697	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0	0.946969697	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0	0.946969697	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Install temporary utilities, Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0	0.946969697	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0	27.946969697	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.946969697	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13

1) Accounts for all exhaust and evaporative processes  
 2) Soil import only. Soil export would be kept on-site.

Haul Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day)											Total MT					
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	214	5.546969697	0.22	9.26	2.59	0.05	0.59	0.07	0.66	0.29	0.07	0.36	4798.54	0.01	0.76	97.95	0.00	0.02	102.55
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	26	27.946969697	0.05	4.05	0.44	0.03	0.36	0.04	0.40	0.18	0.04	0.22	2745.50	0.00	0.43	186.80	0.00	0.03	195.58
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0	27.946969697	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	10	27.946969697	0.02	1.56	0.17	0.01	0.14	0.02	0.16	0.07	0.02	0.08	1055.96	0.00	0.17	14.37	0.00	0.00	15.04
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0	0.946969697	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0	0.946969697	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0	0.946969697	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Install temporary utilities, Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0	0.946969697	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0	27.946969697	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.946969697	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1) Accounts for all exhaust and evaporative processes  
 2) Soil import only. Soil export would be kept on-site.



Architectural Coating Emissions

Phase Name	Coating Type	SF	Residential Interior EF	Residential Interior Area (SF)	Residential Exterior EF	Residential Exterior Area	Non-Residential Interior EF	Non-Residential Interior Area (SF)	Non-Residential Exterior EF	Non-Residential Exterior Area	Grout EF	Grout Area	Total Emissions
Tunnel Intake Structure - Excavate and support for approach channel and intake structure			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure - Construct Intake structure structural elements	Non-Residential	20,736	100	0	100	0	101	31104	101	10368	51	0.00	194.01
Tunnel Intake Structure - Install mechanical systems			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure - Construct Control Building			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure - Install fencing and security systems			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure - Install electrical and control systems			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure - Testing of control systems			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure - Re-vegetation and site demob			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure Portal - Remove TBM			100	0	100	0	100	0	100	0	50	0.00	0.00

Combined Phase Name5	Start Date5	End Date5	# of Workdays5	Emissions (lb/day)	
				ROG	
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45.00	0.00	
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150.00	1.29	
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30.00	0.00	
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30.00	0.00	
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20.00	0.00	
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15.00	0.00	
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20.00	0.00	
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10.00	0.00	
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20.00	0.00	
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30.00	0.00	
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30.00	0.00	
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10.00	0.00	
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45.00	0.00	
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30.00	0.00	
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30.00	0.00	
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30.00	0.00	

**Paving Off-Gassing Emissions**

Phase Name	Acres	Off-Gassing EF (lb/acre)	Total Emissions (lbs)
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	2.11	2.62	5.53
	0.00	2.62	0.00
	0.00	2.62	0.00

Combined Phase Name5	Start Date5	End Date5	# of Workdays5
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45.00
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150.00
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30.00
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30.00
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20.00
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15.00
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20.00
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30.00
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30.00
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30.00

Emissions (lb/day)
ROG
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.18
0.00
0.00
0.00
0.00
0.00
0.00

**Mechanical or Explosive Dismemberment**

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

EF emission factor (lb/ton)  
 k particle size multiplier, AP-42 default for PM10: 0.35; PM2.5: 0.053  
 U mean wind speed, m/s to mph  
 M material moisture content (%), AP-42 Default: 2

Parameter	PM10	PM2.5	CalEEMod Wind Speed (m/s)	Changes based on Project Location 3.2 CEC forecast zone 4
	Value	Value		
k (unitless)	0.35	0.053	<--confirm these parameters for location	
U (m/s to mph)	7.16	7.16	<--confirm these parameters for location	
M (%)	2	2	<--confirm these parameters for location	
<b>EF (lb/ton)</b>	<b>1.79E-03</b>	<b>2.70E-04</b>		

**Debris Loading**

$$EF_L = k \times EF_{L-TSP}$$

EF<sub>L</sub> emission factor (lb/ton)  
 k particle size multiplier, AP-42 default for PM10: 0.35; PM2.5: 0.053

Default EF<sub>L-TSP</sub> 0.058

lb/ton of debris	
PM10	PM2.5
0.0203	0.003074

**Total DEMO EF**

lb/ton of debris	
PM10	PM2.5
2.21E-02	3.34E-03

**Mechanical or Explosive Dismemberment**  
 Based on the MRI report, there is no AP-42 emission factor data available for this mechanical or explosive dismemberment. Thus, the emission factor for dismemberment and collapse of a structure is calculated using the following AP-42 equation for batch drop operations:

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

Where:  
 EF<sub>D</sub> = emission factor (lb PM/ton of debris)  
 EF<sub>D-PM10</sub> = 0.0011 lb PM<sub>10</sub>/ton of debris  
 EF<sub>D-PM2.5</sub> = 0.00017 lb PM<sub>2.5</sub>/ton of debris  
 k = particle size multiplier. The AP-42 default value for PM<sub>10</sub> is 0.35 and that for PM<sub>2.5</sub> is 0.053.  
 U = mean wind speed. The program selects the default mean wind speed based on the wind speed (m/s) provided on the project characteristics screen.  
 M = material moisture content. The program uses 2% as the default based on the MRI report.

The dust emissions are calculated by multiplying the above emission factors with the total weight of building waste using the following equation:

$$E_D = EF_D \times W$$

Where:  
 E<sub>D</sub> = emissions (lb of PM)  
 EF<sub>D</sub> = emission factor (lb of PM/ton of debris)  
 W = building waste (ton of debris)

<sup>10</sup> Midwest Research Institute. 1988. Gap Filling PM10 Emission Factors for Selected Open Area Dust Sources.

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**Debris Loading**  
 The dust emission factor of PM<sub>10</sub> and PM<sub>2.5</sub> in pounds per ton building waste is estimated based on the measured total suspended particulates (TSP) emission factor using the following equation:

$$EF_L = k \times EF_{L-TSP}$$

Where:  
 EF<sub>L</sub> = emission factor (lb/ton)  
 k = particle size multiplier. The AP-42 default value for PM<sub>10</sub> is 0.35 and that for PM<sub>2.5</sub> is 0.053.

The default value for EF<sub>L-TSP</sub> is 0.058 lb/ton, the average of the two TSP factor (i.e. 0.053 and 0.063 lb/ton) measured from two tests of the filling of trucks with crushed limestone using a front-end loader.

The dust emissions from debris loading are then calculated following the same methodology used for mechanical and or explosive dismemberment:

$$E_L = EF_L \times SF \times 0.046(\text{ton} / \text{ft}^2)$$

Where:  
 E<sub>L</sub> = emissions (lb)  
 EF<sub>L</sub> = emission factor (lb/ton)  
 SF = building square footage (ft<sup>2</sup>)

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Truck Loading Emissions

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

- EF emission factor (lb/ton)
- k particle size multiplier, AP-42 default for PM10: 0.35; PM2.5: 0.053
- U mean wind speed, m/s to mph
- M material moisture content (%), AP-42 Default: 12

CalEEMod Wind Speed (m/s) Changes based on Project Location

Parameter	PM10	PM2.5	3.2 CEC forecast zone 4
k (unitless)	0.35	0.053	<--confirm these parameters for location
U (m/s to mph)	7.16	7.16	<--confirm these parameters for location
M (%)	14	14	MJA, DRAFT - Preliminary Geotechnical Design Recommendations , February 2019.
EF (lb/ton)	1.17E-04	1.77E-05	

Emissions

E=EF x TP

- EF Emission factor (lb/ton)
- TP Throughput (tons)
- CY 95186 <--Enter in Project Value
- tons/CY 1.2641662
- TP 120330.92
- # of days with truck loading #REF! <--Enter in Project Value

Truck Loading

Processes such as truck dumping on the pile or loading out from the pile to a truck with a front-end loader also cause fugitive dust emissions. The program calculates these emissions using the methodology described in Section 13.2, Introduction to Fugitive Dust Sources, of USEPA AP-42. The emission factor that is based on the material moisture content and mean wind speed is calculated using the following formula:

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

Where:

EF = emission factor (lb/ton)

K = particle size multiplier. The AP-42 default value for PM<sub>10</sub> is 0.35 and that for PM<sub>2.5</sub> is 0.053

U = mean wind speed. The program selects wind speed based on the value listed on the Project Characteristics screen. It has been converted internally to miles per hour.

M = material moisture content (%). The moisture contents of different materials are listed in Table 13.2.4-1 of AP-42. The program uses the moisture content of cover (12%) as default.

The fugitive dust emissions are calculated by multiplying the emission factor with the throughput of loaded and unloaded material that is entered by the user.

$$E = EF \times TP$$

Where:

E = emissions (lb)

EF = emission factor (lb/ton)

TP = throughput of loaded and unloaded materials (ton)

CalEEMod assumes that 1.2641662 tons per cubic yard based on a bulk density of 1.5 grams per cubic centimeter. Typical soil densities range from about 1.25 to about 1.6 and 1.5 is the approximate density of a silty loam soil which is relatively common in most other parts of the state. The density reported above does not account for watering to suppress dust, it only accounts for natural moisture.

13.2.4.2

EMISSION FACTORS

Table 13.2.4-1. TYPICAL SILT AND MOISTURE CONTENTS OF MATERIALS AT VARIOUS INDUSTRIES\*

Industry	No. Of Facilities	Material	Silt Content (%)			Moisture Content (%)		
			No. Of Samples	Range	Mean	No. Of Samples	Range	Mean
Iron and steel production	9	Pellet ore	13	1.3 - 13	4.3	11	0.64 - 4.0	2.2
		Lump ore	9	2.8 - 19	9.5	6	1.6 - 8.0	5.4
		Coal	12	2.0 - 7.7	4.6	11	2.8 - 11	4.8
		Slag	3	3.0 - 7.3	5.3	3	0.25 - 2.0	0.92
		Flue dust	3	2.7 - 23	13	1	—	7
		Coke breeze	2	4.4 - 5.4	4.9	2	6.4 - 9.2	7.8
		Blended ore	1	—	15	1	—	6.6
		Sinter	1	—	0.7	0	—	—
		Limestone	3	0.4 - 2.3	1.0	2	ND	0.2
		Crushed limestone	2	1.3 - 1.9	1.6	2	0.3 - 1.1	0.7
Stone quarrying and processing	2	Various limestone products	8	0.8 - 14	3.9	8	0.46 - 5.0	2.1
		Pellets	9	2.2 - 5.4	3.4	7	0.05 - 2.0	0.9
Taconite mining and processing	1	Tailings	2	ND	11	1	—	0.4
		Coal	15	3.4 - 16	6.2	7	2.8 - 20	6.9
Western surface coal mining	4	Overburden	15	3.8 - 15	7.5	0	—	—
		Exposed ground	3	5.1 - 21	15	3	0.8 - 6.4	3.4
		Coal (as received)	60	0.6 - 4.8	2.2	59	2.7 - 7.4	4.5
Coal-fired power plant	1	Sand	1	—	2.6	1	—	7.4
		Slag	2	3.0 - 4.7	3.8	2	2.3 - 4.9	3.6
Municipal solid waste landfills	4	Cover	5	5.0 - 16	9.0	5	8.9 - 16	12
		Clay/dirt mix	1	—	9.2	1	—	14
		Clay	2	4.5 - 7.4	6.0	2	8.9 - 11	10
		Fly ash	4	78 - 81	80	4	26 - 29	27
		Misc. fill materials	1	—	12	1	—	11

\* References 1-10. ND = no data.

11/

**Bulldozing Emissions**

$$EF_{TSP} = \frac{C_{TSP} \times S^{1.2}}{M^{1.3}}, \text{ and } EF_{PM2.5} = EF_{TSP} \times F_{PM2.5}$$

$$EF_{PM15} = \frac{C_{PM15} \times S^{1.5}}{M^{1.4}}, \text{ and } EF_{PM10} = EF_{PM15} \times F_{PM10}$$

- EF emission factor (lb/hr)
- C arbitrary coefficient use by AP-42
- M material moisture content (%)
- S material silt content (%)
- F scaling factor

C <sub>TSP</sub> (unitless)	5.7
C <sub>PM15</sub> (unitless)	1
M(%)	7.9
s (%)	6.9
F <sub>PM10</sub> (unitless)	0.75
F <sub>PM2.5</sub> (unitless)	0.105

EF <sub>TSP</sub>	3.941
EF <sub>PM15</sub>	1.004

**Emission Factors (lb/hr)**

EF <sub>PM10</sub>	<b>0.753</b> Emission Factor Method Confirmed with comparison to CalEEMod outputs
EF <sub>PM2.5</sub>	<b>0.414</b> Emission Factor Method Confirmed with comparison to CalEEMod outputs

Emissions= EF x Hr	
# of hours per day	8
# of Bulldozers	1

Source	lb/day	
	PM10	PM2.5
Bulldozing Emissions	6.022	3.310

**Bulldozing**

Similar to the grading equipment passes emission estimation for PM<sub>10</sub> and PM<sub>2.5</sub> are scaled from those of PM<sub>15</sub> and TSP, the dust emission factor for bulldozing is calculated using the following equations:

$$EF_{TSP} = \frac{C_{TSP} \times S^{1.2}}{M^{1.3}}, \text{ and } EF_{PM2.5} = EF_{TSP} \times F_{PM2.5}$$

$$EF_{PM15} = \frac{C_{PM15} \times S^{1.5}}{M^{1.4}}, \text{ and } EF_{PM10} = EF_{PM15} \times F_{PM10}$$

Where:

- EF = emission factor (lb/hr)
- C = arbitrary coefficient used by AP-42
- M = material moisture content (%)
- S = material silt content (%)
- F = scaling factor

C, M, s, and F vary depending on the bulldozed material. Constants for overburden<sup>8</sup> presented in AP-42<sup>9</sup>.

**Bulldozing Fugitive Emissions**

Constant	Overburden
C <sub>TSP</sub>	
C <sub>PM15</sub>	
M	
s	
F <sub>PM10</sub>	
F <sub>PM2.5</sub>	

The program uses the constants associated with overburden for bulldozing dust emissions since overburden is more closely associated with the development construction. The dust emissions are calculated as a function of the hours of operation for the dozers listed in the following table:

$$E = EF \times Hr$$

Where:

- E = emissions (lb)
- EF = emission factor (lb/hr)
- Hr = hours of operation

<sup>8</sup> The earth that is between the topsoil and the coal seam (USEPA, 1988)  
<sup>9</sup> Tables 11.9-1 and 11.9-3 of USEPA AP-42

nation, the bulldozing emission factors  
 'SP. Based on Section 11.9 of AP-42,  
 ng the following equations:

5

$$F_{PM10}$$

al. The following table summarizes the

**ission Factors**

<b>urden</b>
5.7
1.0
7.9%
6.9%
0.75
0.105

urden as default for calculation of  
 ily models the bulldozed materials during  
 calculated by multiplying the emission  
 1 the equipment list using the formula

SEPA AP-42).



**Grading Emissions**

EFPM15

$$EF_{PM15} = 0.051 \times (S)^{2.0}, \text{ and } EF_{PM10} = EF_{PM15} \times F_{PM10}$$

$$EF_{TSP} = 0.04 \times (S)^{2.5}, \text{ and } EF_{PM2.5} = EF_{TSP} \times F_{PM2.5}$$

EF Emission Factor (lb/VMT)  
 S mean vehicle speed (mph), AP-42 Default: 7.1 mph  
 F<sub>PM2.5</sub> PM2.5 scaling factor, AP-42 default: 0.031  
 F<sub>PM10</sub> PM10 scaling factor, AP-42 default: 0.6

S	7.1
F <sub>PM2.5</sub>	0.031
F <sub>PM10</sub>	0.6
EF <sub>PM15</sub>	2.57
EF <sub>TSP</sub>	5.37
Emission factor (lb/VMT)	
EF <sub>PM10</sub>	1.543
EF <sub>PM2.5</sub>	0.167

**Emissions= EF x VMT**

VMT:

A<sub>site</sub> acreage of grading site  
 W<sub>b</sub> Width of blade, default: 12 feet  
 Feet/acre conversion 43560  
 feet/mile conversion 5280  
 Acres per 8-hr day amount of acres graded per day, see calc below

Parameters:	Value
A <sub>site</sub>	4.3
W <sub>b</sub>	12
Feet/acre conversion	43560
feet/mile conversion	5280
Acres per 8-hr day	1.5
VMT	1.03125

**Acres per 8-hr day**

Equipment Type	Acres/8-hr day	# of equipment	Equipment Hours per day	Scaling Factor	Acres per day
Crawler Tractors	0.5		8	8	0
Graders	0.5		8	8	0
Rubber Tired Dozers	0.5	3	8	8	1.5
Scrapers	1		8	8	0
					1.5

Source	lb/day	
	PM10	PM2.5
Grading Emissions	1.59E+00	1.72E-01

Calculation Method Confirmed with comparison to CalEEMod outputs

The grading dust emissions are calculated by multiplying the emission factors with the total vehicle miles traveled (VMT) for the grading equipment (i.e., grader). The VMT are estimated based on the dimensions of the grading area and the blade width of the grading equipment.

$$E = EF \times VMT, \text{ and}$$

$$VMT = As / Wb \times 43,560(\text{sqft} / \text{acre}) / 5,280(\text{ft} / \text{mile})$$

Where:  
 E: emissions (lb)  
 EF: emission factor (lb/VMT)  
 VMT: vehicle miles traveled (mile)  
 As: the acreage of the grading site (acre)  
 W<sub>b</sub>: Blade width of the grading equipment. The program uses a default blade width of 12 ft. based on Caterpillar's 140 Motor Grader<sup>7</sup>.

Note that the dimensions (e.g., length and width) of the grading site have no impact on the calculation, only the total area to be graded. In order to properly grade a piece of land multiple passes with equipment may be required. The acres is based on the equipment list and days in grading or site preparation phase according to the anticipated maximum number of acres a given piece of equipment can pass over in an 8-hour workday. The equipment-specific grading rates are given in the following table as determined by SCAQMD in consultation with building estimator references.

Equipment Type	Acres/8hr-day
Crawler Tractors	0.5
Graders	0.5
Rubber Tired Dozers	0.5
Scrapers	1











Excavators	2012	121	175	0.134232	0.448	3.8897	3.17939	0.000	0.276	0.258	522.089	0.151
Excavators	2012	176	250	0.802641	0.338	5.3277	1.4262	0.000	0.189	0.155	522.498	0.151
Excavators	2012	251	500	0.938496	0.239	4.03734	1.4295	0.000	0.131	0.121	520.934	0.152
Excavators	2012	501	750	0.134162	0.281	4.3898	1.47962	0.000	0.145	0.134	517.917	0.151
Excavators	2013	16	25	0.995402	0.836	5.0526	4.80774	0.000	0.399	0.362	578.236	0.17
Excavators	2013	16	50	0.995402	0.836	5.0526	4.80774	0.000	0.399	0.362	578.236	0.17
Excavators	2013	51	120	0.839021	0.537	5.3703	3.66866	0.000	0.404	0.372	511.731	0.151
Excavators	2013	121	175	0.839021	0.537	5.3703	3.66866	0.000	0.404	0.372	511.731	0.151
Excavators	2013	176	250	0.839021	0.537	5.3703	3.66866	0.000	0.404	0.372	511.731	0.151
Excavators	2013	251	500	0.839021	0.537	5.3703	3.66866	0.000	0.404	0.372	511.731	0.151
Excavators	2013	501	750	0.839021	0.537	5.3703	3.66866	0.000	0.404	0.372	511.731	0.151
Excavators	2014	16	25	0.981904	0.825	4.96504	4.84434	0.000	0.38	0.35	575.204	0.17
Excavators	2014	16	50	0.981904	0.825	4.96504	4.84434	0.000	0.38	0.35	575.204	0.17
Excavators	2014	51	120	0.835055	0.513	5.11137	3.61131	0.000	0.382	0.352	511.307	0.151
Excavators	2014	121	175	0.835055	0.513	5.11137	3.61131	0.000	0.382	0.352	511.307	0.151
Excavators	2014	176	250	0.835055	0.513	5.11137	3.61131	0.000	0.382	0.352	511.307	0.151
Excavators	2014	251	500	0.835055	0.513	5.11137	3.61131	0.000	0.382	0.352	511.307	0.151
Excavators	2014	501	750	0.835055	0.513	5.11137	3.61131	0.000	0.382	0.352	511.307	0.151
Excavators	2015	16	25	0.991028	0.833	4.91817	4.92488	0.000	0.375	0.345	569.516	0.17
Excavators	2015	16	50	0.991028	0.833	4.91817	4.92488	0.000	0.375	0.345	569.516	0.17
Excavators	2015	51	120	0.80346	0.507	5.0507	3.67943	0.000	0.373	0.344	506.127	0.151
Excavators	2015	121	175	0.80346	0.507	5.0507	3.67943	0.000	0.373	0.344	506.127	0.151
Excavators	2015	176	250	0.80346	0.507	5.0507	3.67943	0.000	0.373	0.344	506.127	0.151
Excavators	2015	251	500	0.80346	0.507	5.0507	3.67943	0.000	0.373	0.344	506.127	0.151
Excavators	2015	501	750	0.80346	0.507	5.0507	3.67943	0.000	0.373	0.344	506.127	0.151
Excavators	2016	16	25	0.997026	0.815	4.82432	4.94188	0.000	0.359	0.33	563.828	0.17
Excavators	2016	16	50	0.997026	0.815	4.82432	4.94188	0.000	0.359	0.33	563.828	0.17
Excavators	2016	51	120	0.816021	0.476	4.7806	3.6696	0.000	0.344	0.317	500.969	0.151
Excavators	2016	121	175	0.816021	0.476	4.7806	3.6696	0.000	0.344	0.317	500.969	0.151
Excavators	2016	176	250	0.816021	0.476	4.7806	3.6696	0.000	0.344	0.317	500.969	0.151
Excavators	2016	251	500	0.816021	0.476	4.7806	3.6696	0.000	0.344	0.317	500.969	0.151
Excavators	2016	501	750	0.816021	0.476	4.7806	3.6696	0.000	0.344	0.317	500.969	0.151
Excavators	2017	16	25	0.997026	0.815	4.82432	4.94188	0.000	0.359	0.33	563.828	0.17
Excavators	2017	16	50	0.997026	0.815	4.82432	4.94188	0.000	0.359	0.33	563.828	0.17
Excavators	2017	51	120	0.813542	0.44	4.7792	3.63939	0.000	0.33	0.305	493.429	0.151
Excavators	2017	121	175	0.813542	0.44	4.7792	3.63939	0.000	0.33	0.305	493.429	0.151
Excavators	2017	176	250	0.813542	0.44	4.7792	3.63939	0.000	0.33	0.305	493.429	0.151
Excavators	2017	251	500	0.813542	0.44	4.7792	3.63939	0.000	0.33	0.305	493.429	0.151
Excavators	2017	501	750	0.813542	0.44	4.7792	3.63939	0.000	0.33	0.305	493.429	0.151
Excavators	2018	16	25	0.988091	0.807	4.93518	4.70022	0.000	0.284	0.261	545.348	0.17
Excavators	2018	16	50	0.988091	0.807	4.93518	4.70022	0.000	0.284	0.261	545.348	0.17
Excavators	2018	51	120	0.838055	0.368	3.76366	3.52424	0.000	0.25	0.23	486.956	0.151
Excavators	2018	121	175	0.838055	0.368	3.76366	3.52424	0.000	0.25	0.23	486.956	0.151
Excavators	2018	176	250	0.838055	0.368	3.76366	3.52424	0.000	0.25	0.23	486.956	0.151
Excavators	2018	251	500	0.838055	0.368	3.76366	3.52424	0.000	0.25	0.23	486.956	0.151
Excavators	2018	501	750	0.838055	0.368	3.76366	3.52424	0.000	0.25	0.23	486.956	0.151
Excavators	2019	16	25	0.97885	0.837	4.81862	4.90688	0.000	0.25	0.23	536.912	0.17
Excavators	2019	16	50	0.97885	0.837	4.81862	4.90688	0.000	0.25	0.23	536.912	0.17
Excavators	2019	51	120	0.838098	0.325	3.38274	3.32421	0.000	0.211	0.194	478.212	0.151
Excavators	2019	121	175	0.838098	0.325	3.38274	3.32421	0.000	0.211	0.194	478.212	0.151
Excavators	2019	176	250	0.838098	0.325	3.38274	3.32421	0.000	0.211	0.194	478.212	0.151
Excavators	2019	251	500	0.838098	0.325	3.38274	3.32421	0.000	0.211	0.194	478.212	0.151
Excavators	2019	501	750	0.838098	0.325	3.38274	3.32421	0.000	0.211	0.194	478.212	0.151
Excavators	2020	16	25	0.979664	0.593	4.03131	4.00032	0.000	0.222	0.204	535.367	0.17
Excavators	2020	16	50	0.979664	0.593	4.03131	4.00032	0.000	0.222	0.204	535.367	0.17
Excavators	2020	51	120	0.837064	0.299	3.89964	3.50495	0.000	0.185	0.17	488.946	0.151
Excavators	2020	121	175	0.837064	0.299	3.89964	3.50495	0.000	0.185	0.17	488.946	0.151
Excavators	2020	176	250	0.837064	0.299	3.89964	3.50495	0.000	0.185	0.17	488.946	0.151
Excavators	2020	251	500	0.837064	0.299	3.89964	3.50495	0.000	0.185	0.17	488.946	0.151
Excavators	2020	501	750	0.837064	0.299	3.89964	3.50495	0.000	0.185	0.17	488.946	0.151
Excavators	2021	16	25	0.989115	0.562	3.91866	4.46094	0.000	0.202	0.186	525.374	0.17
Excavators	2021	16	50	0.989115	0.562	3.91866	4.46094	0.000	0.202	0.186	525.374	0.17
Excavators	2021	51	120	0.837374	0.275	2.84891	3.49396	0.000	0.161	0.148	487.796	0.151
Excavators	2021	121	175	0.837374	0.275	2.84891	3.49396	0.000	0.161	0.148	487.796	0.151
Excavators	2021	176	250	0.837374	0.275	2.84891	3.49396	0.000	0.161	0.148	487.796	0.151
Excavators	2021	251	500	0.837374	0.275	2.84891	3.49396	0.000	0.161	0.148	487.796	0.151
Excavators	2021	501	750	0.837374	0.275	2.84891	3.49396	0.000	0.161	0.148	487.796	0.151
Excavators	2022	16	25	0.98779	0.478	3.70039	4.27341	0.000	0.16	0.147	525.448	0.17
Excavators	2022	16	50	0.98779	0.478	3.70039	4.27341	0.000	0.16	0.147	525.448	0.17
Excavators	2022	51	120	0.839902	0.262	2.60464	3.47229	0.000	0.138	0.127	487.626	0.151
Excavators	2022	121	175	0.839902	0.262	2.60464	3.47229	0.000	0.138	0.127	487.626	0.151
Excavators	2022	176	250	0.839902	0.262	2.60464	3.47229	0.000	0.138	0.127	487.626	0.151
Excavators	2022	251	500	0.839902	0.262	2.60464	3.47229	0.000	0.138	0.127	487.626	0.151
Excavators	2022	501	750	0.839902	0.262	2.60464	3.47229	0.000	0.138	0.127	487.626	0.151
Excavators	2023	16	25	0.93724	0.45	3.91956	4.23933	0.000	0.139	0.128	525.426	0.17
Excavators	2023	16	50	0.93724	0.45	3.91956	4.23933	0.000	0.139	0.128	525.426	0.17
Excavators	2023	51	120	0.837823	0.31	2.80366	3.43637	0.000	0.116	0.107	487.373	0.151
Excavators	2023	121	175	0.837823	0.31	2.80366	3.43637	0.000	0.116	0.107	487.373	0.151
Excavators	2023	176	250	0.837823	0.31	2.80366	3.43637	0.000	0.116	0.107	487.373	0.151
Excavators	2023	251	500	0.837823	0.31	2.80366	3.43637	0.000	0.116	0.107	487.373	0.151
Excavators	2023	501	750	0.837823	0.31	2.80366	3.43637	0.000	0.116	0.107	487.373	0.151
Excavators	2024	16	25	0.989484	0.412	2.90431	3.07645	0.000	0.209	0.196	473.211	0.151
Excavators	2024	16	50	0.989484	0.412	2.90431	3.07645	0.000	0.209	0.196	473.211	0.151
Excavators	2024	51	120	0.844131	0.122	0.89111	1.00683	0.000	0.03	0.028	489.882	0.151
Excavators	2024	121	175	0.844131	0.122	0.89111	1.00683	0.000	0.03	0.028	489.882	0.151
Excavators	2024	176	250	0.844131	0.122	0.89111	1.00683	0.000	0.03	0.028	489.882	0.151
Excavators	2024	251	500	0.844131	0.122	0.89111	1.00683	0.000	0.03	0.028	489.882	0.151
Excavators	2024	501	750	0.844131	0.122	0.89111	1.00683	0.000	0.03	0.028	489.882	0.151
Excavators	2025	16	25	0.97994	0.403	3.49298	4.23941	0.000	0.107	0.099	525.772	0.17
Excavators	2025	16	50	0.97994	0.403	3.49298	4.23941	0.000	0.107	0.099	525.772	0.17
Excavators	2025	51	120	0.838179	0.18	1.18861	1.17239	0.000	0.076	0.07</		







DPH Highway Trucks	2016	121	175	0.132804	0.473	4.8707	3.4388	0.005	0.208	0.237	303.3303	0.152
DPH Highway Trucks	2016	176	250	0.133487	0.446	4.8246	1.8237	0.005	0.208	0.393	502.4732	0.152
DPH Highway Trucks	2016	251	500	0.148147	0.351	4.9279	1.8823	0.005	0.153	0.141	509.8604	0.154
DPH Highway Trucks	2016	501	750	0.149786	0.438	4.8424	2.4346	0.005	0.187	0.172	508.2614	0.153
DPH Highway Trucks	2016	751	1000	0.149759	0.393	4.9352	1.7079	0.005	0.175	0.161	505.7218	0.153
DPH Highway Trucks	2017	121	175	0.157186	0.444	4.2469	1.4826	0.005	0.233	0.215	495.6184	0.152
DPH Highway Trucks	2017	176	250	0.149403	0.417	4.3678	1.7528	0.005	0.189	0.174	494.7935	0.152
DPH Highway Trucks	2017	251	500	0.148706	0.325	3.9841	1.7477	0.005	0.136	0.125	503.4388	0.154
DPH Highway Trucks	2017	501	750	0.148124	0.364	4.1664	1.9444	0.005	0.17	0.152	503.8093	0.153
DPH Highway Trucks	2017	751	1000	0.148087	0.362	5.1425	1.5455	0.005	0.159	0.146	497.1154	0.152
DPH Highway Trucks	2018	121	175	0.148133	0.382	3.9423	1.3833	0.005	0.193	0.177	488.0639	0.152
DPH Highway Trucks	2018	176	250	0.148548	0.341	3.4971	1.5429	0.005	0.142	0.13	487.6353	0.152
DPH Highway Trucks	2018	251	500	0.148188	0.297	3.8895	1.5595	0.005	0.113	0.106	490.3269	0.154
DPH Highway Trucks	2018	501	750	0.148346	0.348	3.8954	2.1763	0.005	0.143	0.132	492.1136	0.153
DPH Highway Trucks	2018	751	1000	0.148298	0.297	4.8761	1.3734	0.005	0.126	0.116	487.7802	0.152
DPH Highway Trucks	2019	121	175	0.148382	0.323	2.8243	3.2198	0.005	0.149	0.137	485.3623	0.152
DPH Highway Trucks	2019	176	250	0.148382	0.307	2.8481	1.4679	0.005	0.119	0.109	488.1703	0.152
DPH Highway Trucks	2019	251	500	0.148325	0.262	2.8481	1.4679	0.005	0.119	0.109	488.1703	0.152
DPH Highway Trucks	2019	501	750	0.148387	0.327	3.2304	2.0429	0.005	0.129	0.118	483.2102	0.153
DPH Highway Trucks	2020	121	175	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2020	176	250	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2020	251	500	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2020	501	750	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2020	751	1000	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2021	121	175	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2021	176	250	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2021	251	500	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2021	501	750	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2021	751	1000	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2022	121	175	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2022	176	250	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2022	251	500	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2022	501	750	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2022	751	1000	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2023	121	175	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2023	176	250	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2023	251	500	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2023	501	750	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2023	751	1000	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2024	121	175	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2024	176	250	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2024	251	500	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2024	501	750	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2024	751	1000	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2025	121	175	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2025	176	250	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2025	251	500	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2025	501	750	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2025	751	1000	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2030	121	175	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2030	176	250	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2030	251	500	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2030	501	750	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2030	751	1000	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2035	121	175	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2035	176	250	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2035	251	500	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2035	501	750	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2035	751	1000	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2040	121	175	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2040	176	250	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2040	251	500	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2040	501	750	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
DPH Highway Trucks	2040	751	1000	0.148387	0.295	4.7465	1.3161	0.005	0.128	0.118	483.2102	0.153
Other Construction Equipment	1990	6	15	1.148	1.804	1.999	1.499	0.005	0.975	0.975	568.3	0.152
Other Construction Equipment	1990	16	25	1.178	2.213	6.919	4.999	0.855	0.742	0.741	568.299	0.159
Other Construction Equipment	1990	26	50	1.178	4.751	1.947	1.881	0.871	1.287	1.287	568.299	0.142
Other Construction Equipment	1990	51	120	1.178	1.105	8.749	3.417	0.957	0.453	0.453	568.299	0.151
Other Construction Equipment	1990	121	175	1.178	1.105	8.749	3.417	0.957	0.453	0.453	568.299	0.151
Other Construction Equipment	1990	176	250	1.178	1.105	8.749	3.417	0.957	0.453	0.453	568.299	0.151
Other Construction Equipment	1990	251	500	1.178	1.105	8.749	3.417	0.957	0.453	0.453	568.299	0.151
Other Construction Equipment	1990	501	750	1.178	1.105	8.749	3.417	0.957	0.453	0.453	568.299	0.151
Other Construction Equipment	1990	751	1000	1.178	1.105	8.749	3.417	0.957	0.453	0.453	568.299	0.151
Other Construction Equipment	2000	6	15	1.178	1.105	8.749	3.417	0.957	0.453	0.453	568.299	0.151
Other Construction Equipment	2000	16	25	1.178	1.105	8.749	3.417	0.957	0.453	0.453	568.299	0.151
Other Construction Equipment	2000	26	50	1.178	1.105	8.749	3.417	0.957	0.453	0.453	568.299	0.151
Other Construction Equipment	2000	51	120	1.178	1.105	8.749	3.417	0.957	0.453	0.453	568.299	0.151
Other Construction Equipment	2000	121	175	1.178	1.105	8.749	3.417	0.957	0.453	0.453	568.299	0.151
Other Construction Equipment	2000	176	250	1.178	1.105	8.749	3.417	0.957	0.453	0.453	568.299	0.151
Other Construction Equipment	2000	251	500	1.178	1.105	8.749	3.417	0.957	0.453	0.453	568.299	0.151
Other Construction Equipment	2000	501	750	1.178	1.105	8.749	3.417	0.957	0.453	0.453	568.299	0.151
Other Construction Equipment	2000	751	1000	1.178	1.105	8.749	3.417	0.957	0.453	0.453	568.299	0.151
Other Construction Equipment	2010	6	15	1.178	1.105	8.749	3.417	0.957	0.453	0.453	568.299	0.151
Other Construction Equipment	2010	16	25	1.178	1.105	8.749	3.417	0.957	0.453	0.453	568.299	0.151
Other Construction Equipment	2010	26	50	1.178	1.105	8.749	3.417	0.957	0.453	0.453	568.299	0.151
Other Construction Equipment	2010	51	120	1.178	1.105	8.749	3.417	0.957	0.453	0.453	568.299	0.151
Other Construction Equipment	2010	121	175	1.178	1.105	8.749	3.417	0.957	0.453	0.453	568.299	0.151
Other Construction Equipment	2010	176	250	1.178	1.105	8.749	3.417	0.957	0.453	0.453	568.299	0.151
Other Construction Equipment	2010	251	500	1.178	1.105	8.749	3.417	0.957	0.453	0.453	568.299	0.151
Other Construction Equipment	2010	501	750	1.178	1.105	8.749	3.417	0.957	0.453	0.453	568.299	0.151
Other Construction Equipment	2010	751	1000	1.178	1.105	8.749	3.417	0.957	0.453	0.453	568.299	







Pumps	2000	101	750	86.43	0.578	6.679	2.32	0.031	0.223	0.223	568.299	0.051
Pumps	2005	1003	9999	389.357	0.728	6.658	2.838	0.051	0.228	0.228	568.299	0.061
Pumps	2010	6	15	3.449	1.124	6.554	4.027	0.008	0.473	0.473	568.299	0.101
Pumps	2010	16	25	2.245	1.202	6.477	3.929	0.007	0.384	0.384	568.299	0.114
Pumps	2010	26	50	22.041	2.188	5.74	5.834	0.007	0.545	0.545	568.3	0.197
Pumps	2010	110	120	23.777	1.039	6.575	3.735	0.006	0.338	0.338	568.299	0.093
Pumps	2010	111	175	28.171	0.685	5.961	3.033	0.006	0.298	0.298	568.299	0.061
Pumps	2010	176	250	26.273	0.444	5.386	1.309	0.006	0.17	0.17	568.299	0.04
Pumps	2010	251	500	40.364	0.308	6.122	0.898	0.005	0.158	0.158	568.299	0.035
Pumps	2010	501	750	60.724	0.41	5.207	1.536	0.005	0.164	0.164	568.299	0.037
Pumps	2010	9999	2181913	0.535	6.817	1.961	0.005	0.186	0.186	568.299	0.049	
Pumps	2011	6	15	3.324	1.067	6.283	3.952	0.008	0.441	0.441	568.299	0.096
Pumps	2011	16	25	6.815	1.103	5.36	3.179	0.007	0.363	0.363	568.299	0.107
Pumps	2011	26	50	30.53	2.038	5.645	5.474	0.007	0.518	0.518	568.299	0.183
Pumps	2011	110	120	22.177	0.969	6.122	0.898	0.006	0.154	0.154	568.299	0.087
Pumps	2011	111	175	26.426	0.642	5.613	3.03	0.006	0.285	0.285	568.299	0.058
Pumps	2011	176	250	24.051	0.407	5.206	1.272	0.006	0.153	0.153	568.299	0.036
Pumps	2011	251	500	38.969	0.305	6.175	1.405	0.005	0.143	0.143	568.299	0.031
Pumps	2011	501	750	62.364	0.376	4.841	1.405	0.005	0.145	0.145	568.299	0.033
Pumps	2011	9999	203.703	0.523	6.273	1.835	0.005	0.183	0.183	568.299	0.046	
Pumps	2012	6	15	1.194	1.007	5.999	3.874	0.008	0.407	0.407	568.299	0.09
Pumps	2012	16	25	6.363	1.113	5.239	3.043	0.007	0.337	0.337	568.299	0.1
Pumps	2012	26	50	38.887	1.875	5.545	5.296	0.007	0.488	0.488	568.299	0.169
Pumps	2012	110	120	20.51	0.896	5.939	3.66	0.006	0.481	0.481	568.299	0.084
Pumps	2012	111	175	24.928	0.937	5.28	3.009	0.006	0.265	0.265	568.299	0.051
Pumps	2012	176	250	22.302	0.377	4.846	1.218	0.006	0.139	0.139	568.299	0.034
Pumps	2012	251	500	34.322	0.338	6.827	1.311	0.005	0.11	0.11	568.299	0.031
Pumps	2012	501	750	58.469	0.349	4.495	1.311	0.005	0.132	0.132	568.299	0.031
Pumps	2012	9999	382.287	0.473	6.516	1.623	0.005	0.168	0.168	568.299	0.042	
Pumps	2013	6	15	3.065	0.948	5.718	3.796	0.008	0.373	0.373	568.299	0.085
Pumps	2013	16	25	5.934	1.024	5.117	2.907	0.007	0.334	0.334	568.3	0.091
Pumps	2013	26	50	32.185	1.706	5.323	5.11	0.007	0.448	0.448	568.299	0.161
Pumps	2013	110	120	18.811	0.823	5.563	3.623	0.006	0.443	0.443	568.299	0.074
Pumps	2013	111	175	22.712	0.523	4.968	3.968	0.006	0.244	0.244	568.299	0.049
Pumps	2013	176	250	20.802	0.332	4.498	1.181	0.006	0.127	0.127	568.3	0.031
Pumps	2013	251	500	32.281	0.336	4.037	1.241	0.005	0.109	0.109	568.299	0.028
Pumps	2013	501	750	54.658	0.328	4.163	1.241	0.005	0.121	0.121	568.299	0.029
Pumps	2013	9999	373.151	0.425	5.358	1.538	0.005	0.154	0.154	568.299	0.039	
Pumps	2014	6	15	1.862	0.81	5.445	3.713	0.005	0.415	0.415	568.299	0.08
Pumps	2014	16	25	5.492	0.96	5	2.78	0.007	0.291	0.291	568.299	0.059
Pumps	2014	26	50	40.493	1.338	5.107	4.928	0.007	0.409	0.409	568.299	0.138
Pumps	2014	110	120	17.179	0.716	5.236	3.587	0.006	0.403	0.403	568.299	0.067
Pumps	2014	111	175	20.895	0.508	4.635	3.989	0.006	0.223	0.223	568.299	0.029
Pumps	2014	176	250	19.3	0.328	4.09	1.149	0.006	0.115	0.115	568.299	0.027
Pumps	2014	251	500	30.229	0.294	5.648	1.181	0.005	0.108	0.108	568.299	0.026
Pumps	2014	501	750	50.824	0.303	3.77	1.181	0.005	0.11	0.11	568.299	0.027
Pumps	2014	9999	338.959	0.339	5.11	1.406	0.005	0.141	0.141	568.299	0.036	
Pumps	2015	6	15	1.81	0.84	5.196	3.608	0.005	0.311	0.311	568.299	0.075
Pumps	2015	16	25	5.112	0.894	4.89	2.666	0.007	0.27	0.27	568.299	0.08
Pumps	2015	26	50	35.946	1.384	4.916	4.775	0.007	0.371	0.371	568.3	0.124
Pumps	2015	110	120	15.537	0.377	4.846	1.554	0.006	0.364	0.364	568.3	0.061
Pumps	2015	111	175	18.583	0.461	4.202	2.983	0.006	0.2	0.2	568.299	0.042
Pumps	2015	176	250	17.881	0.302	3.693	1.122	0.006	0.104	0.104	568.299	0.027
Pumps	2015	251	500	27.722	0.273	3.272	1.134	0.005	0.097	0.097	568.299	0.024
Pumps	2015	501	750	47.211	0.281	3.869	1.134	0.005	0.099	0.099	568.299	0.025
Pumps	2015	9999	344.304	0.363	4.878	1.293	0.005	0.127	0.127	568.299	0.037	
Pumps	2016	6	15	1.782	0.809	5.033	3.626	0.006	0.289	0.289	568.299	0.073
Pumps	2016	16	25	4.893	0.895	4.803	2.604	0.007	0.255	0.255	568.299	0.082
Pumps	2016	26	50	32.497	1.24	4.742	4.44	0.007	0.335	0.335	568.299	0.111
Pumps	2016	110	120	13.964	0.61	4.478	3.523	0.006	0.325	0.325	568.299	0.055
Pumps	2016	111	175	17.155	0.417	3.789	2.978	0.006	0.179	0.179	568.299	0.037
Pumps	2016	176	250	16.558	0.28	3.111	1.099	0.006	0.094	0.094	568.299	0.026
Pumps	2016	251	500	20.804	0.254	2.939	1.091	0.005	0.088	0.088	568.299	0.022
Pumps	2016	501	750	40.844	0.262	3.028	1.091	0.005	0.089	0.089	568.299	0.022
Pumps	2016	9999	331.448	0.335	4.396	1.231	0.005	0.116	0.116	568.3	0.03	
Pumps	2017	6	15	1.713	0.786	4.857	3.599	0.008	0.372	0.372	568.299	0.074
Pumps	2017	16	25	4.745	0.81	4.729	2.564	0.007	0.243	0.243	568.299	0.074
Pumps	2017	26	50	31.13	1.104	4.578	4.514	0.007	0.301	0.301	568.299	0.099
Pumps	2017	110	120	12.49	0.546	4.134	3.495	0.006	0.287	0.287	568.299	0.049
Pumps	2017	111	175	13.466	0.376	3.4	2.975	0.006	0.199	0.199	568.299	0.033
Pumps	2017	176	250	12.375	0.26	2.958	1.18	0.006	0.084	0.084	568.299	0.023
Pumps	2017	251	500	24.243	0.239	2.613	1.062	0.005	0.079	0.079	568.299	0.021
Pumps	2017	501	750	40.924	0.244	2.695	1.062	0.005	0.08	0.08	568.299	0.021
Pumps	2017	9999	334.604	0.313	4.343	1.177	0.005	0.106	0.106	568.299	0.028	
Pumps	2018	6	15	1.699	0.768	4.762	3.58	0.008	0.268	0.268	568.299	0.088
Pumps	2018	16	25	4.618	0.807	4.461	2.531	0.007	0.232	0.232	568.299	0.072
Pumps	2018	26	50	31.809	0.973	4.422	4.397	0.007	0.287	0.287	568.299	0.087
Pumps	2018	110	120	12.107	0.482	3.808	3.471	0.007	0.267	0.267	568.299	0.041
Pumps	2018	111	175	13.918	0.338	3.035	2.974	0.006	0.14	0.14	568.299	0.031
Pumps	2018	176	250	14.828	0.242	2.634	1.061	0.006	0.075	0.075	568.299	0.023
Pumps	2018	251	500	22.927	0.226	2.34	1.041	0.005	0.071	0.071	568.299	0.02
Pumps	2018	501	750	38.511	0.23	2.401	1.041	0.005	0.072	0.072	568.299	0.02
Pumps	2018	9999	316.529	0.293	4.105	1.144	0.005	0.098	0.098	568.299	0.026	
Pumps	2019	6	15	1.63	0.748	4.447	3.562	0.008	0.241	0.241	568.3	0.076
Pumps	2019	16	25	4.501	0.787	4.396	2.607	0.007	0.222	0.222	568.299	0.076
Pumps	2019	26	50	31.846	0.849	4.269	4.284	0.007	0.235	0.235	568.299	0.076
Pumps	2019	110	120	11.812	0.429	4.497	3.448	0.007	0.217	0.217	568.299	0.038
Pumps	2019	111	175	12.706	0.309	2.711	2.974	0.006	0.124	0.124	568.299	0.027
Pumps	2019	176	250	11.938	0.238	2.333	1.023	0.006	0.067	0.067	568.299	0.021
Pumps	2019	251	500	21.711	0.214	2.084	1.027	0.005	0.064	0.064	568.3	0.019
Pumps	2019	501	750	36.15	0.217	2.113	1.027	0.005	0.065	0.065	568.299	0.019
Pumps	2019	9999	308.823	0.273	3.873	1.118	0.005	0.089	0.089	568.299	0.024	
Pumps	2020	6	15	1.593	0.731	4.542	3.546	0.008	0.227	0.227	568.299	0.064
Pumps	2020	16	25	4.396	0.769	4.338	2.473	0.007	0.212	0.212	568.299	0.069
Pumps	2020	26	50	31.613	0.735	4.128	4.197	0.007	0.206	0.206	568.299	0.068
Pumps	2020	110	120	11.832	0.388	3.219	3.433	0.006	0.189	0.189	568.299	0.025
Pumps	2020	111	175	11.744	0.285	2.418	2.974	0.006	0.111	0.111		

Refiners	2016	16	21	1.498776	1.259	5.2356	5.2306	0.005	0.409	0.423	563.9732	0.17
Refiners	2016	16	50	1.498776	1.259	5.2356	5.2306	0.005	0.409	0.423	563.9732	0.17
Refiners	2016	51	120	0.174261	0.628	5.80543	3.75517	0.005	0.428	0.393	568.1987	0.153
Refiners	2016	111	175	0.482006	0.338	4.18877	2.99184	0.005	0.187	0.188	505.9041	0.153
Refiners	2016	176	250	0.184663	0.308	4.39492	1.50673	0.005	0.15	0.138	507.6939	0.153
Refiners	2016	351	500	0.197463	0.334	4.66621	2.19647	0.005	0.179	0.159	513.4454	0.153
Refiners	2017	6	13	1.423332	1.188	5.09771	5.14727	0.005	0.436	0.401	555.0299	0.17
Refiners	2017	16	25	1.423332	1.188	5.09771	5.14727	0.005	0.436	0.401	555.0299	0.17
Refiners	2017	26	50	1.423332	1.188	5.09771	5.14727	0.005	0.436	0.401	555.0299	0.17
Refiners	2017	51	120	0.180209	0.58	5.4134	3.73135	0.005	0.392	0.364	500.1525	0.153
Refiners	2017	111	175	0.179474	0.314	3.17938	2.16029	0.005	0.18	0.166	497.9088	0.153
Refiners	2017	176	250	0.132464	0.274	3.02097	1.40849	0.005	0.129	0.119	499.7021	0.153
Refiners	2017	351	500	0.193236	0.337	3.18047	2.16847	0.005	0.15	0.138	505.8338	0.153
Refiners	2018	6	13	1.16666	1.064	4.8416	4.92335	0.005	0.387	0.356	546.2905	0.17
Refiners	2018	16	25	1.16666	1.064	4.8416	4.92335	0.005	0.387	0.356	546.2905	0.17
Refiners	2018	26	50	1.16666	1.064	4.8416	4.92335	0.005	0.387	0.356	546.2905	0.17
Refiners	2018	51	120	0.172467	0.481	4.65049	3.00981	0.005	0.32	0.294	492.2118	0.153
Refiners	2018	111	175	0.116428	0.266	3.18226	2.14935	0.005	0.147	0.135	490.1805	0.153
Refiners	2018	176	250	0.131419	0.211	2.79492	1.24341	0.005	0.094	0.086	487.6643	0.153
Refiners	2018	351	500	0.193144	0.246	3.09814	2.13145	0.005	0.119	0.11	497.9962	0.153
Refiners	2019	6	13	1.16666	0.972	4.64491	4.77841	0.005	0.349	0.321	537.546	0.17
Refiners	2019	16	25	1.16666	0.972	4.64491	4.77841	0.005	0.349	0.321	537.546	0.17
Refiners	2019	26	50	1.16666	0.972	4.64491	4.77841	0.005	0.349	0.321	537.546	0.17
Refiners	2019	51	120	0.152826	0.423	4.17949	3.15726	0.005	0.275	0.253	484.3362	0.153
Refiners	2019	111	175	0.127475	0.231	2.89941	2.19211	0.005	0.126	0.114	481.4611	0.153
Refiners	2019	176	250	0.150477	0.21	2.88327	1.24854	0.005	0.090	0.084	483.7769	0.153
Refiners	2020	6	13	1.16666	0.972	4.64491	4.77841	0.005	0.349	0.321	537.546	0.17
Refiners	2020	16	25	1.16666	0.972	4.64491	4.77841	0.005	0.349	0.321	537.546	0.17
Refiners	2020	26	50	1.16666	0.972	4.64491	4.77841	0.005	0.349	0.321	537.546	0.17
Refiners	2020	51	120	0.146204	0.388	3.88131	3.15135	0.005	0.247	0.228	477.8399	0.153
Refiners	2020	111	175	0.116128	0.210	2.81521	2.19311	0.005	0.113	0.106	479.3254	0.153
Refiners	2020	176	250	0.148138	0.209	2.75091	1.25343	0.005	0.089	0.082	473.3609	0.153
Refiners	2020	351	500	0.179651	0.235	2.82821	2.11346	0.005	0.111	0.102	479.3254	0.153
Refiners	2021	6	13	1.16666	0.972	4.64491	4.77841	0.005	0.349	0.321	537.546	0.17
Refiners	2021	16	25	1.16666	0.972	4.64491	4.77841	0.005	0.349	0.321	537.546	0.17
Refiners	2021	26	50	1.16666	0.972	4.64491	4.77841	0.005	0.349	0.321	537.546	0.17
Refiners	2021	51	120	0.146204	0.388	3.88131	3.15135	0.005	0.247	0.228	477.8399	0.153
Refiners	2021	111	175	0.129771	0.233	2.11691	2.10709	0.005	0.097	0.09	471.9799	0.153
Refiners	2021	176	250	0.132884	0.196	2.49331	1.23849	0.005	0.085	0.075	473.4704	0.153
Refiners	2021	351	500	0.162484	0.221	2.18991	2.14995	0.005	0.1	0.092	479.3254	0.153
Refiners	2022	6	13	0.878627	0.738	4.17773	4.40241	0.005	0.25	0.23	525.491	0.17
Refiners	2022	16	25	0.878627	0.738	4.17773	4.40241	0.005	0.25	0.23	525.491	0.17
Refiners	2022	26	50	0.878627	0.738	4.17773	4.40241	0.005	0.25	0.23	525.491	0.17
Refiners	2022	51	120	0.119569	0.357	3.22961	3.40731	0.005	0.248	0.217	473.5261	0.153
Refiners	2022	111	175	0.119547	0.164	1.74048	2.91311	0.005	0.079	0.072	471.9475	0.153
Refiners	2022	176	250	0.121999	0.187	2.1116	1.23821	0.005	0.077	0.071	473.5255	0.153
Refiners	2022	351	500	0.129221	0.238	2.46341	1.95495	0.005	0.097	0.089	478.8617	0.153
Refiners	2023	6	13	0.786211	0.661	3.9121	4.25236	0.005	0.212	0.195	523.8616	0.17
Refiners	2023	16	25	0.786211	0.661	3.9121	4.25236	0.005	0.212	0.195	523.8616	0.17
Refiners	2023	26	50	0.786211	0.661	3.9121	4.25236	0.005	0.212	0.195	523.8616	0.17
Refiners	2023	51	120	0.141189	0.287	3.00201	3.15461	0.005	0.153	0.127	473.9363	0.153
Refiners	2023	111	175	0.11784	0.15	1.4833	2.90949	0.005	0.068	0.062	472.9311	0.153
Refiners	2023	176	250	0.121864	0.188	2.17272	1.23448	0.005	0.076	0.07	473.5264	0.153
Refiners	2023	351	500	0.15159	0.211	2.70021	1.95626	0.005	0.09	0.082	479.3254	0.153
Refiners	2024	6	13	0.784313	0.62	3.24449	4.20667	0.005	0.192	0.177	523.9565	0.17
Refiners	2024	16	25	0.784313	0.62	3.24449	4.20667	0.005	0.192	0.177	523.9565	0.17
Refiners	2024	26	50	0.784313	0.62	3.24449	4.20667	0.005	0.192	0.177	523.9565	0.17
Refiners	2024	51	120	0.129417	0.272	1.343	3.45058	0.005	0.13	0.118	474.9272	0.153
Refiners	2024	111	175	0.148235	0.141	1.34248	2.91426	0.005	0.061	0.056	472.9311	0.153
Refiners	2024	176	250	0.121864	0.188	2.17272	1.23448	0.005	0.076	0.07	473.5264	0.153
Refiners	2024	351	500	0.15159	0.211	2.70021	1.95626	0.005	0.09	0.082	479.3254	0.153
Refiners	2025	6	13	0.877074	0.569	3.08891	4.12543	0.005	0.147	0.134	524.4066	0.17
Refiners	2025	16	25	0.877074	0.569	3.08891	4.12543	0.005	0.147	0.134	524.4066	0.17
Refiners	2025	26	50	0.877074	0.569	3.08891	4.12543	0.005	0.147	0.134	524.4066	0.17
Refiners	2025	51	120	0.109867	0.255	2.09137	3.44432	0.005	0.135	0.125	473.8163	0.153
Refiners	2025	111	175	0.107971	0.127	1.10088	2.90809	0.005	0.049	0.046	471.9696	0.153
Refiners	2025	176	250	0.107184	0.173	1.7621	1.21477	0.005	0.06	0.047	473.8163	0.153
Refiners	2025	351	500	0.151787	0.212	2.19998	1.96754	0.005	0.09	0.083	477.5732	0.154
Refiners	2030	6	13	1.143	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.099
Refiners	2030	16	25	1.143	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.099
Refiners	2030	26	50	1.143	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.099
Refiners	2030	51	120	0.108	0.298	1.95	4.438	0.006	0.066	0.066	568.299	0.027
Refiners	2030	111	175	0.823	0.223	0.907	3.203	0.006	0.042	0.042	568.299	0.027
Refiners	2030	176	250	0.1047	0.195	0.745	1.099	0.006	0.024	0.024	568.299	0.027
Refiners	2030	351	500	0.157	0.193	0.697	1.056	0.005	0.023	0.023	568.299	0.027
Refiners	2035	6	13	1.143	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.099
Refiners	2035	16	25	1.143	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.099
Refiners	2035	26	50	1.143	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.099
Refiners	2035	51	120	0.108	0.298	1.95	4.438	0.006	0.066	0.066	568.299	0.027
Refiners	2035	111	175	0.823	0.223	0.907	3.203	0.006	0.042	0.042	568.299	0.027
Refiners	2035	176	250	0.1047	0.195	0.745	1.099	0.006	0.024	0.024	568.299	0.027
Refiners	2035	351	500	0.157	0.193	0.697	1.056	0.005	0.023	0.023	568.299	0.027
Refiners	2040	6	13	1.143	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.099
Refiners	2040	16	25	1.143	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.099
Refiners	2040	26	50	1.143	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.099
Refiners	2040	51	120	0.108	0.298	1.95	4.438	0.006	0.066	0.066	568.299	0.027
Refiners	2040	111	175	0.823	0.223	0.907	3.203	0.006	0.042	0.042	568.299	0.027
Refiners	2040	176	250	0.1047	0.195	0.745	1.099	0.006	0.024	0.024	568.299	0.027
Refiners	2040	351	500	0.157	0.193	0.697	1.056	0.005	0.023	0.023	568.299	0.027
Rough Terrain Forklifts	2016	201	500	0.139	0.165	0.341	1.048	0.005	0.012	0.012	568.299	0.054
Rough Terrain Forklifts	1990	121	175	19.775	2.092	15.888	9.422	0.758	1.178	1.178	568.299	0.188
Rough Terrain Forklifts	1990	176	250	17.042	0.902	1.422	1.422	0.758	1.178	1.178	568.299	0.188
Rough Terrain Forklifts	1990											

Rubber Tired Dozers	2014	251	600	0.81488	0.797	8.0819	8.16471	0.005	0.376	0.346	534.4798	0.155
Rubber Tired Dozers	2014	501	750	0.85866	0.513	7.14705	2.76055	0.005	0.258	0.237	517.7993	0.151
Rubber Tired Dozers	2014	751	1000	0.91347	0.691	6.849	1.996	0.005	0.236	0.236	568.3	0.062
Rubber Tired Dozers	2015	175	175	1.47927	0.965	9.8425	4.23794	0.005	0.568	0.519	513.0569	0.153
Rubber Tired Dozers	2015	176	250	0.86859	0.728	7.3817	2.7204	0.005	0.394	0.362	514.7519	0.154
Rubber Tired Dozers	2015	501	600	0.81228	0.728	7.9718	4.10151	0.005	0.373	0.343	513.1473	0.155
Rubber Tired Dozers	2015	601	750	0.81679	0.518	7.15777	2.76062	0.005	0.259	0.238	512.5253	0.153
Rubber Tired Dozers	2015	751	1000	0.87895	0.661	6.556	1.901	0.005	0.222	0.222	568.299	0.069
Rubber Tired Dozers	2016	175	175	1.12031	0.968	9.81524	4.24951	0.005	0.568	0.52	507.7744	0.153
Rubber Tired Dozers	2016	176	250	0.81531	0.736	7.95028	2.72943	0.005	0.395	0.364	509.4615	0.154
Rubber Tired Dozers	2016	501	600	0.81944	0.688	7.91031	3.82829	0.005	0.402	0.313	503.9209	0.155
Rubber Tired Dozers	2016	601	750	0.82262	0.523	7.18821	2.7651	0.005	0.26	0.239	507.2001	0.153
Rubber Tired Dozers	2016	751	1000	0.87	0.611	6.377	1.733	0.005	0.208	0.208	568.3	0.057
Rubber Tired Dozers	2017	175	175	1.074188	0.903	9.19151	4.14895	0.005	0.525	0.483	499.4096	0.153
Rubber Tired Dozers	2017	176	250	0.80865	0.707	7.9268	2.60314	0.005	0.375	0.345	501.1475	0.154
Rubber Tired Dozers	2017	501	600	0.78455	0.662	7.33345	3.52569	0.005	0.341	0.311	505.8493	0.155
Rubber Tired Dozers	2017	601	750	0.8257	0.526	7.17226	2.76746	0.005	0.26	0.239	499.3665	0.153
Rubber Tired Dozers	2017	751	1000	0.81918	0.625	6.9121	2.56	0.005	0.265	0.259	498.299	0.064
Rubber Tired Dozers	2018	175	175	0.954751	0.802	8.02079	3.98965	0.005	0.46	0.424	491.4911	0.153
Rubber Tired Dozers	2018	176	250	0.78038	0.668	7.30707	2.51156	0.005	0.312	0.282	493.6917	0.154
Rubber Tired Dozers	2018	501	600	0.71175	0.598	6.50284	1.98205	0.005	0.3	0.276	498.1882	0.155
Rubber Tired Dozers	2018	601	750	0.69599	0.556	6.75652	2.75025	0.005	0.248	0.228	491.4735	0.153
Rubber Tired Dozers	2018	751	1000	0.8	0.574	5.764	2.413	0.005	0.183	0.183	568.299	0.051
Rubber Tired Dozers	2019	175	175	0.93121	0.759	7.32037	3.94854	0.005	0.433	0.398	485.5355	0.153
Rubber Tired Dozers	2019	176	250	0.78882	0.651	6.92921	2.48851	0.005	0.388	0.311	485.152	0.154
Rubber Tired Dozers	2019	501	600	0.80848	0.572	6.14335	1.74309	0.005	0.283	0.26	490.381	0.155
Rubber Tired Dozers	2019	601	750	0.81107	0.453	6.1238	2.58614	0.005	0.218	0.218	493.5284	0.153
Rubber Tired Dozers	2019	751	1000	0.8196	0.547	5.128	2.281	0.005	0.171	0.171	568.299	0.049
Rubber Tired Dozers	2020	175	175	0.80425	0.726	7.1823	3.87028	0.005	0.412	0.378	473.6156	0.153
Rubber Tired Dozers	2020	176	250	0.717248	0.619	6.01812	2.37394	0.005	0.318	0.293	474.7938	0.154
Rubber Tired Dozers	2020	501	600	0.68621	0.535	5.48289	1.41134	0.005	0.259	0.238	479.7509	0.155
Rubber Tired Dozers	2020	601	750	0.61465	0.456	6.12205	2.60208	0.005	0.218	0.203	473.6562	0.153
Rubber Tired Dozers	2020	751	1000	0.811	0.527	5.305	2.264	0.005	0.16	0.16	568.299	0.047
Rubber Tired Dozers	2021	175	175	0.82357	0.651	6.79037	3.84814	0.005	0.386	0.352	479.9261	0.153
Rubber Tired Dozers	2021	176	250	0.714624	0.6	6.29617	2.31719	0.005	0.306	0.281	474.7984	0.154
Rubber Tired Dozers	2021	501	600	0.68377	0.451	6.181	1.94107	0.005	0.232	0.214	479.8688	0.153
Rubber Tired Dozers	2021	601	750	0.543338	0.458	6.12254	2.60396	0.005	0.218	0.203	473.6569	0.153
Rubber Tired Dozers	2021	751	1000	0.748	0.497	4.995	2.057	0.005	0.15	0.15	568.299	0.044
Rubber Tired Dozers	2022	175	175	0.71412	0.6	5.80781	3.75194	0.005	0.3	0.3	473.6156	0.153
Rubber Tired Dozers	2022	176	250	0.5171708	0.48	5.04664	2.05583	0.005	0.24	0.22	474.6166	0.154
Rubber Tired Dozers	2022	501	600	0.60203	0.475	4.80773	1.89489	0.005	0.22	0.2	479.2037	0.153
Rubber Tired Dozers	2022	601	750	0.54787	0.46	6.12245	2.60677	0.005	0.218	0.203	473.6569	0.153
Rubber Tired Dozers	2022	751	1000	0.7106	0.475	4.896	1.961	0.005	0.14	0.14	568.299	0.043
Rubber Tired Dozers	2023	175	175	0.70073	0.588	5.06638	3.7664	0.005	0.316	0.291	471.9009	0.153
Rubber Tired Dozers	2023	176	250	0.617651	0.495	4.90011	1.76265	0.005	0.268	0.259	474.5267	0.153
Rubber Tired Dozers	2023	501	600	0.511484	0.447	4.40835	1.68617	0.005	0.202	0.185	479.4678	0.155
Rubber Tired Dozers	2023	601	750	0.52999	0.423	5.13189	2.01211	0.005	0.196	0.18	473.0254	0.153
Rubber Tired Dozers	2023	751	1000	0.796	0.451	4.709	1.874	0.005	0.131	0.131	568.299	0.04
Rubber Tired Dozers	2024	175	175	0.613823	0.532	5.0144	1.96936	0.005	0.279	0.257	473.5147	0.153
Rubber Tired Dozers	2024	176	250	0.47822	0.399	4.9094	1.79625	0.005	0.184	0.17	474.5634	0.154
Rubber Tired Dozers	2024	501	600	0.497274	0.417	4.80394	1.67674	0.005	0.182	0.168	479.3918	0.155
Rubber Tired Dozers	2024	601	750	0.50546	0.425	5.13377	2.59604	0.005	0.19	0.18	473.0111	0.153
Rubber Tired Dozers	2024	751	1000	0.845	0.431	4.512	1.776	0.005	0.123	0.123	568.299	0.039
Rubber Tired Dozers	2025	175	175	0.648636	0.481	4.22889	3.12138	0.005	0.23	0.212	474.0259	0.153
Rubber Tired Dozers	2025	176	250	0.44502	0.372	4.80547	1.70202	0.005	0.153	0.153	475.4704	0.153
Rubber Tired Dozers	2025	501	600	0.48362	0.387	3.89957	2.06995	0.005	0.151	0.139	479.0915	0.153
Rubber Tired Dozers	2025	601	750	0.492525	0.428	5.13346	2.60066	0.005	0.196	0.185	473.0111	0.153
Rubber Tired Dozers	2025	751	1000	0.803	0.414	4.365	1.725	0.005	0.115	0.115	568.299	0.037
Rubber Tired Dozers	2026	175	175	0.503	0.398	3.244	1.496	0.005	0.113	0.109	568.299	0.035
Rubber Tired Dozers	2026	176	250	0.556	0.335	3.828	1.322	0.005	0.069	0.069	568.299	0.03
Rubber Tired Dozers	2026	501	600	0.416	0.322	1.608	1.401	0.005	0.064	0.064	568.299	0.029
Rubber Tired Dozers	2026	601	750	0.4261	0.321	4.684	1.401	0.005	0.062	0.062	568.299	0.028
Rubber Tired Dozers	2026	751	1000	0.503	0.338	3.876	1.465	0.005	0.062	0.062	568.299	0.031
Rubber Tired Dozers	2027	175	175	0.504	0.322	3.345	1.461	0.005	0.071	0.071	568.299	0.029
Rubber Tired Dozers	2027	176	250	0.536	0.296	3.203	1.262	0.005	0.046	0.046	568.299	0.025
Rubber Tired Dozers	2027	501	600	0.468	0.279	3.107	1.279	0.005	0.043	0.043	568.3	0.025
Rubber Tired Dozers	2027	601	750	0.416	0.279	3.126	1.279	0.005	0.043	0.043	568.299	0.025
Rubber Tired Dozers	2027	751	1000	0.506	0.287	3.204	1.312	0.005	0.06	0.06	568.299	0.025
Rubber Tired Dozers	2028	175	175	0.5	0.275	0.903	3.47	0.005	0.045	0.045	568.299	0.024
Rubber Tired Dozers	2028	176	250	0.476	0.263	0.81	1.225	0.005	0.033	0.033	568.299	0.022
Rubber Tired Dozers	2028	501	600	0.472	0.249	0.758	1.138	0.005	0.029	0.029	568.3	0.022
Rubber Tired Dozers	2028	601	750	0.519	0.25	0.767	1.138	0.005	0.029	0.029	568.3	0.022
Rubber Tired Dozers	2028	751	1000	0.514	0.254	0.91	1.218	0.005	0.045	0.045	568.3	0.022
Rubber Tired Loaders	1990	18	25	1.92	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Rubber Tired Loaders	1990	26	50	21.889	4.848	1.964	1.805	0.871	1.279	1.279	568.299	0.437
Rubber Tired Loaders	1990	51	120	22.055	2.388	14.978	5.728	0.791	1.345	1.345	568.299	0.213
Rubber Tired Loaders	1990	121	175	10.1	1.791	14.294	6.084	0.758	0.995	0.995	568.299	0.161
Rubber Tired Loaders	1990	176	250	42.179	1.791	14.294	6.084	0.758	0.995	0.995	568.3	0.161
Rubber Tired Loaders	1990	251	500	19.295	1.583	11.545	11.282	0.642	0.811	0.811	568.3	0.161
Rubber Tired Loaders	1990	501	600	11.471	1.683	11.545	11.282	0.618	0.807	0.807	568.299	0.161
Rubber Tired Loaders	1990	751	1000	147.851	1.575	11.545	11.282	0.618	0.808	0.808	568.299	0.162
Rubber Tired Loaders	2000	18	25	1.105	1.908	6.126	4.438	0.605	0.555	0.555	568.299	0.173
Rubber Tired Loaders	2000	26	50	21.853	4.439	7.065	9.15	0.606	0.928	0.928	568.299	0.4
Rubber Tired Loaders	2000	51	120	17.155	1.842	10.433	4.632	0.56	0.896	0.896	568.299	0.164
Rubber Tired Loaders	2000	121	175	20.951	1.24	10.52	1.76	0.507	0.431	0.431	568.299	0.112
Rubber Tired Loaders	2000	176	250	24.776	1.052	9.216	1.019	0.507	0.431	0.431	568.299	0.112
Rubber Tired Loaders	2000	501	600	10.779	0.955	8.746	7.997	0.505	0.381	0.381	568.299	0.105
Rubber Tired Loaders	2000	601	750	11.296	0.955	8.746	7.997	0.502	0.381	0.381	568.299	0.106
Rubber Tired Loaders	2000	751	1000	85.549	0.958	8.162	3.809	0.505	0.333	0.333	568.299	0.076
Rubber Tired Loaders	2005	18	25	3.273	0.849	3.321	2.519	0.606	0.333	0.333	568.299	0.076
Rubber Tired Loaders	2005	26	50	18.41	3.847	6.19	4.471	0.648				



Rubber Tire Loaders	2011	176	250	0.154	0.011	0.414	1.179	0.006	0.010	0.010	568.299	0.017
Rubber Tire Loaders	2011	251	500	3.156	0.191	0.416	1.076	0.005	0.010	0.010	568.299	0.017
Rubber Tire Loaders	2015	501	750	14.460	0.191	0.421	1.076	0.005	0.010	0.010	568.299	0.017
Rubber Tire Loaders	2015	751	1000	16.204	0.191	0.424	1.081	0.005	0.010	0.010	568.299	0.017
Rubber Tire Loaders	2040	16	25	1.834	0.485	4.332	2.339	0.007	0.141	0.141	568.299	0.061
Rubber Tire Loaders	2040	16	50	1.804	0.545	4.128	1.120	0.007	0.024	0.024	568.299	0.049
Rubber Tire Loaders	2040	51	120	2.33	0.271	1.543	3.748	0.006	0.022	0.022	568.3	0.024
Rubber Tire Loaders	2040	121	175	1.172	0.188	0.365	1.334	0.006	0.010	0.010	568.299	0.017
Rubber Tire Loaders	2040	176	250	1.176	0.185	0.366	1.128	0.006	0.010	0.010	568.299	0.016
Rubber Tire Loaders	2040	251	500	4.953	0.185	0.338	1.076	0.005	0.010	0.010	568.3	0.016
Rubber Tire Loaders	2040	501	750	14.247	0.185	0.34	1.076	0.005	0.010	0.010	568.299	0.016
Rubber Tire Loaders	2040	751	1000	17.496	0.186	2.522	1.076	0.005	0.028	0.028	568.299	0.046
Scrapers	1990	11	120	1.335	2.413	11.183	8.006	0.791	1.373	1.373	568.299	0.217
Scrapers	1990	121	175	8.743	1.823	14.495	5.174	0.758	1.017	1.017	568.299	0.164
Scrapers	1990	176	250	12.309	1.823	14.495	5.174	0.758	1.017	1.017	568.299	0.164
Scrapers	1990	251	500	16.73	1.407	11.709	11.473	0.662	0.867	0.867	568.299	0.145
Scrapers	1990	501	750	20.902	1.607	11.709	11.473	0.662	0.883	0.883	568.299	0.145
Scrapers	1990	751	1000	24.906	1.975	11.173	4.906	0.16	0.949	0.949	568.299	0.178
Scrapers	2000	11	120	1.456	1.346	10.226	4.046	0.057	0.572	0.572	568.299	0.121
Scrapers	2000	121	175	8.023	1.163	11.944	1.423	0.027	0.410	0.410	568.299	0.086
Scrapers	2000	176	250	11.064	1.062	8.42	6.04	0.15	0.43	0.43	568.299	0.095
Scrapers	2000	251	500	15.108	1.062	8.42	6.04	0.15	0.43	0.43	568.299	0.095
Scrapers	2000	501	750	19.308	1.062	8.42	6.04	0.15	0.43	0.43	568.299	0.095
Scrapers	2000	751	1000	23.502	1.166	8.834	3.76	0.027	0.554	0.554	568.299	0.123
Scrapers	2005	11	120	1.251	0.921	1.88	2.623	0.027	0.377	0.377	568.299	0.081
Scrapers	2005	121	175	8.477	0.814	7.854	4.07	0.15	0.331	0.331	568.3	0.073
Scrapers	2005	176	250	14.794	0.822	7.99	4.051	0.029	0.331	0.331	568.299	0.073
Scrapers	2005	251	500	19.928	0.822	7.99	4.051	0.029	0.331	0.331	568.299	0.073
Scrapers	2005	501	750	25.062	0.822	7.99	4.051	0.029	0.331	0.331	568.299	0.073
Scrapers	2010	11	120	0.820186	0.406	2.09451	3.97834	0.005	0.507	0.466	517.9051	0.157
Scrapers	2010	121	175	0.807154	0.703	8.57561	1.81189	0.005	0.444	0.408	513.511	0.152
Scrapers	2010	176	250	0.919827	0.79	9.42837	3.25278	0.005	0.414	0.399	520.9381	0.152
Scrapers	2010	251	500	0.950241	0.74	6.75544	4.1939	0.005	0.272	0.25	525.1533	0.153
Scrapers	2010	501	750	0.944955	0.302	5.53444	3.18071	0.005	0.209	0.192	525.152	0.153
Scrapers	2011	11	120	0.813354	0.699	7.09271	4.00055	0.005	0.309	0.460	536.4015	0.157
Scrapers	2011	121	175	0.87072	0.762	8.51777	1.84157	0.005	0.444	0.405	523.605	0.153
Scrapers	2011	176	250	0.933155	0.748	9.34756	3.22574	0.005	0.43	0.396	515.6705	0.152
Scrapers	2011	251	500	0.950447	0.696	6.64673	4.00055	0.005	0.288	0.246	523.8883	0.153
Scrapers	2011	501	750	0.94882	0.385	5.48614	3.14185	0.005	0.208	0.191	524.1241	0.153
Scrapers	2012	11	120	0.81024	0.712	7.11199	4.06603	0.005	0.529	0.477	525.1225	0.157
Scrapers	2012	121	175	0.815185	0.720	8.14045	1.85651	0.005	0.448	0.412	521.8158	0.152
Scrapers	2012	176	250	0.815111	0.720	9.31773	3.22929	0.005	0.43	0.396	518.3055	0.152
Scrapers	2012	251	500	0.819648	0.701	6.44209	4.16122	0.005	0.288	0.247	522.8184	0.152
Scrapers	2012	501	750	0.81841	0.391	5.49999	3.16428	0.005	0.209	0.191	522.7021	0.153
Scrapers	2013	11	120	0.809627	0.715	7.08003	4.06071	0.005	0.523	0.462	524.4444	0.155
Scrapers	2013	121	175	0.819558	0.713	8.18028	1.86138	0.005	0.448	0.403	522.0754	0.155
Scrapers	2013	176	250	0.823168	0.716	9.20313	3.18443	0.005	0.43	0.389	515.7365	0.152
Scrapers	2013	251	500	0.819637	0.496	6.51716	4.08643	0.005	0.264	0.242	520.0884	0.153
Scrapers	2013	501	750	0.824466	0.389	5.1939	3.08805	0.005	0.204	0.187	520.0201	0.153
Scrapers	2014	11	120	0.815559	0.729	7.06564	4.09943	0.005	0.526	0.464	524.9465	0.152
Scrapers	2014	121	175	0.814771	0.728	7.90781	1.86061	0.005	0.439	0.385	524.1709	0.155
Scrapers	2014	176	250	0.820827	0.742	8.48461	1.96131	0.005	0.403	0.371	521.8229	0.153
Scrapers	2014	251	500	0.819779	0.479	6.12199	3.08824	0.005	0.211	0.211	517.3038	0.153
Scrapers	2014	501	750	0.819954	0.389	5.21246	2.95654	0.005	0.19	0.174	517.3737	0.152
Scrapers	2015	11	120	0.809823	0.711	7.10509	4.1878	0.005	0.535	0.492	524.5601	0.157
Scrapers	2015	121	175	0.818921	0.714	7.94771	1.86805	0.005	0.415	0.382	518.8294	0.152
Scrapers	2015	176	250	0.818921	0.714	8.86111	3.07073	0.005	0.395	0.364	517.5609	0.152
Scrapers	2015	251	500	0.819617	0.472	6.08571	3.798	0.005	0.246	0.226	513.9471	0.153
Scrapers	2015	501	750	0.819761	0.38	4.83862	2.68407	0.005	0.193	0.186	519.8867	0.153
Scrapers	2016	11	120	0.819317	0.742	7.14111	4.17771	0.005	0.543	0.5	515.1668	0.157
Scrapers	2016	121	175	0.823244	0.688	7.1844	1.78042	0.005	0.397	0.365	513.4343	0.153
Scrapers	2016	176	250	0.814104	0.684	8.18964	2.8398	0.005	0.367	0.338	502.251	0.151
Scrapers	2016	251	500	0.818444	0.432	5.71749	3.06313	0.005	0.232	0.213	506.2031	0.153
Scrapers	2016	501	750	0.804454	0.34	4.48423	2.48131	0.005	0.154	0.146	493.811	0.153
Scrapers	2017	11	120	0.807722	0.713	7.17946	4.20744	0.005	0.551	0.507	511.1123	0.157
Scrapers	2017	121	175	0.818829	0.629	6.47066	2.70478	0.005	0.339	0.311	503.3309	0.153
Scrapers	2017	176	250	0.817407	0.627	7.18867	2.64676	0.005	0.333	0.306	494.5211	0.152
Scrapers	2017	251	500	0.816877	0.425	4.19351	3.13039	0.005	0.234	0.217	498.4511	0.153
Scrapers	2017	501	750	0.818058	0.325	4.21648	2.29479	0.005	0.156	0.141	498.8029	0.153
Scrapers	2018	11	120	0.809818	0.74	7.05577	4.20429	0.005	0.545	0.499	502.888	0.153
Scrapers	2018	121	175	0.816966	0.539	5.64105	3.56847	0.005	0.303	0.279	497.3396	0.151
Scrapers	2018	176	250	0.814243	0.537	6.30394	2.47094	0.005	0.19	0.187	498.9938	0.152
Scrapers	2018	251	500	0.819318	0.369	4.50771	2.8211	0.005	0.136	0.146	497.7114	0.153
Scrapers	2018	501	750	0.819618	0.294	3.74021	1.94491	0.005	0.135	0.124	490.1775	0.153
Scrapers	2019	11	120	0.814488	0.718	6.44131	4.19643	0.005	0.525	0.483	494.1	0.156
Scrapers	2019	121	175	0.809899	0.51	5.26136	3.15297	0.005	0.283	0.261	489.2546	0.155
Scrapers	2019	176	250	0.819624	0.501	5.81111	2.21211	0.005	0.237	0.238	479.8127	0.152
Scrapers	2019	251	500	0.818084	0.343	4.15546	2.95646	0.005	0.163	0.15	482.7319	0.153
Scrapers	2019	501	750	0.812944	0.277	3.41031	1.87903	0.005	0.123	0.113	482.3963	0.153
Scrapers	2020	11	120	0.814444	0.701	6.47871	4.19746	0.005	0.51	0.460	483.245	0.156
Scrapers	2020	121	175	0.814851	0.478	4.88851	3.00114	0.005	0.262	0.241	471.6077	0.155
Scrapers	2020	176	250	0.810321	0.446	4.1989	2.06469	0.005	0.135	0.135	468.9883	0.153
Scrapers	2020	251	500	0.810326	0.32	3.78254	2.40063	0.005	0.148	0.136	471.1711	0.153
Scrapers	2020	501	750	0.811991	0.262	3.12951	1.73182	0.005	0.113	0.104	471.7776	0.153
Scrapers	2021	11	120	0.817922	0.704	6.58882	4.21819	0.005	0.512	0.471	481.7128	0.156
Scrapers	2021	121	175	0.814034	0.432	4.14311	3.40399	0.005	0.232	0.213	478.024	0.153
Scrapers	2021	176	250	0.814454	0.34	4.87021	1.88114	0.005	0.14	0.124	478.1228	0.153
Scrapers	2021	251	500	0.816021	0.299	3.44481	2.24544	0.005	0.134	0.123	471.4638	0.153
Scrapers	2021	501	750	0.819025	0.25	2.88701	1.60772	0.005	0.107	0.107	471.3919	0.153
Scrapers	2022	11	120	0.819995	0.681	6.45148	4.20484	0.005	0.494	0.454	481.4481	0.156
Scrapers	2022	121	175	0.818814	0.39	3.83926	3.41621	0.005	0.156	0.149	478.111	0.155
Scrapers	2022	176	250	0.810319	0.341	3.46901	1.74285</					



Year	Month	Day	Hour	PM10	PM2.5	O3	CO	NO2	SO2	GHG	
2014	26	10	13:03:39	1.267	0.71537	0.30249	0.005	0.608	0.005	514.4607	0.17
2014	11	130	0.990956	0.831	0.5337	0.0785	0.005	0.61	0.562	518.8913	0.151
2014	121	175	1.604184	0.875	0.30792	0.0451	0.005	0.508	0.463	517.8058	0.153
2014	136	20	0.6054	0.005	6.3039	2.0053	0.005	0.266	0.244	514.971	0.151
2015	6	15	2.151059	1.807	5.77191	6.75408	0.005	0.611	0.562	569.2058	0.17
2015	18	25	2.151059	1.807	5.77191	6.75408	0.005	0.611	0.562	569.2058	0.17
2015	28	50	2.151059	1.807	5.77191	6.75408	0.005	0.611	0.562	569.2058	0.17
2015	31	130	0.981855	0.831	0.5337	0.0785	0.005	0.61	0.561	511.6214	0.151
2015	111	175	1.604184	0.875	0.30792	0.0451	0.005	0.508	0.463	517.8058	0.153
2015	176	20	0.6054	0.005	6.3039	2.0053	0.005	0.266	0.244	509.3015	0.152
2016	15	2.151059	1.807	5.77191	6.75408	0.005	0.611	0.562	569.2058	0.17	
2016	16	25	2.151059	1.807	5.77191	6.75408	0.005	0.611	0.562	569.2058	0.17
2016	18	50	2.151059	1.807	5.77191	6.75408	0.005	0.611	0.562	569.2058	0.17
2016	111	175	1.604184	0.875	0.30792	0.0451	0.005	0.508	0.463	517.8058	0.153
2016	176	20	0.6054	0.005	6.3039	2.0053	0.005	0.266	0.244	504.0799	0.152
2017	6	15	2.037349	1.712	5.62558	6.7185	0.005	0.582	0.535	554.5133	0.17
2017	18	25	2.037349	1.712	5.62558	6.7185	0.005	0.582	0.535	554.5133	0.17
2017	26	50	2.037349	1.712	5.62558	6.7185	0.005	0.582	0.535	554.5133	0.17
2017	111	175	1.604184	0.875	0.30792	0.0451	0.005	0.508	0.463	509.4555	0.153
2017	176	20	0.6054	0.005	6.3039	2.0053	0.005	0.266	0.244	496.2044	0.152
2018	6	15	1.818807	1.145	5.39864	6.4442	0.005	0.533	0.488	545.7578	0.17
2018	16	25	1.818807	1.145	5.39864	6.4442	0.005	0.533	0.488	545.7578	0.17
2018	28	50	1.818807	1.145	5.39864	6.4442	0.005	0.533	0.488	545.7578	0.17
2018	111	175	1.604184	0.875	0.30792	0.0451	0.005	0.508	0.463	492.5516	0.153
2018	176	20	0.6054	0.005	6.3039	2.0053	0.005	0.266	0.244	492.5516	0.153
2019	6	15	1.70052	1.431	5.22487	6.26782	0.005	0.491	0.452	537.0023	0.17
2019	16	25	1.70052	1.431	5.22487	6.26782	0.005	0.491	0.452	537.0023	0.17
2019	20	50	1.70052	1.431	5.22487	6.26782	0.005	0.491	0.452	537.0023	0.17
2019	111	175	1.604184	0.875	0.30792	0.0451	0.005	0.508	0.463	483.6359	0.153
2019	176	20	0.6054	0.005	6.3039	2.0053	0.005	0.266	0.244	483.6359	0.153
2020	6	15	1.590203	1.144	5.09115	6.1154	0.005	0.463	0.426	525.3284	0.17
2020	16	25	1.590203	1.144	5.09115	6.1154	0.005	0.463	0.426	525.3284	0.17
2020	26	50	1.590203	1.144	5.09115	6.1154	0.005	0.463	0.426	525.3284	0.17
2020	111	175	1.604184	0.875	0.30792	0.0451	0.005	0.508	0.463	470.1257	0.153
2020	176	20	0.6054	0.005	6.3039	2.0053	0.005	0.266	0.244	470.1257	0.153
2021	6	15	1.408842	1.129	4.84948	5.89996	0.005	0.412	0.379	519.3284	0.17
2021	16	25	1.408842	1.129	4.84948	5.89996	0.005	0.412	0.379	519.3284	0.17
2021	26	50	1.408842	1.129	4.84948	5.89996	0.005	0.412	0.379	519.3284	0.17
2021	111	175	1.604184	0.875	0.30792	0.0451	0.005	0.508	0.463	474.1137	0.153
2021	176	20	0.6054	0.005	6.3039	2.0053	0.005	0.266	0.244	474.1137	0.153
2022	6	15	1.198025	1.008	4.49049	5.61118	0.005	0.335	0.308	513.3284	0.17
2022	16	25	1.198025	1.008	4.49049	5.61118	0.005	0.335	0.308	513.3284	0.17
2022	26	50	1.198025	1.008	4.49049	5.61118	0.005	0.335	0.308	513.3284	0.17
2022	111	175	1.604184	0.875	0.30792	0.0451	0.005	0.508	0.463	470.1257	0.153
2022	176	20	0.6054	0.005	6.3039	2.0053	0.005	0.266	0.244	470.1257	0.153
2023	6	15	0.903476	0.759	4.1773	4.97095	0.005	0.248	0.229	525.3284	0.17
2023	16	25	0.903476	0.759	4.1773	4.97095	0.005	0.248	0.229	525.3284	0.17
2023	26	50	0.903476	0.759	4.1773	4.97095	0.005	0.248	0.229	525.3284	0.17
2023	111	175	1.604184	0.875	0.30792	0.0451	0.005	0.508	0.463	474.1137	0.153
2023	176	20	0.6054	0.005	6.3039	2.0053	0.005	0.266	0.244	474.1137	0.153
2024	6	15	0.887865	0.746	4.0788	5.00321	0.005	0.239	0.219	525.3284	0.17
2024	16	25	0.887865	0.746	4.0788	5.00321	0.005	0.239	0.219	525.3284	0.17
2024	26	50	0.887865	0.746	4.0788	5.00321	0.005	0.239	0.219	525.3284	0.17
2024	111	175	1.604184	0.875	0.30792	0.0451	0.005	0.508	0.463	474.1137	0.153
2024	176	20	0.6054	0.005	6.3039	2.0053	0.005	0.266	0.244	474.1137	0.153
2025	6	15	0.740656	0.622	3.85568	4.76791	0.005	0.191	0.176	525.3284	0.17
2025	16	25	0.740656	0.622	3.85568	4.76791	0.005	0.191	0.176	525.3284	0.17
2025	26	50	0.740656	0.622	3.85568	4.76791	0.005	0.191	0.176	525.3284	0.17
2025	111	175	1.604184	0.875	0.30792	0.0451	0.005	0.508	0.463	474.1137	0.153
2025	176	20	0.6054	0.005	6.3039	2.0053	0.005	0.266	0.244	474.1137	0.153
2026	6	15	0.624	0.508	3.424	4.47	0.006	0.161	0.161	568.299	0.061
2026	16	25	0.624	0.508	3.424	4.47	0.006	0.161	0.161	568.299	0.061
2026	26	50	0.624	0.508	3.424	4.47	0.006	0.161	0.161	568.299	0.061
2026	111	175	1.604184	0.875	0.30792	0.0451	0.005	0.508	0.463	474.1137	0.153
2026	176	20	0.6054	0.005	6.3039	2.0053	0.005	0.266	0.244	474.1137	0.153
2027	6	15	0.508	0.412	3.124	3.97095	0.006	0.103	0.103	568.299	0.061
2027	16	25	0.508	0.412	3.124	3.97095	0.006	0.103	0.103	568.299	0.061
2027	26	50	0.508	0.412	3.124	3.97095	0.006	0.103	0.103	568.299	0.061
2027	111	175	1.604184	0.875	0.30792	0.0451	0.005	0.508	0.463	474.1137	0.153
2027	176	20	0.6054	0.005	6.3039	2.0053	0.005	0.266	0.244	474.1137	0.153
2028	6	15	0.412	0.335	2.824	3.61118	0.006	0.051	0.047	474.1137	0.153
2028	16	25	0.412	0.335	2.824	3.61118	0.006	0.051	0.047	474.1137	0.153
2028	26	50	0.412	0.335	2.824	3.61118	0.006	0.051	0.047	474.1137	0.153
2028	111	175	1.604184	0.875	0.30792	0.0451	0.005	0.508	0.463	474.1137	0.153
2028	176	20	0.6054	0.005	6.3039	2.0053	0.005	0.266	0.244	474.1137	0.153
2029	6	15	0.335	0.266	2.524	3.22487	0.006	0.023	0.023	568.299	0.061
2029	16	25	0.335	0.266	2.524	3.22487	0.006	0.023	0.023	568.299	0.061
2029	26	50	0.335	0.266	2.524	3.22487	0.006	0.023	0.023	568.299	0.061
2029	111	175	1.604184	0.875	0.30792	0.0451	0.005	0.508	0.463	474.1137	0.153
2029	176	20	0.6054	0.005	6.3039	2.0053	0.005	0.266	0.244	474.1137	0.153
2030	6	15	0.266	0.219	2.234	2.97095	0.006	0.007	0.007	568.299	0.061
2030	16	25	0.266	0.219	2.234	2.97095	0.006	0.007	0.007	568.299	0.061
2030	26	50	0.266	0.219	2.234	2.97095	0.006	0.007	0.007	568.299	0.061
2030	111	175	1.604184	0.875	0.30792	0.0451	0.005	0.508	0.463	474.1137	0.153
2030	176	20	0.6054	0.005	6.3039	2.0053	0.005	0.266	0.244	474.1137	0.153
2031	6	15	0.219	0.176	1.944	2.76791	0.006	0.002	0.002	568.299	0.061
2031	16	25	0.219	0.176	1.944	2.76791	0.006	0.002	0.002	568.299	0.061
2031	26	50	0.219	0.176	1.944	2.76791	0.006	0.002	0.002	568.299	0.061
2031	111	175	1.604184	0.875	0.30792	0.0451	0.005	0.508	0.463	474.1137	0.153
2031	176	20	0.6054	0.005	6.3039	2.0053	0.005	0.266	0.244	474.1137	0.153
2032	6	15	0.176	0.145	1.654	2.47679	0.006	0.001	0.001	568.299	0.061
2032	16	25	0.176	0.145	1.654	2.47679	0.006	0.001	0.001	568.299	0.061
2032	26	50	0.176	0.145	1.654	2.47679	0.006	0.001	0.001	568.299	0.061
2032	111	175	1.604184	0.875	0.30792	0.0451	0.005	0.508	0.463	474.1137	0.153
2032	176	20	0.6054	0.005	6.3039	2.0053	0.005	0.266	0.244	474.1137	0.153
2033	6	15	0.145	0.114	1.364	2.17679	0.006	0.001	0.001	568.299	0.061
2033	16	25	0.145	0.114	1.364	2.17679	0.006	0.001	0.001	568.299	0.06

Franchers/Loaders/Backhoe	2040	61	130	11.135	0.254	1.483	1.703	0.006	0.008	0.008	568.299	0.022
Franchers/Loaders/Backhoe	2040	121	175	2.891	0.175	0.305	3.270	0.006	0.002	0.002	568.299	0.015
Franchers/Loaders/Backhoe	2040	176	250	4.877	0.174	0.297	1.136	0.006	0.001	0.001	568.3	0.015
Franchers/Loaders/Backhoe	2040	251	500	1.794	0.174	0.297	1.066	0.006	0.001	0.001	568.299	0.015
Franchers	1990	6	15	1.844	1.804	1.999	4.999	1.049	0.975	0.975	568.299	0.163
Franchers	1990	16	25	38.341	2.213	6.919	4.999	0.855	0.742	0.742	568.3	0.199
Franchers	1990	26	50	37.289	4.335	7.849	3.212	0.871	1.213	1.213	568.3	0.209
Franchers	1990	110	120	37.539	2.296	14.720	5.621	0.791	1.248	1.248	568.299	0.223
Franchers	1990	121	175	61.364	1.748	14.125	5.054	0.758	0.96	0.96	568.299	0.157
Franchers	1990	176	250	61.312	1.748	14.125	5.054	0.758	0.96	0.96	568.299	0.157
Franchers	1990	251	500	111.775	1.553	13.45	10.572	0.642	0.827	0.827	568.299	0.14
Franchers	2000	61	130	23.717	1.513	11.416	10.373	0.818	0.843	0.843	568.299	0.14
Franchers	2000	121	175	1.824	1.325	7.675	4.257	0.879	0.61	0.61	568.299	0.119
Franchers	2000	176	250	35.813	1.068	6.126	4.488	0.655	0.555	0.555	568.299	0.172
Franchers	2000	251	500	34.945	4.216	7.029	8.713	0.666	0.89	0.89	568.299	0.18
Franchers	2000	51	120	30.939	1.893	10.38	4.777	0.56	0.882	0.882	568.299	0.17
Franchers	2000	111	175	48.959	1.296	8.927	1.908	0.857	0.641	0.641	568.299	0.148
Franchers	2000	176	250	64.645	1.151	9.8	3.402	0.557	0.474	0.474	568.299	0.103
Franchers	2000	251	500	61.478	1.042	9.354	4.231	0.95	0.416	0.416	568.299	0.094
Franchers	2000	501	750	153.98	1.042	9.354	4.231	0.952	0.416	0.416	568.299	0.094
Franchers	2005	6	15	1.502	0.742	4.961	1.449	0.979	0.25	0.25	568.299	0.066
Franchers	2005	16	25	7.041	0.849	3.311	2.519	0.665	0.333	0.333	568.3	0.076
Franchers	2005	26	50	32.497	3.921	6.874	8.33	0.66	0.849	0.849	568.299	0.153
Franchers	2005	110	120	27.751	1.698	7.727	1.328	0.96	0.839	0.839	568.299	0.153
Franchers	2005	121	175	40.799	1.126	8.861	1.895	0.957	0.487	0.487	568.299	0.101
Franchers	2005	176	250	41.43	0.91	8.545	1.668	0.957	0.379	0.379	568.299	0.091
Franchers	2005	251	500	61.694	0.812	7.903	4.395	0.95	0.332	0.332	568.299	0.073
Franchers	2005	501	750	121.568	0.823	8.023	1.287	0.952	0.333	0.333	568.299	0.074
Franchers	2010	6	15	1.511711	1.287	5.5781	5.1138	0.005	0.509	0.468	568.297	0.171
Franchers	2010	16	25	1.511711	1.287	5.5781	5.1138	0.005	0.509	0.468	568.297	0.171
Franchers	2010	26	50	1.511711	1.287	5.5781	5.1138	0.005	0.509	0.468	568.297	0.171
Franchers	2010	110	120	1.511711	1.287	5.5781	5.1138	0.005	0.509	0.468	568.297	0.171
Franchers	2010	121	175	1.511711	1.287	5.5781	5.1138	0.005	0.509	0.468	568.297	0.171
Franchers	2010	176	250	1.511711	1.287	5.5781	5.1138	0.005	0.509	0.468	568.297	0.171
Franchers	2010	251	500	1.511711	1.287	5.5781	5.1138	0.005	0.509	0.468	568.297	0.171
Franchers	2010	501	750	1.511711	1.287	5.5781	5.1138	0.005	0.509	0.468	568.297	0.171
Franchers	2011	6	15	1.512012	1.277	5.5236	5.14932	0.005	0.507	0.467	568.033	0.171
Franchers	2011	16	25	1.512012	1.277	5.5236	5.14932	0.005	0.507	0.467	568.033	0.171
Franchers	2011	26	50	1.512012	1.277	5.5236	5.14932	0.005	0.507	0.467	568.033	0.171
Franchers	2011	110	120	1.512012	1.277	5.5236	5.14932	0.005	0.507	0.467	568.033	0.171
Franchers	2011	121	175	1.512012	1.277	5.5236	5.14932	0.005	0.507	0.467	568.033	0.171
Franchers	2011	176	250	1.512012	1.277	5.5236	5.14932	0.005	0.507	0.467	568.033	0.171
Franchers	2011	251	500	1.512012	1.277	5.5236	5.14932	0.005	0.507	0.467	568.033	0.171
Franchers	2011	501	750	1.512012	1.277	5.5236	5.14932	0.005	0.507	0.467	568.033	0.171
Franchers	2012	6	15	1.540009	1.298	5.53504	5.24421	0.005	0.512	0.471	568.569	0.171
Franchers	2012	16	25	1.540009	1.298	5.53504	5.24421	0.005	0.512	0.471	568.569	0.171
Franchers	2012	26	50	1.540009	1.298	5.53504	5.24421	0.005	0.512	0.471	568.569	0.171
Franchers	2012	110	120	1.540009	1.298	5.53504	5.24421	0.005	0.512	0.471	568.569	0.171
Franchers	2012	121	175	1.540009	1.298	5.53504	5.24421	0.005	0.512	0.471	568.569	0.171
Franchers	2012	176	250	1.540009	1.298	5.53504	5.24421	0.005	0.512	0.471	568.569	0.171
Franchers	2012	251	500	1.540009	1.298	5.53504	5.24421	0.005	0.512	0.471	568.569	0.171
Franchers	2012	501	750	1.540009	1.298	5.53504	5.24421	0.005	0.512	0.471	568.569	0.171
Franchers	2013	6	15	1.58009	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2013	16	25	1.58009	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2013	26	50	1.58009	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2013	110	120	1.58009	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2013	121	175	1.58009	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2013	176	250	1.58009	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2013	251	500	1.58009	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2013	501	750	1.58009	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2014	6	15	1.580944	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2014	16	25	1.580944	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2014	26	50	1.580944	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2014	110	120	1.580944	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2014	121	175	1.580944	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2014	176	250	1.580944	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2014	251	500	1.580944	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2014	501	750	1.580944	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2015	6	15	1.60008	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2015	16	25	1.60008	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2015	26	50	1.60008	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2015	110	120	1.60008	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2015	121	175	1.60008	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2015	176	250	1.60008	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2015	251	500	1.60008	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2015	501	750	1.60008	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2016	6	15	1.600442	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2016	16	25	1.600442	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2016	26	50	1.600442	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2016	110	120	1.600442	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2016	121	175	1.600442	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2016	176	250	1.600442	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2016	251	500	1.600442	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2016	501	750	1.600442	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Franchers	2017	6	15	1.607115	1.149	5.16614	5.19642	0.005	0.449	0.411	567.401	0.171
Franchers	2017	16	25	1.607115	1.149	5.16614	5.19642	0.005	0.449	0.411	567.401	0.171
Franchers	2017	26	50	1.607115	1.149	5.16614	5.19642	0.005	0.449	0.411	567.401	0.171
Franchers	2017	110	120	1.607115	1.149	5.16614	5.19642	0.005	0.449	0.411	567.401	0.171
Franchers	2017	121	175	1.607115	1.149	5.16614	5.19642	0.005	0.449	0.411	567.401	0.171
Franchers	2017	176	250	1.607115	1.149	5.16614	5.19642	0.005	0.449	0.411	567.401	0.171
Franchers	2017	251	500	1.607115	1.149	5.16614	5.19642	0.005	0.449	0.411	567.401	0.171
Franchers	2017	501	750	1.607115	1.149	5.16614	5.19642	0.005	0.449	0.		

Winters	2011	4	15	1.109	0.84	5.198	1.638	0.008	0.111	0.111	568.299	0.079
Winters	2011	16	25	4.078	0.894	4.89	2.666	0.007	0.27	0.27	568.299	0.08
Winters	2015	26	50	17.994	1.715	5.113	5.562	0.007	0.43	0.43	568.3	0.154
Winters	2015	11	120	12.137	0.772	1.072	1.718	0.006	0.418	0.418	568.299	0.069
Winters	2015	121	175	21.139	0.532	4.408	1.133	0.006	0.23	0.23	568.299	0.048
Winters	2015	176	250	36.976	0.323	1.38	1.178	0.006	0.188	0.188	568.299	0.031
Winters	2015	251	500	21.953	0.324	3.398	1.178	0.005	0.108	0.108	568.299	0.029
Winters	2016	6	15	1.03	0.809	5.021	2.621	0.008	0.289	0.289	568.299	0.079
Winters	2016	16	25	1.903	0.915	4.803	2.609	0.007	0.293	0.293	568.299	0.077
Winters	2016	26	50	16.155	1.54	4.936	5.395	0.007	0.389	0.389	568.299	0.138
Winters	2016	11	120	11.165	0.699	4.692	1.705	0.006	0.375	0.375	568.3	0.063
Winters	2016	121	175	19.285	0.486	3.973	1.128	0.006	0.206	0.206	568.299	0.043
Winters	2016	176	250	31.905	0.33	1.481	1.113	0.006	0.108	0.108	568.299	0.029
Winters	2016	251	500	20.713	0.306	3.032	1.134	0.005	0.097	0.097	568.299	0.027
Winters	2017	6	15	1.973	0.798	4.847	1.999	0.008	0.272	0.272	568.299	0.07
Winters	2017	16	25	1.785	0.83	4.725	2.564	0.007	0.243	0.243	568.299	0.074
Winters	2017	26	50	14.392	1.372	4.768	5.239	0.007	0.35	0.35	568.299	0.122
Winters	2017	11	120	11.908	0.843	4.328	1.675	0.006	0.312	0.312	568.299	0.066
Winters	2017	121	175	17.561	0.442	3.562	1.124	0.006	0.183	0.183	568.299	0.039
Winters	2017	176	250	34.942	0.31	1.105	1.113	0.006	0.096	0.096	568.299	0.028
Winters	2017	251	500	19.705	0.29	2.713	1.102	0.005	0.088	0.088	568.299	0.026
Winters	2018	6	15	1.923	0.765	4.762	1.58	0.008	0.256	0.256	568.3	0.069
Winters	2018	16	25	1.684	0.807	4.661	2.511	0.007	0.232	0.232	568.299	0.072
Winters	2018	26	50	12.698	1.21	4.607	5.092	0.007	0.311	0.311	568.299	0.109
Winters	2018	11	120	11.016	0.564	1.98	1.648	0.006	0.29	0.29	568.299	0.051
Winters	2018	121	175	15.966	0.402	3.176	1.123	0.006	0.162	0.162	568.299	0.036
Winters	2018	176	250	34.008	0.292	2.751	1.118	0.006	0.084	0.084	568.299	0.026
Winters	2018	251	500	18.804	0.277	2.43	1.08	0.005	0.08	0.08	568.299	0.025
Winters	2019	6	15	1.877	0.748	4.647	1.562	0.008	0.242	0.242	568.299	0.067
Winters	2019	16	25	1.692	0.787	4.596	2.501	0.007	0.222	0.222	568.299	0.071
Winters	2019	26	50	11.071	1.055	4.449	4.95	0.007	0.273	0.273	568.299	0.099
Winters	2019	11	120	11.032	0.503	1.648	1.623	0.006	0.25	0.25	568.299	0.045
Winters	2019	121	175	14.499	0.37	2.832	1.122	0.006	0.145	0.145	568.3	0.033
Winters	2019	176	250	31.246	0.278	1.432	1.104	0.006	0.075	0.075	568.299	0.024
Winters	2019	251	500	17.937	0.246	2.143	1.065	0.005	0.072	0.072	568.3	0.023
Winters	2020	6	15	1.795	0.715	4.542	1.546	0.008	0.227	0.227	568.299	0.066
Winters	2020	16	25	1.607	0.769	4.538	2.473	0.007	0.212	0.212	568.299	0.069
Winters	2020	26	50	11.43	1.037	4.26	4.8	0.007	0.228	0.228	568.299	0.084
Winters	2020	11	120	11.778	0.455	1.911	1.605	0.006	0.238	0.238	568.299	0.044
Winters	2020	121	175	13.663	0.344	2.523	1.122	0.006	0.127	0.127	568.299	0.031
Winters	2020	176	250	32.377	0.261	1.143	1.091	0.006	0.066	0.066	568.299	0.023
Winters	2020	251	500	17.094	0.212	1.91	1.055	0.005	0.064	0.064	568.299	0.022
Winters	2021	6	15	1.8	0.717	4.462	1.514	0.008	0.214	0.214	568.299	0.067
Winters	2021	16	25	1.411	0.752	4.487	2.446	0.007	0.201	0.201	568.299	0.067
Winters	2021	26	50	8.704	0.829	4.123	4.708	0.007	0.205	0.205	568.299	0.074
Winters	2021	11	120	8.572	0.411	3.042	3.579	0.006	0.184	0.184	568.299	0.037
Winters	2021	121	175	12.512	0.315	2.189	1.112	0.006	0.11	0.11	568.299	0.028
Winters	2021	176	250	31.711	0.243	1.836	1.061	0.006	0.067	0.067	568.299	0.021
Winters	2021	251	500	15.998	0.236	1.642	1.044	0.005	0.055	0.055	568.299	0.021
Winters	2022	6	15	1.774	0.707	4.408	1.518	0.008	0.203	0.203	568.3	0.063
Winters	2022	16	25	1.374	0.739	4.47	2.426	0.007	0.193	0.193	568.299	0.064
Winters	2022	26	50	7.959	0.758	4.007	4.645	0.007	0.175	0.175	568.299	0.064
Winters	2022	11	120	8.112	0.382	2.808	3.17	0.006	0.16	0.16	568.299	0.034
Winters	2022	121	175	11.714	0.295	1.935	1.113	0.006	0.097	0.097	568.3	0.028
Winters	2022	176	250	31.128	0.231	1.598	1.074	0.006	0.05	0.05	568.299	0.021
Winters	2022	251	500	15.267	0.225	1.454	1.038	0.005	0.049	0.049	568.3	0.021
Winters	2023	6	15	1.751	0.698	4.359	1.508	0.008	0.194	0.194	568.3	0.063
Winters	2023	16	25	1.322	0.728	4.447	2.407	0.007	0.186	0.186	568.299	0.063
Winters	2023	26	50	7.118	0.697	3.891	4.196	0.007	0.151	0.151	568.299	0.062
Winters	2023	11	120	7.173	0.357	2.999	3.564	0.006	0.139	0.139	568.299	0.032
Winters	2023	121	175	11.013	0.277	1.726	1.111	0.006	0.085	0.085	568.299	0.029
Winters	2023	176	250	30.906	0.22	1.404	1.071	0.006	0.044	0.044	568.299	0.023
Winters	2023	251	500	14.602	0.215	1.289	1.034	0.005	0.042	0.042	568.299	0.019
Winters	2024	6	15	1.711	0.69	4.316	1.499	0.008	0.188	0.188	568.299	0.062
Winters	2024	16	25	1.276	0.718	4.426	2.39	0.007	0.181	0.181	568.299	0.064
Winters	2024	26	50	6.78	0.648	3.762	4.057	0.007	0.13	0.13	568.299	0.054
Winters	2024	11	120	6.366	0.336	2.43	3.56	0.006	0.12	0.12	568.299	0.031
Winters	2024	121	175	10.389	0.261	1.541	1.118	0.006	0.074	0.074	568.299	0.023
Winters	2024	176	250	30.107	0.21	1.234	1.068	0.005	0.038	0.038	568.299	0.018
Winters	2024	251	500	13.957	0.206	1.135	1.032	0.005	0.037	0.037	568.299	0.018
Winters	2025	6	15	1.713	0.683	4.278	1.491	0.008	0.183	0.183	568.3	0.061
Winters	2025	16	25	1.217	0.709	4.407	2.376	0.007	0.177	0.177	568.299	0.064
Winters	2025	26	50	6.155	0.602	3.676	4.124	0.007	0.112	0.112	568.299	0.054
Winters	2025	11	120	5.055	0.316	2.283	3.557	0.006	0.102	0.102	568.299	0.028
Winters	2025	121	175	7.743	0.245	1.365	1.121	0.006	0.063	0.063	568.299	0.022
Winters	2025	176	250	24.21	0.199	1.075	1.065	0.006	0.032	0.032	568.299	0.018
Winters	2025	251	500	13.325	0.196	0.99	1.029	0.005	0.031	0.031	568.299	0.017
Winters	2030	6	15	1.665	0.663	4.164	1.47	0.008	0.166	0.166	568.299	0.059
Winters	2030	16	25	1.113	0.687	4.347	2.34	0.007	0.165	0.165	568.299	0.061
Winters	2030	26	50	4.719	0.449	3.773	4.087	0.007	0.045	0.045	568.299	0.04
Winters	2030	11	120	3.827	0.239	1.707	1.535	0.006	0.04	0.04	568.299	0.021
Winters	2030	121	175	7.011	0.176	1.028	1.121	0.006	0.027	0.027	568.299	0.013
Winters	2030	176	250	7.829	0.162	0.525	1.063	0.006	0.017	0.017	568.299	0.014
Winters	2030	251	500	30.907	0.161	0.495	1.027	0.005	0.017	0.017	568.299	0.014
Winters	2035	6	15	1.659	0.661	4.141	1.469	0.008	0.162	0.162	568.299	0.059
Winters	2035	16	25	1.126	0.685	4.332	2.339	0.007	0.162	0.162	568.299	0.061
Winters	2035	26	50	4.262	0.406	3.147	3.449	0.007	0.022	0.022	568.299	0.016
Winters	2035	11	120	3.418	0.214	1.509	1.528	0.006	0.019	0.019	568.299	0.019
Winters	2035	121	175	6.087	0.153	0.507	1.121	0.006	0.015	0.015	568.299	0.013
Winters	2035	176	250	7.189	0.149	0.343	1.063	0.006	0.012	0.012	568.299	0.013
Winters	2040	6	15	1.659	0.661	4.142	1.469	0.008	0.161	0.161	568.299	0.059
Winters	2040	16	25	1.126	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Winters	2040	26	50	4.218	0.402	3.093	3.336	0.007	0.015	0.015	568.3	0.016
Winters	2040	11	120	3.322	0.208	1.447	1.524	0.006	0.014	0.014	568.299	0.018
Winters	2040	121	175	5.753	0.145	0.303	1.118	0.006	0.011	0.011	568.299	0.013
Winters	2040	176	250	6.911	0.143	0.287	1.062	0.006	0.01	0.01	568.3	0.012
Winters	2040											

**Table 3.3 OFFROAD Default Horsepower and Load Factors**

<b>OFFROAD Equipment Type</b>	<b>Horsepower</b>	<b>Load Factor</b>
Aerial Lifts	63	0.31
Air Compressors	78	0.48
Bore/Drill Rigs	221	0.5
Cement and Mortar Mixers	9	0.56
Concrete/Industrial Saws	81	0.73
Cranes	231	0.29
Crawler Tractors	212	0.43
Crushing/Proc. Equipment	85	0.78
Dumpers/Tenders	16	0.38
Excavators	158	0.38
Forklifts	89	0.2
Generator Sets	84	0.74
Graders	187	0.41
Off-Highway Tractors	124	0.44
Off-Highway Trucks	402	0.38
Other Construction Equipment	172	0.42
Other General Industrial Equipment	88	0.34
Other Material Handling Equipment	168	0.4
Pavers	130	0.42
Paving Equipment	132	0.36
Plate Compactors	8	0.43
Pressure Washers	13	0.3
Pumps	84	0.74
Rollers	80	0.38
Rough Terrain Forklifts	100	0.4
Rubber Tired Dozers	247	0.4
Rubber Tired Loaders	203	0.36
Scrapers	367	0.48
Signal Boards	6	0.82
Skid Steer Loaders	65	0.37
Surfacing Equipment	263	0.3
Sweepers/Scrubbers	64	0.46
Tractors/Loaders/Backhoes	97	0.37
Trenchers	78	0.5
Welders	46	0.45

**Table 3.5 OFFROAD Emission Factor Based on Engine Tier (g/bhp-hr)**

Tier	Low HP	High HP	CO	NOX	PM10	PM2.5	ROG	TOG
Tier 1	25	49	4.100	5.260	0.480	0.440	1.320	1.340
Tier 1	50	74	8.500	6.540	0.550	0.510	0.900	0.910
Tier 1	75	119	8.500	6.540	0.550	0.510	0.900	0.910
Tier 1	120	174	8.500	6.540	0.300	0.280	0.620	0.630
Tier 1	175	299	8.500	5.930	0.120	0.110	0.290	0.290
Tier 1	300	599	8.500	5.930	0.120	0.110	0.290	0.290
Tier 1	600	750	8.500	5.930	0.120	0.110	0.290	0.290
Tier 1	751	999	8.500	5.930	0.120	0.110	0.290	0.290
Tier 2	25	49	4.100	4.630	0.280	0.260	0.220	0.220
Tier 2	50	74	3.700	4.750	0.190	0.180	0.170	0.170
Tier 2	75	119	3.700	4.750	0.190	0.180	0.170	0.170
Tier 2	120	174	3.700	4.150	0.130	0.120	0.150	0.150
Tier 2	175	299	2.600	4.150	0.090	0.080	0.110	0.110
Tier 2	300	599	2.600	3.790	0.090	0.080	0.090	0.090
Tier 2	600	750	2.600	3.790	0.090	0.080	0.090	0.090
Tier 2	751	999	2.600	3.790	0.090	0.080	0.090	0.090
Tier 3	25	49	4.100	4.630	0.280	0.260	0.220	0.220
Tier 3	50	74	3.700	2.740	0.190	0.180	0.090	0.090
Tier 3	75	119	3.700	2.740	0.110	0.100	0.090	0.090
Tier 3	120	174	3.700	2.320	0.110	0.100	0.090	0.090
Tier 3	175	299	2.600	2.320	0.090	0.080	0.090	0.090
Tier 3	300	599	2.600	2.320	0.090	0.080	0.090	0.090
Tier 3	600	750	2.600	2.320	0.090	0.080	0.090	0.090
Tier 3	751	999	2.600	2.320	0.090	0.080	0.090	0.090
Tier 4 Final	25	49	4.100	2.750	0.010	0.010	0.090	0.090
Tier 4 Final	50	74	3.700	2.740	0.010	0.010	0.090	0.090
Tier 4 Final	75	119	3.700	0.260	0.010	0.010	0.050	0.050
Tier 4 Final	120	174	3.700	0.260	0.010	0.010	0.050	0.050
Tier 4 Final	175	299	2.600	0.260	0.010	0.010	0.050	0.050
Tier 4 Final	300	599	2.600	0.260	0.010	0.010	0.050	0.050
Tier 4 Final	600	750	2.600	0.260	0.010	0.010	0.050	0.050
Tier 4 Final	751	999	2.600	2.240	0.020	0.020	0.050	0.050
Tier 4 Interim	25	49	4.100	4.550	0.130	0.120	0.090	0.090
Tier 4 Interim	50	74	3.700	2.740	0.110	0.100	0.090	0.090
Tier 4 Interim	75	119	3.700	2.150	0.010	0.010	0.080	0.080
Tier 4 Interim	120	174	3.700	2.150	0.010	0.010	0.080	0.080
Tier 4 Interim	175	299	2.600	1.290	0.010	0.010	0.060	0.060
Tier 4 Interim	300	599	2.600	1.290	0.010	0.010	0.060	0.060
Tier 4 Interim	600	750	2.600	1.290	0.010	0.010	0.060	0.060
Tier 4 Interim	751	999	2.600	2.240	0.050	0.050	0.060	0.060

Source: California Air Resources Board (CARB). 2017. The Carl Moyer Program Guidelines. April  
 Available: [https://ww2.arb.ca.gov/sites/default/files/classic/msprog/moyer/guidelines/2017/2017\\_cmpgl.pdf](https://ww2.arb.ca.gov/sites/default/files/classic/msprog/moyer/guidelines/2017/2017_cmpgl.pdf).

**Road Dust Emission Factors**

**Daily Paved Road Dust EF<sup>1</sup>**

$$E_{ext} = [ k (sL)^{0.91} \times (W)^{1.02} ]$$

- EF<sub>paved</sub> Annual or other long-term average emission factor in the same units as k
- k particle size multiplier for particle size range and units of interest
- sL road surface silt loading (g/m<sup>2</sup>)
- W average weight (tons) of all the vehicles raveling the road (2.4 tons)
- P Number of "wet" days with at least 0.254 (0.01 in) of precipitation during the averaging period
- N Number of days in the averaging period (e.g. 365 for annual, 91 for seasonal, 30 for monthly)

Parameters	PM10	PM2.5
k (g/VMT) <sup>2</sup>	0.997898	0.244939
sL (g/m <sup>2</sup> )	0.1	0.1
W (tons)	2.4	2.4
EF (g/mi)	3.00E-01	7.36E-02

- 1) CalEEMod User's Guide, Appendix A, p. 29
- 2) AP42: Chapter 13: Miscellaneous Sources, 13.2.1 Paved Roads, Table 13.2.1-1

**Daily Unpaved Road Dust EF<sup>1</sup>**

$$E.F._{dust,i} = \left( \frac{k(s/12)^1(S/30)^{0.5}}{(M/0.5)^{0.2}} - C \right)$$

- k particle size multiplier for particle size range and units of interest
- s surface material silt content (%)
- M surface material moisture content (%)
- S mean vehicle speed (mph)
- C emission factor for 1980s vehicle fleet exhaust, brakewear and tire wear

Parameters	PM10	PM2.5
k (g/VMT) <sup>2</sup>	816.462	81.6462
s <sup>3</sup>	9.3	9.3 SLOAPCD Recommendations for SLO Region (CalEEMod User Guide 4.4.4).
M	0.1	0.1 SLOAPCD Recommendations for SLO Region (CalEEMod User Guide 4.4.4).
S	15	15 SLOAPCD Recommendations for SLO Region 32.4 mph (CalEEMod User Guide 4.4.4).
C	0.213187	0.163292 *Mitigated to 15mph on-site.
EF (g/mi)	617.1158	61.56961

- 1) CalEEMod User's Guide, Appendix A, p. 29
- 2) AP42: Chapter 13: Miscellaneous Sources, 13.2.2 Unpaved Roads, Table 13.2.2-2
- 3) AP42: Chapter 13: Miscellaneous Sources, 13.2.2 Unpaved Roads, Table 13.2.2-1, "Construction sites"

Vendor

**Speed**

5
10
15
20
25
30
35
40

Haul

**Speed**

5
10
15
20
25
30
35
40

Worker

**Speed**

5
10
15
20
25
30
35
40



## **Unmitigated Construction Emissions- No Spillway Alternative**

Project Name:MCWRA ILT Project MBARD Portion - Mitigated  
-Construction Days per week

5

Construction Schedule<sup>1</sup>

Phase feature <sup>5</sup>	Phase Name <sup>5</sup>	Combined Phase Name <sup>5</sup>	Code <sup>4</sup>	Start Date <sup>5</sup>	End Date <sup>5</sup>	# of Workdays <sup>5</sup>
Energy Dissipation	Site clearing and grading	Energy Dissipation - Site Clearing and Grading	020	3/11/2024	4/5/2024	20
Energy Dissipation	Construct energy dissipation structure	Energy Dissipation - Construct energy dissipation structure	021	4/8/2024	6/28/2024	60
Energy Dissipation	Construct connection between tunnel and Energy Dissipator	Energy Dissipation - Construct connection between tunnel and Energy Dissipator	022	11/18/2024	12/13/2024	20
Energy Dissipation	Re-vegetation and site demob	Energy Dissipation - Re-vegetation and site demob	023	12/16/2024	1/24/2025	30
Energy Dissipation	Construct ATV Trail to south portal	Energy Dissipation - Construct ATV Trail to south portal	024	10/2/2023	11/10/2023	30
Energy Dissipation Structure Tunnel Portal	Improve access road	Energy Dissipation Structure Tunnel Portal - Improve access road	044	7/10/2023	7/28/2023	15
Energy Dissipation Structure Tunnel Portal	site clearing and grubbing	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	045	7/31/2023	8/18/2023	15
Energy Dissipation Structure Tunnel Portal	Install erosion/sediment control and silt fencing	Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	046	7/31/2023	8/18/2023	15
Energy Dissipation Structure Tunnel Portal	Site grading, staging, laydown and much disposal area prep	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	047	8/21/2023	9/29/2023	30
Energy Dissipation Structure Tunnel Portal	Install temporary utilities; water, power, sewage handling, communications	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	048	10/2/2023	11/10/2023	30
Energy Dissipation Structure Tunnel Portal	Portal excavation and support	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	049	11/13/2023	12/8/2023	20
Energy Dissipation Structure Tunnel Portal	Mobilize tunnel equipment and materials to site	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	050	10/2/2023	11/10/2023	30
Energy Dissipation Structure Tunnel Portal	Fabricate pre-cast tunnel liner segments and trasport to site	Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	051	7/10/2023	4/12/2024	200
Energy Dissipation Structure Tunnel Portal	EFBM and tunnel equipment/utilities setup and thrust frame install	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	052	12/11/2023	1/19/2024	30
Tunneling	Drive 100' of tunnel at 20 fpd	Tunneling - Drive 100' of tunnel at 20 fpd	053	1/22/2024	1/26/2024	5
Tunneling	Tunnel excavation and support @ 60' per day	Tunneling - Tunnel excavation and support @ 60' per day	054	1/29/2024	10/4/2024	180
Tunneling	TBM trailing gear and plant removal	Tunneling - TBM trailing gear and plant removal	055	10/7/2024	11/15/2024	30
Tunneling	Tunnel punch list/clearing	Tunneling - Tunnel punch list/clearing	056	7/10/2023	7/30/2023	15
Tunneling	Muck disposal on site/grading	Tunneling - Muck disposal on site/grading	057	1/29/2024	10/4/2024	180
Tunneling	Demobilization tunnel plant	Tunneling - Demobilization tunnel plant	058	10/7/2024	11/15/2024	30

SOIL VOLUMES

Soil Export Energy Station

Parameter	Value
Total Export Volume (CY) <sup>1</sup>	14,906.00
Haul Truck Capacity (CY/truck) <sup>9</sup>	16.00
Haul Trucks Required	931.63
<b>Total One-Way Haul Trucks</b>	<b>1,864.00</b>

Soil Import Energy Station

Parameter	Value
Total Import Volume (CY) <sup>1</sup>	3,376.00
Haul Truck Capacity (CY/truck) <sup>9</sup>	16.00
Haul Trucks Required	211.00
<b>Total One-Way Haul Trucks</b>	<b>422.00</b>

Aggregate and Chipseal<sup>5</sup>

Parameter	Value
Total Import Volume (CY) <sup>1</sup>	6,429.00
Haul Truck Capacity (CY/truck) <sup>9</sup>	16.00
Haul Trucks Required	401.81
<b>Total One-Way Haul Trucks</b>	<b>804.00</b>

Parameter	Value
<b>Total One-Way Truck Trips</b>	<b>804.00</b>

Parameter	Value
<b>Total Import/Export Truck Trips</b>	<b>2,286.00</b>

CONCRETE POUR

Parameter	Value
Total Concrete Volume (CY) <sup>1</sup>	449.00
Max Daily Concrete Volume (CY) <sup>2</sup>	22.45
Concrete Truck Capacity (CY/truck) <sup>3</sup>	8.00
Max Daily Concrete Trucks	2.81
<b>Total One-Way Truck Trips</b>	<b>6.00</b>

AMM GEN-8 Avoidance/Minimization Measure	Mitigation Measures	PM10 Reductions
Water 2x a day/ every four hours (unpaved roads) <sup>4</sup>	55%	
Street sweeping (paved roads) <sup>4</sup>	7%	
Cover storage piles (material handling) <sup>4</sup>	90%	
1 Water Truck/Watering PM Reduction <sup>4</sup>	reduction	69%
1 every three hours + 12% Moisture every two hours		74%
Gravel Road /Trackout for connection to paved roads		46%
Chemical Dust Suppression (unpaved roads) <sup>4</sup> pg6-12		84%
SLOPCD BACT Requirement	Tier 4 Final Equipment or better where feasible assumed for all construction equipment.	
MBARD Region Default	<b>ONSITE VEHICLE SPEED</b>	
15 mph mitigation for Gravel Roads (workers/vendors/Haul)	40.00 mph	
	15.00 mph	

SOIL VOLUMES Tunneling

Parameter	Value
Total Export Volume (CY) <sup>1</sup>	108,066.00

a. This soil is expected to be wet muck and would be transported via conveyor belts. No Haul trips or fugitive dust emissions expected.

Parameter	Value
Total Import Volume (CY) <sup>1</sup>	7,720.00
Haul Truck Capacity (CY/truck) <sup>9</sup>	16.00
Haul Trucks Required	482.50
<b>Total One-Way Haul Trucks</b>	<b>966.00</b>

Parameter	Value
<b>Total One-Way Truck Trips</b>	<b>966.00</b>

Parameter	Value
Total Concrete Volume (CY) <sup>1</sup>	6,256.00
Concrete Capacity (CY/truck) <sup>2</sup>	8.00
Haul Trucks Required	782.00
<b>Total One-Way Haul Trucks</b>	<b>1,564.00</b>

Parameter	Value
Daily Vendor Trips <sup>8</sup>	8.00
Construction Waste Haul Trips <sup>8</sup>	4.00

Sources

- 1 Project Description
- 2 Concrete Truck Capacity
- 3 worker trips
- 4 [https://www.env.nm.gov/wp-content/uploads/sites/2/2017/02/WRAP\\_FDHandbook\\_Rev\\_06.pdf](https://www.env.nm.gov/wp-content/uploads/sites/2/2017/02/WRAP_FDHandbook_Rev_06.pdf)
- 5 Saved project files
- 6 Chip sealing trailers, trucks and chip spreaders 518-218-7676 (pavementgroup.com)
- 7 Asphalt Sealcoating and Crack Filling Calculators | Asphalt Sealcoating Direct
- 8 ILT Data Needs - Vendor Truck Info
- 9 CalEEMod User guide Page 36

E:  
C:  
D:  
L:

Total # of Worker Trips/day	Total # of Vendor Trips/day	Total # of One-Way Haul Trucks Trips	One-Way Haul Truck Trips/day	Offsite Trip Length (mi)			Onsite Trip Length (mi)			Vehicle Class		
				Worker	Vendor	Haul	ONSITE (Worker)	ONSITE (Vendor)	ONSITE (Haul)	Worker	Vendor	Haul
10	2	1864	94	20	20	0.00	1.45	1.45	0.38	LD_Mix	HDT_Mix	HHDT
6	6	0	0	20	20	0.00	1.45	1.45	0.14	LD_Mix	HDT_Mix	HHDT
6	8	0	4	20	20	27.00	1.45	1.45	0.14	LD_Mix	HDT_Mix	HHDT
8	2	422	16	20	20	20.00	1.45	1.45	1.46	LD_Mix	HDT_Mix	HHDT
10	10	0	0	20	20	0.00	1.45	1.45	0.58	LD_Mix	HDT_Mix	HHDT
10	2	804	54	20	20	20.73	1.45	1.45	1.25	LD_Mix	HDT_Mix	HHDT
8	2	0	0	20	20	0.00	1.45	1.45	0.15	LD_Mix	HDT_Mix	HHDT
8	2	0	0	20	20	0.00	1.45	1.45	0.14	LD_Mix	HDT_Mix	HHDT
10	2	0	0	20	20	0.00	1.45	1.45	0.15	LD_Mix	HDT_Mix	HHDT
6	8	0	0	20	20	0.00	1.45	1.45	0.14	LD_Mix	HDT_Mix	HHDT
8	8	0	0	20	20	0.00	1.45	1.45	0.14	LD_Mix	HDT_Mix	HHDT
8	8	0	4	20	20	27.00	1.45	1.45	1.45	LD_Mix	HDT_Mix	HHDT
0	8	0	4	20	20	27.00	1.45	1.45	1.45	LD_Mix	HDT_Mix	HHDT
10	0	0	0	20	20	0.00	1.45	1.45	0.14	LD_Mix	HDT_Mix	HHDT
146	0	0	0	20	20	0.00	1.45	1.45	1.45	LD_Mix	HDT_Mix	HHDT
114	10	966	6	20	20	27.00	1.45	1.45	1.45	LD_Mix	HDT_Mix	HHDT
56	0	0	0	20	20	0.00	1.45	1.45	1.45	LD_Mix	HDT_Mix	HHDT
0	8	0	0	20	20	0.00	1.45	1.45	0.38	LD_Mix	HDT_Mix	HHDT
78	10	0	0	20	20	0.00	1.45	1.45	0.38	LD_Mix	HDT_Mix	HHDT
26	0	0	2	20	20	27.00	1.45	1.45	1.45	LD_Mix	HDT_Mix	HHDT

LD\_Mix LDA, LDT1, LDT2  
HDT\_Mix T6 Instate Construction Heavy/T7 Single Construction  
HHDT T7 Single Construction

Trip Lengths

Location	feet miles		Source	Type
	feet	miles		
Outlet Staging area to Energy Dissipation Structure - MBARD	737	0.14	Waypoint/PD	unpaved
Tunnel opening to Soil Disposal Area -MBARD	2000	0.38	Waypoint/PD	unpaved
Length of the Energy Dissipation/Site Access Road - MBARD	1600	0.30	Waypoint/PD	unpaved
Length of the ATV Trail - MBARD	3045	0.58	Waypoint/PD	unpaved
Spillway Work Staging Area to Work Area - MBARD	2750	0.52	Waypoint/PD	paved
Width of Spillway area - MBARD	1800	0.34	Waypoint/PD	unpaved
Outlet Staging Area Length - MBARD	450	0.09	Waypoint/PD	unpaved
Intake Staging Area Length - SLOAPCD	750	0.14	Waypoint/PD	unpaved
Length of Road from Nacimiento Lake Drive to Intake Structure - SLOAPCD	5000	0.95	Waypoint/PD	paved
Vault Site Access Road - MBARD	6600	1.25	Waypoint/PD	Gravel
Width of Soil disposal area - MBARD	800	0.15	Waypoint/PD	unpaved
Width of Spillway Work Area - MBARD	360	0.07	Waypoint/PD	unpaved
Tunnel Length - MBARD/SLOAPCD	10926	2.07	Waypoint/PD	underground
Distance to Paso Robles Landfill (construction waste)	-	27.00	Waypoint/PD	paved
Spillway work area to Soil Disposal Area (unpaved only)	3045	0.58	Waypoint/PD	unpaved
Vault Site access road to Outlet Staging Area	7656	1.45	Waypoint/PD	Gravel
Vault Site access road to Disposal Area	6915	1.31	Waypoint/PD	Gravel
Vista Road to Spillway modification Area	1108	0.21	Waypoint/PD	paved
ATV Trail to Soil Disposal Area	590	0.11	Waypoint/PD	unpaved
Vista Road to Spillway Staging Area	3858	0.73	Waypoint/PD	paved
Spillmodification Area to ATV Trail	1479	0.28	Waypoint/PD	unpaved

1  
0.46  
0.61  
1

**Offroad Equipment (Fossil Fuel) Inventory**

Code	Phase	Equipment Name	General Equipment Category	#/day	Hrs/Day	# of Equipment	Fuel Type	Engine Horsepower (if known)
020	Energy Dissipation - Site Clearing and Grading	Dozer Cat D6/5.6cy	Rubber Tired Dozers	10	10	1	Diesel	145
020	Energy Dissipation - Site Clearing and Grading	Mine Truck 20ton/15cy	Off-Highway Trucks	10	10	1	Diesel	214
020	Energy Dissipation - Site Clearing and Grading	Water Truck	--	10	10	1	diesel	350
020	Energy Dissipation - Site Clearing and Grading	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	10	10	1	Diesel	246
021	Energy Dissipation - Construct energy dissipation structure	Concrete Pump Truck	--	2	10	1	Diesel	500
021	Energy Dissipation - Construct energy dissipation structure	Concrete Truck	--	2	3.35	3	Diesel	300
021	Energy Dissipation - Construct energy dissipation structure	Pile Hammer	Bore/Drill Rigs	30	10	1	diesel	40
021	Energy Dissipation - Construct energy dissipation structure	Pickup	--	30	10	1	--	350
022	Energy Dissipation - Construct connection between tunnel and Energy Dissipator	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	513
022	Energy Dissipation - Construct connection between tunnel and Energy Dissipator	Pickup	--	20	10	1	Diesel	350
022	Energy Dissipation - Construct connection between tunnel and Energy Dissipator	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	246
023	Energy Dissipation - Revegetation and site demob	Pickup	--	10	10	1	--	350
023	Energy Dissipation - Revegetation and site demob	Water Truck	--	10	10	1	diesel	350
024	Energy Dissipation - Construct ATV Trail to south portal	Vibrating Roller	Rollers	20	10	1	Diesel	25
024	Energy Dissipation - Construct ATV Trail to south portal	Water Truck	--	20	10	1	diesel	350
024	Energy Dissipation - Construct ATV Trail to south portal	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	2	Diesel	246
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Dozer Cat D6/5.6cy	Rubber Tired Dozers	15	10	1	Diesel	145
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Mine Truck 20ton/15cy	Off-Highway Trucks	15	10	1	Diesel	214
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Vibrating Roller	Rollers	15	10	1	Diesel	25
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Water Truck	--	15	10	1	diesel	350
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	15	10	1	Diesel	246
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Dozer Cat D6/5.6cy	Rubber Tired Dozers	15	10	1	Diesel	145
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Mine Truck 20ton/15cy	Off-Highway Trucks	15	10	1	Diesel	214
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Water Truck	--	15	10	1	diesel	350
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	15	10	1	Diesel	246
046	Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	Pickup	--	15	10	1	--	350
046	Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	Water Truck	--	15	10	1	Diesel	350
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Dozer Cat D6/5.6cy	Rubber Tired Dozers	20	10	1	Diesel	145
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Mine Truck 20ton/15cy	Off-Highway Trucks	20	10	1	Diesel	214
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Water Truck	--	20	10	1	diesel	350
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	246
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	513
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Compactor, Cat 816, 25ton	Other Construction Equipment	30	10	2	Diesel	220
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Mine Truck 20ton/15cy	Off-Highway Trucks	30	10	2	Diesel	214
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	246
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	30	8	1	Diesel	513
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Compactor, Cat 816, 25ton	Other Construction Equipment	30	8	1	Diesel	220
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Dozer Cat D6/5.6cy	Rubber Tired Dozers	30	8	1	Diesel	145
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Excavator >0.5cy	Excavators	30	8	1	Diesel	100
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Mine Truck 20ton/15cy	Off-Highway Trucks	30	8	2	Diesel	214
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	8	2	Diesel	246
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Hydraulic Crane 20ton/60'	Cranes	30	10	1	Diesel	130
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Hydraulic Crane 40ton/105'	Cranes	30	10	1	Diesel	152
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Welder 400A, trailer E	Welders	30	10	1	Diesel	100
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	246
051	Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	200	8	1	Diesel	246
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	500 Ton Crane	Cranes	30	20	1	Diesel	1325
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Compressor, Stationary 1200cfm	Air Compressors	30	20	1	Electric	350
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Crawler Crane 100ton/200'	Cranes	30	20	1	Diesel	265
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	EPBM and Backup 14'9"	Bore/Drill Rigs	30	20	1	Electric	1800
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Hydraulic Crane 40ton/105'	Cranes	30	20	1	Diesel	152
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Welder 400A, trailer E	Welders	30	20	1	Diesel	100
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	20	1	Diesel	246
053	Tunneling - Drive 100' of tunnel at 20 fpd	500 Ton Crane	Cranes	5	20	1	Diesel	1325
053	Tunneling - Drive 100' of tunnel at 20 fpd	Compressor, Stationary 1200cfm	Air compressors	5	20	1	Electric	350
053	Tunneling - Drive 100' of tunnel at 20 fpd	Crawler Crane 100ton/200'	Cranes	5	20	1	Diesel	265
053	Tunneling - Drive 100' of tunnel at 20 fpd	EPBM and Backup 14'9"	Bore/Drill Rigs	5	20	1	Electric	1800
053	Tunneling - Drive 100' of tunnel at 20 fpd	Hydraulic Crane 40ton/105'	Cranes	5	20	1	Diesel	152
053	Tunneling - Drive 100' of tunnel at 20 fpd	Welder 400A, trailer E	Welders	5	20	1	Diesel	100
053	Tunneling - Drive 100' of tunnel at 20 fpd	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	5	20	1	Diesel	246
054	Tunneling - Tunnel excavation and support @ 60' per day	Compressor, Stationary 1200cfm	Air compressors	180	24	1	Electric	350
054	Tunneling - Tunnel excavation and support @ 60' per day	EPBM and Backup 14'9"	Bore/Drill Rigs	180	24	1	Electric	1800
054	Tunneling - Tunnel excavation and support @ 60' per day	Flat Car, Rail	Other Material Handling Equipment	180	24	4	--	0
054	Tunneling - Tunnel excavation and support @ 60' per day	Grout Plant, skid 12cy/hr	Other Material Handling Equipment	180	24	1	diesel	250
054	Tunneling - Tunnel excavation and support @ 60' per day	Hydraulic Crane 40ton/105'	Cranes	180	24	1	Diesel	152
054	Tunneling - Tunnel excavation and support @ 60' per day	Locomotive 12ton/120hp	Other Material Handling Equipment	180	24	2	Diesel	120
054	Tunneling - Tunnel excavation and support @ 60' per day	Mine Truck 20ton/15cy	Off-Highway Trucks	180	8	2	Diesel	214
054	Tunneling - Tunnel excavation and support @ 60' per day	Muck Car, Rail	Other Material Handling Equipment	180	24	18	--	0
054	Tunneling - Tunnel excavation and support @ 60' per day	Pump, trash 200gpm/100ft head	Other General Industrial Equipment	180	24	1	Electric	10
054	Tunneling - Tunnel excavation and support @ 60' per day	Ventilation Fan 100hp	Other General Industrial Equipment	180	24	2	Electric	100
054	Tunneling - Tunnel excavation and support @ 60' per day	Ventilation Fan 40hp	Other General Industrial Equipment	180	24	1	Electric	40
054	Tunneling - Tunnel excavation and support @ 60' per day	Water Treatment Plant	Other General Industrial Equipment	180	24	1	Electric	200
054	Tunneling - Tunnel excavation and support @ 60' per day	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	180	24	1	Diesel	246
055	Tunneling - TBM tralling gear and plant removal	Compressor, Stationary 1200cfm	Air Compressors	15	24	1	Electric	350
055	Tunneling - TBM tralling gear and plant removal	Crawler Crane 100ton/200'	Cranes	15	20	1	Diesel	265
055	Tunneling - TBM tralling gear and plant removal	Getman Buggy	Skid Steer Loaders	15	24	1	Diesel	40
055	Tunneling - TBM tralling gear and plant removal	Grout Pump-Moyno/Mixer	Other Material Handling Equipment	15	24	1	Diesel	600
055	Tunneling - TBM tralling gear and plant removal	Hydraulic Crane 20ton/60'	Cranes	15	24	1	Diesel	130
055	Tunneling - TBM tralling gear and plant removal	Locomotive 12ton/120hp	Other Material Handling Equipment	15	24	1	Diesel	120
055	Tunneling - TBM tralling gear and plant removal	Pipe Carrier	Other Material Handling Equipment	15	24	1	diesel	180
055	Tunneling - TBM tralling gear and plant removal	Pump, subm. 140gpm/20ft head	Other Construction Equipment	15	24	2	Electric	2
055	Tunneling - TBM tralling gear and plant removal	Pump, trash 200gpm/100ft head	Other Construction Equipment	15	24	1	Electric	10
055	Tunneling - TBM tralling gear and plant removal	Ventilation Fan 100hp	Other Construction Equipment	15	24	2	Electric	100
055	Tunneling - TBM tralling gear and plant removal	Water Treatment Plant	Other Construction Equipment	15	24	1	Electric	200
055	Tunneling - TBM tralling gear and plant removal	Welder 400A, trailer E	Welders	15	24	1	Diesel	100
055	Tunneling - TBM tralling gear and plant removal	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	15	24	3	Diesel	246
056	Tunneling - Tunnel punch list/clearing	Getman Buggy	Skid Steer Loaders	5	10	1	Diesel	40
056	Tunneling - Tunnel punch list/clearing	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	5	10	1	Diesel	246
057	Tunneling - Muck disposal on site/grading	Dozer Cat D6/5.6cy	Rubber Tired Dozers	180	10	1	Diesel	145
057	Tunneling - Muck disposal on site/grading	Mine Truck 20ton/15cy	Off-Highway Trucks	180	10	1	Diesel	214
057	Tunneling - Muck disposal on site/grading	Water Truck	--	180	10	1	diesel	350
057	Tunneling - Muck disposal on site/grading	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	180	10	1	Diesel	246
058	Tunneling - Demobilization tunnel plant	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	8	1	Diesel	246

- Notes:
- 1. Equipment that will not be modeled is in red.
  - 2. Offroad construction equipment is listed in green.
  - 3. Onroad equipment is listed in orange.
  - 4. Electric equipment is listed in blue.

MBARD Portion								
Code	Phase	Equipment Name	General Equipment Category	#/Day	Hrs/Day	# of Equipment	Fuel Type	Engine Horsepower (if known)
020	Energy Dissipation - Site Clearing and Grading	Dozer Cat D6/5.6cy	Rubber Tired Dozers	10	10	1	Diesel	145
020	Energy Dissipation - Site Clearing and Grading	Mine Truck 20ton/15cy	Off-Highway Trucks	10	10	1	Diesel	214
020	Energy Dissipation - Site Clearing and Grading	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	10	10	1	Diesel	246
021	Energy Dissipation - Construct energy dissipation structure	Pile Hammer	Bore/Drill Rigs	30	10	1	diesel	40
022	Energy Dissipation - Construct connection between tunnel and Energy Dissipator	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	513
022	Energy Dissipation - Construct connection between tunnel and Energy Dissipator	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	246
024	Energy Dissipation - Construct ATV Trail to south portal	Vibrating Roller	Rollers	20	10	1	Diesel	25
024	Energy Dissipation - Construct ATV Trail to south portal	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	2	Diesel	246
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Dozer Cat D6/5.6cy	Rubber Tired Dozers	15	10	1	Diesel	145
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Mine Truck 20ton/15cy	Off-Highway Trucks	15	10	1	Diesel	214
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Vibrating Roller	Rollers	15	10	1	Diesel	25
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	15	10	1	Diesel	246
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Dozer Cat D6/5.6cy	Rubber Tired Dozers	15	10	1	Diesel	145
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Mine Truck 20ton/15cy	Off-Highway Trucks	15	10	1	Diesel	214
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	15	10	1	Diesel	246
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Dozer Cat D6/5.6cy	Rubber Tired Dozers	20	10	1	Diesel	145
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Mine Truck 20ton/15cy	Off-Highway Trucks	20	10	1	Diesel	214
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	246
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	513
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Compactor, Cat 816, 25ton	Other Construction Equipment	30	10	2	Diesel	220
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Mine Truck 20ton/15cy	Off-Highway Trucks	30	10	2	Diesel	214
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	246
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	30	8	1	Diesel	513
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Compactor, Cat 816, 25ton	Other Construction Equipment	30	8	1	Diesel	220
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Dozer Cat D6/5.6cy	Rubber Tired Dozers	30	8	1	Diesel	145
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Excavator >0.5cy	Excavators	30	8	1	Diesel	100
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Mine Truck 20ton/15cy	Off-Highway Trucks	30	8	2	Diesel	214
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	8	2	Diesel	246
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Hydraulic Crane 20ton/60'	Cranes	30	10	1	Diesel	130
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Hydraulic Crane 40ton/105'	Cranes	30	10	1	Diesel	152
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Welder 400A, trailer E	Welders	30	10	1	Diesel	100
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	246
051	Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	200	8	1	Diesel	246
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	500 Ton Crane	Cranes	30	20	1	Diesel	1325
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Crawler Crane 100ton/200'	Cranes	30	20	1	Diesel	265
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Hydraulic Crane 40ton/105'	Cranes	30	20	1	Diesel	152
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Welder 400A, trailer E	Welders	30	20	1	Diesel	100
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	20	1	Diesel	246
053	Tunneling - Drive 100' of tunnel at 20 fpd	500 Ton Crane	Cranes	5	20	1	Diesel	1325
053	Tunneling - Drive 100' of tunnel at 20 fpd	Crawler Crane 100ton/200'	Cranes	5	20	1	Diesel	265
053	Tunneling - Drive 100' of tunnel at 20 fpd	Hydraulic Crane 40ton/105'	Cranes	5	20	1	Diesel	152
053	Tunneling - Drive 100' of tunnel at 20 fpd	Welder 400A, trailer E	Welders	5	20	1	Diesel	100
053	Tunneling - Drive 100' of tunnel at 20 fpd	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	5	20	1	Diesel	246
054	Tunneling - Tunnel excavation and support @ 60' per day	Flat Car, Rail	Other Material Handling Equipment	180	24	4	--	0
054	Tunneling - Tunnel excavation and support @ 60' per day	Grout Plant, skid 12cy/hr	Other Material Handling Equipment	180	24	1	diesel	250
054	Tunneling - Tunnel excavation and support @ 60' per day	Hydraulic Crane 40ton/105'	Cranes	180	24	1	Diesel	152
054	Tunneling - Tunnel excavation and support @ 60' per day	Locomotive 12ton/120hp	Other Material Handling Equipment	180	24	2	Diesel	120
054	Tunneling - Tunnel excavation and support @ 60' per day	Mine Truck 20ton/15cy	Off-Highway Trucks	180	8	2	Diesel	214
054	Tunneling - Tunnel excavation and support @ 60' per day	Muck Car, Rail	Other Material Handling Equipment	180	24	18	--	0
054	Tunneling - Tunnel excavation and support @ 60' per day	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	180	24	1	Diesel	246
055	Tunneling - TBM trailing gear and plant removal	Crawler Crane 100ton/200'	Cranes	15	20	1	Diesel	265
055	Tunneling - TBM trailing gear and plant removal	Getman Buggy	Skid Steer Loaders	15	24	1	Diesel	40
055	Tunneling - TBM trailing gear and plant removal	Grout Pump-Moyno/Mixer	Other Material Handling Equipment	15	24	1	Diesel	600
055	Tunneling - TBM trailing gear and plant removal	Hydraulic Crane 20ton/60'	Cranes	15	24	1	Diesel	130
055	Tunneling - TBM trailing gear and plant removal	Locomotive 12ton/120hp	Other Material Handling Equipment	15	24	1	Diesel	120
055	Tunneling - TBM trailing gear and plant removal	Pipe Carrier	Other Material Handling Equipment	15	24	1	diesel	180
055	Tunneling - TBM trailing gear and plant removal	Welder 400A, trailer E	Welders	15	24	1	Diesel	100
055	Tunneling - TBM trailing gear and plant removal	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	15	24	3	Diesel	246
056	Tunneling - Tunnel punch list/clearing	Getman Buggy	Skid Steer Loaders	5	10	1	Diesel	40
056	Tunneling - Tunnel punch list/clearing	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	5	10	1	Diesel	246
057	Tunneling - Muck disposal on site/grading	Dozer Cat D6/5.6cy	Rubber Tired Dozers	180	10	1	Diesel	145
057	Tunneling - Muck disposal on site/grading	Mine Truck 20ton/15cy	Off-Highway Trucks	180	10	1	Diesel	214
057	Tunneling - Muck disposal on site/grading	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	180	10	1	Diesel	246
058	Tunneling - Demobilization tunnel plant	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	8	1	Diesel	246

Code	Phase	Equipment Name	General Equipment Category	#/day	Hrs/Day	# of Equipment	Fuel Type	Engine Horsepower (if known)
020	Energy Dissipation - Site Clearing and Grading	Water Truck	--	10	10	1	diesel	350
021	Energy Dissipation - Construct energy dissipation structure	Concrete Pump Truck	--	2	10	1	Diesel	500
021	Energy Dissipation - Construct energy dissipation structure	Concrete Truck	--	2	3.35	3	Diesel	300
021	Energy Dissipation - Construct energy dissipation structure	Pickup	--	30	10	1	--	350
022	Energy Dissipation - Construct connection between tunnel and Energy Dissipator	Pickup	--	20	10	1	Diesel	350
023	Energy Dissipation - Revegetation and site demob	Pickup	--	10	10	1	--	350
023	Energy Dissipation - Revegetation and site demob	Water Truck	--	10	10	1	diesel	350
024	Energy Dissipation - Construct ATV Trail to south portal	Water Truck	--	20	10	1	diesel	350
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Water Truck	--	15	10	1	diesel	350
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Water Truck	--	15	10	1	diesel	350
046	Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	Pickup	--	15	10	1	--	350
046	Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	Water Truck	--	15	10	1	Diesel	350
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Water Truck	--	20	10	1	diesel	350
057	Tunneling - Muck disposal on site/grading	Water Truck	--	180	10	1	diesel	350

**Offroad Equipment (Electric) Inventory**

1 hp = 0.7456999 kilowatts

Code	Phase	equipment Name	Category	Days	Hours per day	Number	Fuel Type	Horsepower	Kilowatts	Kilowatt Hours (day)	Kilowatt Hours (total)
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and	Compressor, Stationary 1200cfm	Air Compressors	30	20	1	Electric	350	261	5219.8991	156596.9727
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and	EPBM and Backup 14'9"	Bore/Drill Rigs	30	20	1	Electric	1800	1342	26845.195	805355.8596
053	Tunneling - Drive 100' of tunnel at 20 fpd	Compressor, Stationary 1200cfm	Air compressors	5	20	1	Electric	350	261	5219.8991	26099.49545
053	Tunneling - Drive 100' of tunnel at 20 fpd	EPBM and Backup 14'9"	Bore/Drill Rigs	5	20	1	Electric	1800	1342	26845.195	134225.9766
054	Tunneling - Tunnel excavation and support @ 60' per day	Compressor, Stationary 1200cfm	Air compressors	180	24	1	Electric	350	261	6263.8789	1127498.203
054	Tunneling - Tunnel excavation and support @ 60' per day	EPBM and Backup 14'9"	Bore/Drill Rigs	180	24	1	Electric	1800	1342	32214.234	5798562.189
054	Tunneling - Tunnel excavation and support @ 60' per day	Pump, trash 200gpm/100ft head	Other General Ind	180	24	1	Electric	10	7	178.96797	32214.23438
054	Tunneling - Tunnel excavation and support @ 60' per day	Ventilation Fan 100hp	Other General Ind	180	24	2	Electric	100	75	3579.3594	644284.6877
054	Tunneling - Tunnel excavation and support @ 60' per day	Ventilation Fan 40hp	Other General Ind	180	24	1	Electric	40	30	715.87188	128856.9375
054	Tunneling - Tunnel excavation and support @ 60' per day	Water Treatment Plant	Other General Ind	180	24	1	Electric	200	149	3579.3594	644284.6877
055	Tunneling - TBM trailing gear and plant removal	Compressor, Stationary 1200cfm	Air Compressors	15	24	1	Electric	350	261	6263.8789	93958.18362
055	Tunneling - TBM trailing gear and plant removal	Pump, subm. 140gpm/20ft head	Other Constructio	15	24	2	Electric	2	1	71.587188	1073.807813
055	Tunneling - TBM trailing gear and plant removal	Pump, trash 200gpm/100ft head	Other Constructio	15	24	1	Electric	10	7	178.96797	2684.519532
055	Tunneling - TBM trailing gear and plant removal	Ventilation Fan 100hp	Other Constructio	15	24	2	Electric	100	75	3579.3594	53690.39064
055	Tunneling - TBM trailing gear and plant removal	Water Treatment Plant	Other Constructio	15	24	1	Electric	200	149	3579.3594	53690.39064

Regional Emissions Summary

Phase Name	Start Date	End Date	# of Workdays	Daily Emissions (lb/day)									Daily Emissions (lb/day)						Total MT		
				ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e	
Energy Dissipation - Site Clearing and Grad	3/11/24	4/5/24	20	1.55	15.61	14.81	0.03	36.12	0.53	36.65	6.04	0.49	6.53	3213.82	0.80	0.22	18.20	0.00	0.00	18.73	
Energy Dissipation - Construct energy diss	4/8/24	6/28/24	60	0.11	1.06	1.05	0.01	8.85	0.02	8.87	1.44	0.02	1.46	701.91	0.07	0.08	16.28	0.00	0.00	16.89	
Energy Dissipation - Construct connection	11/18/24	12/13/24	20	1.48	15.57	22.62	0.04	10.79	0.67	11.45	1.66	0.62	2.27	3981.99	0.96	0.29	36.12	0.01	0.00	37.12	
Energy Dissipation - Re-vegetation and site	12/16/24	1/24/25	30	0.11	2.19	1.15	0.01	23.12	0.02	23.15	3.09	0.02	3.11	1539.54	0.01	0.23	20.95	0.00	0.00	21.88	
Energy Dissipation - Construct ATV Trail to	10/2/23	11/10/23	30	1.13	11.46	15.92	0.03	14.75	0.53	15.28	2.40	0.49	2.89	2844.52	0.66	0.21	29.58	0.01	0.00	30.44	
Energy Dissipation Structure Tunnel Portal	7/10/23	7/28/23	15	1.61	20.20	14.77	0.07	58.05	0.68	58.73	8.40	0.62	9.03	7299.31	0.83	0.85	49.66	0.01	0.01	51.53	
Energy Dissipation Structure Tunnel Portal	7/31/23	8/18/23	15	1.39	12.74	12.27	0.03	10.88	0.57	11.44	3.34	0.52	3.86	2673.94	0.79	0.14	18.19	0.01	0.00	18.61	
Energy Dissipation Structure Tunnel Portal	7/31/23	8/18/23	15	0.07	0.27	0.72	0.00	7.37	0.00	7.37	1.46	0.00	1.47	259.38	0.01	0.03	1.76	0.00	0.00	1.82	
Energy Dissipation Structure Tunnel Portal	8/21/23	9/29/23	30	1.41	12.75	12.44	0.03	12.33	0.57	12.90	3.66	0.52	4.18	2704.86	0.79	0.14	25.85	0.01	0.00	26.45	
Energy Dissipation Structure Tunnel Portal	10/2/23	11/10/23	30	4.81	46.64	61.50	0.11	10.33	2.24	12.57	1.59	2.05	3.65	10151.47	3.08	0.53	138.14	0.04	0.01	141.33	
Energy Dissipation Structure Tunnel Portal	11/13/23	12/8/23	20	3.16	30.15	36.47	0.07	14.57	1.40	15.97	3.42	1.28	4.70	6721.06	1.97	0.37	88.44	0.03	0.00	90.48	
Energy Dissipation Structure Tunnel Portal	10/2/23	11/10/23	30	1.81	16.04	15.40	0.04	15.73	0.65	16.38	2.33	0.61	2.94	3465.20	0.65	0.27	47.15	0.01	0.00	48.46	
Energy Dissipation Structure Tunnel Portal	7/10/23	4/12/24	200	0.41	5.33	5.94	0.02	9.84	0.21	10.05	1.02	0.19	1.21	1733.79	0.25	0.19	157.29	0.02	0.02	162.93	
Energy Dissipation Structure Tunnel Portal	12/11/23	1/19/24	30	9.04	89.47	58.71	0.15	7.36	3.79	11.15	1.64	3.50	5.14	13815.54	5.03	0.74	188.00	0.07	0.01	192.69	
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	9.65	83.79	68.31	0.17	107.46	3.43	110.89	23.90	3.20	27.10	15882.50	5.12	0.81	36.02	0.01	0.00	36.86	
Tunneling - Tunnel excavation and support	1/29/24	10/4/24	180	5.41	41.16	66.43	0.13	97.19	1.86	99.06	20.04	1.72	21.76	12819.92	4.47	0.87	1046.70	0.37	0.07	1076.97	
Tunneling - TBM trailing gear and plant rer	10/7/24	11/15/24	30	10.87	91.16	137.58	0.22	41.22	4.22	45.44	9.17	3.92	13.08	21040.49	6.63	1.00	148.95	0.05	0.01	152.19	
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	0.55	6.35	8.30	0.02	5.91	0.27	6.18	0.61	0.25	0.86	1653.16	0.36	0.14	6.21	0.00	0.00	6.44	
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	1.96	13.57	17.96	0.04	68.22	0.54	68.76	15.40	0.50	15.90	4273.63	0.84	0.26	348.93	0.07	0.02	357.02	
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	0.58	4.16	7.80	0.01	21.10	0.17	21.28	4.46	0.16	4.62	1370.79	0.27	0.08	18.65	0.00	0.00	19.08	
<b>Max Daily Emissions</b>				<b>11.45</b>	<b>95.32</b>	<b>145.38</b>	<b>0.24</b>	<b>211.38</b>	<b>4.39</b>	<b>214.53</b>	<b>42.51</b>	<b>4.08</b>	<b>45.41</b>								
MBARD Regional Thresholds				-	-	-	-	-	-	83	-	-	-								
Exceeds Threshold?				No	No	No	No	No	No	Yes	No	No	No								
																					Total 50 -Year Amortization 2,507.90 50.16 CO2e

Row Labels	Daily Emissions (lb/day)									
	Max of VOC	Max of NOX	Max of CO	Max of SOX	Max of Fugitive PM10	Max of Exhaust PM10	Max of Total PM10	Max of Fugitive PM2.5	Max of Exhaust PM2.5	Max of Total PM2.5
2023	9.5	94.8	98.8	0.2	73.8	4.0	75.0	10.0	3.7	11.1
2024	11.5	95.3	145.4	0.2	211.4	4.4	214.5	42.5	4.1	45.4
2025	0.1	2.2	1.1	0.0	23.1	0.0	23.1	3.1	0.0	3.1
<b>Max Daily Emissions (lbs/day)</b>	<b>11.5</b>	<b>95.3</b>	<b>145.4</b>	<b>0.2</b>	<b>211.4</b>	<b>4.4</b>	<b>214.5</b>	<b>42.5</b>	<b>4.1</b>	<b>45.4</b>
MBARD Regional Thresholds	-	-	-	-	-	-	83.00	-	-	-
Exceeds Threshold?	No	No	No	No	No	No	Yes	No	No	No

Phase Name	Start Date	End Date	# of Workdays	CO2 (MT)	CH4 (MT)	N2O (MT)	CO2e (MT)	Amortized CO2e (MT)
Energy Dissipation Structure	10/2/23	1/24/25	345	121.1	0.0	0.0	125.1	1.3
Energy Dissipation Structure Tunnel Portal	7/10/23	4/12/24	200	714.5	0.2	0.1	734.3	7.3
Tunneling	7/10/23	11/15/24	355	1605.5	0.5	0.1	1648.6	16.5



Regional Maximums (Tons Per Quarter) - Informational

Row Labels	Quarters	Sum of VOC Tons	Sum of NOx Tons	Sum of CO Tons	Sum of SOX tons	Sum of Fugitive PM10 tons	Sum of Exhaust PM10 Tons	Sum of Total PM10 tons	Sum of Fugitive PM2.5 tons	Sum of Exhaust PM2.5 Tons	Sum of Total PM2.5 Tons
2023	Qtr3	0.06	0.65	0.64	0.00	1.10	0.03	1.12	0.19	0.02	0.21
2023	Qtr4	0.23	2.26	2.39	0.00	1.13	0.10	1.23	0.17	0.09	0.27
2024	Qtr1	0.28	2.40	2.81	0.01	4.64	0.10	4.74	0.95	0.09	1.04
2024	Qtr2	0.25	1.88	2.84	0.01	5.78	0.08	5.86	1.22	0.08	1.29
2024	Qtr3	0.24	1.81	2.78	0.01	5.46	0.08	5.54	1.17	0.07	1.24
2024	Qtr4	0.20	1.71	2.58	0.00	1.51	0.08	1.59	0.31	0.07	0.38
2025	Qtr1	0.00	0.02	0.01	0.00	0.21	0.00	0.21	0.03	0.00	0.03
2025	Qtr2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Row Labels	Quarters	Sum of VOC Tons	Sum of NOx Tons	Sum of CO Tons	Sum of SOX tons	Sum of Fugitive PM10 tons	Sum of Exhaust PM10 Tons	Sum of Total PM10 tons	Sum of Fugitive PM2.5 tons	Sum of Exhaust PM2.5 Tons	Sum of Total PM2.5 Tons
2023	Qtr3	0.06	0.65	0.64	0.00	1.10	0.03	1.12	0.19	0.02	0.21
2023	Qtr4	0.23	2.26	2.39	0.00	1.13	0.10	1.23	0.17	0.09	0.27
2024	Qtr1	0.28	2.40	2.81	0.01	4.64	0.10	4.74	0.95	0.09	1.04
2024	Qtr2	0.25	1.88	2.84	0.01	5.78	0.08	5.86	1.22	0.08	1.29
2024	Qtr3	0.24	1.81	2.78	0.01	5.46	0.08	5.54	1.17	0.07	1.24
2024	Qtr4	0.20	1.71	2.58	0.00	1.51	0.08	1.59	0.31	0.07	0.38
2025	Qtr1	0.00	0.02	0.01	0.00	0.21	0.00	0.21	0.03	0.00	0.03
2025	Qtr2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max Quarter		0.28	2.40	2.84	0.01	5.78	0.10	5.86	1.22	0.09	1.29

Offroad Equipment

Phase Name	Start	End	# of Workdays	First Year of CSTN	EF Year	Equipment Type	# of Equipment	hours/day	HP	LF
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	2024	Rubber Tired Dozers	1	10	145	0.4
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	2024	Off-Highway Trucks	1	10	214	0.38
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	2024	Tractors/Loaders/Backhoes	1	10	246	0.37
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	30	2024	2024	Bore/Drill Rigs	1	10	40	0.5
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	2024	Tractors/Loaders/Backhoes	1	10	513	0.37
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	2024	Tractors/Loaders/Backhoes	1	10	246	0.37
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	20	2023	2023	Rollers	1	10	25	0.38
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	20	2023	2023	Tractors/Loaders/Backhoes	2	10	246	0.37
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	2023	Rubber Tired Dozers	1	10	145	0.4
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	2023	Off-Highway Trucks	1	10	214	0.38
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	2023	Rollers	1	10	25	0.38
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	2023	Rubber Tired Dozers	1	10	145	0.4
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	2023	Off-Highway Trucks	1	10	214	0.38
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	2023	Rubber Tired Dozers	1	10	145	0.4
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	2023	Off-Highway Trucks	1	10	214	0.38
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	2023	Tractors/Loaders/Backhoes	2	10	513	0.37
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	2023	Other Construction Equipment	2	10	220	0.42
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	2023	Off-Highway Trucks	2	10	214	0.38
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	2023	Tractors/Loaders/Backhoes	2	10	246	0.37
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	2023	Tractors/Loaders/Backhoes	1	8	513	0.37
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	2023	Other Construction Equipment	1	8	220	0.42
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	2023	Rubber Tired Dozers	1	8	145	0.4
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	2023	Excavators	1	8	100	0.38
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	2023	Off-Highway Trucks	2	8	214	0.38
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	2023	Tractors/Loaders/Backhoes	2	8	246	0.37
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	2023	Cranes	1	10	130	0.29
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	2023	Cranes	1	10	152	0.29
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	2023	Welders	1	10	100	0.45
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024	200	2023	2023	Tractors/Loaders/Backhoes	1	8	246	0.37
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	2023	Cranes	1	20	1325	0.29
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	2023	Cranes	1	20	265	0.29
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	2023	Cranes	1	20	152	0.29
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	2023	Welders	1	20	100	0.45
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	2023	Tractors/Loaders/Backhoes	1	20	246	0.37
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	2024	Cranes	1	20	1325	0.29
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	2024	Cranes	1	20	265	0.29
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	2024	Cranes	1	20	152	0.29
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	2024	Welders	1	20	100	0.45
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	2024	Tractors/Loaders/Backhoes	1	20	246	0.37
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	2024	Other Material Handling Equipment	4	24	0	0.4
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	2024	Other Material Handling Equipment	1	24	250	0.4
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	2024	Cranes	1	24	152	0.29
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	2024	Other Material Handling Equipment	2	24	120	0.4
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	2024	Off-Highway Trucks	2	8	214	0.38
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	2024	Other Material Handling Equipment	18	24	0	0.4
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	2024	Tractors/Loaders/Backhoes	1	24	246	0.37
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Cranes	1	20	265	0.29
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Skid Steer Loaders	1	24	40	0.37
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Other Material Handling Equipment	1	24	600	0.4
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Cranes	1	24	130	0.29
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Other Material Handling Equipment	1	24	120	0.4
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Other Material Handling Equipment	1	24	180	0.4
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Welders	1	24	100	0.45
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Tractors/Loaders/Backhoes	3	24	246	0.37
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	5	2023	2023	Skid Steer Loaders	1	10	40	0.37
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	5	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	2024	Rubber Tired Dozers	1	10	145	0.4
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	2024	Off-Highway Trucks	1	10	214	0.38
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	2024	Tractors/Loaders/Backhoes	1	10	246	0.37
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	2024	Tractors/Loaders/Backhoes	1	8	246	0.37

Offroad Equipment

Phase Name	Start	End	Emission Factor (g/bhp-hr)															
			ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O			
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	0.40	4.09	1.80	0.01	0.00	0.18	0.18	0.00	0.17	0.17	0.00	0.17	0.17	474.59	0.15	0.02
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	0.18	1.24	1.21	0.01	0.00	0.04	0.04	0.00	0.04	0.04	0.00	0.04	0.04	475.22	0.15	0.02
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	0.23	2.29	3.53	0.01	0.00	0.11	0.11	0.00	0.10	0.10	0.00	0.10	0.10	476.73	0.15	0.02
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	0.11	0.98	1.05	0.01	0.00	0.03	0.03	0.00	0.03	0.03	0.00	0.03	0.03	470.71	0.15	0.02
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	0.23	2.29	3.53	0.01	0.00	0.11	0.11	0.00	0.10	0.10	0.00	0.10	0.10	476.73	0.15	0.02
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	0.23	2.29	3.53	0.01	0.00	0.11	0.11	0.00	0.10	0.10	0.00	0.10	0.10	476.73	0.15	0.02
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	0.29	3.00	3.45	0.01	0.00	0.17	0.17	0.00	0.15	0.15	0.00	0.15	0.15	473.94	0.15	0.02
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	476.43	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.39	4.09	1.78	0.01	0.00	0.18	0.18	0.00	0.17	0.17	0.00	0.17	0.17	474.60	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.19	1.32	1.22	0.01	0.00	0.05	0.05	0.00	0.04	0.04	0.00	0.04	0.04	475.05	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.29	3.00	3.45	0.01	0.00	0.17	0.17	0.00	0.15	0.15	0.00	0.15	0.15	473.94	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	476.43	0.15	0.02
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	0.39	4.09	1.78	0.01	0.00	0.18	0.18	0.00	0.17	0.17	0.00	0.17	0.17	474.60	0.15	0.02
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	0.19	1.32	1.22	0.01	0.00	0.05	0.05	0.00	0.04	0.04	0.00	0.04	0.04	475.05	0.15	0.02
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	476.43	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	0.39	4.09	1.78	0.01	0.00	0.18	0.18	0.00	0.17	0.17	0.00	0.17	0.17	474.60	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	0.19	1.32	1.22	0.01	0.00	0.05	0.05	0.00	0.04	0.04	0.00	0.04	0.04	475.05	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	476.43	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	476.43	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.27	2.70	3.14	0.01	0.00	0.14	0.14	0.00	0.13	0.13	0.00	0.13	0.13	469.56	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.19	1.32	1.22	0.01	0.00	0.05	0.05	0.00	0.04	0.04	0.00	0.04	0.04	475.05	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	476.43	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	476.43	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.27	2.70	3.14	0.01	0.00	0.14	0.14	0.00	0.13	0.13	0.00	0.13	0.13	469.56	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.39	4.09	1.78	0.01	0.00	0.18	0.18	0.00	0.17	0.17	0.00	0.17	0.17	474.60	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.18	1.46	3.08	0.01	0.00	0.07	0.07	0.00	0.07	0.07	0.00	0.07	0.07	472.28	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.19	1.32	1.22	0.01	0.00	0.05	0.05	0.00	0.04	0.04	0.00	0.04	0.04	475.05	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	476.43	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.30	3.23	1.55	0.01	0.00	0.14	0.14	0.00	0.12	0.12	0.00	0.12	0.12	472.97	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.30	3.23	1.55	0.01	0.00	0.14	0.14	0.00	0.12	0.12	0.00	0.12	0.12	472.97	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.70	3.89	4.60	0.01	0.00	0.15	0.15	0.00	0.15	0.15	0.00	0.15	0.15	568.30	0.06	0.03
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	476.43	0.15	0.02
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	476.43	0.15	0.02
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.30	3.23	1.55	0.01	0.00	0.14	0.14	0.00	0.12	0.12	0.00	0.12	0.12	472.97	0.15	0.02
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.30	3.23	1.55	0.01	0.00	0.14	0.14	0.00	0.12	0.12	0.00	0.12	0.12	472.97	0.15	0.02
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.30	3.23	1.55	0.01	0.00	0.14	0.14	0.00	0.12	0.12	0.00	0.12	0.12	472.97	0.15	0.02
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.70	3.89	4.60	0.01	0.00	0.15	0.15	0.00	0.15	0.15	0.00	0.15	0.15	568.30	0.06	0.03
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	476.43	0.15	0.02
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	0.28	2.97	1.50	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	472.96	0.15	0.02
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	0.28	2.97	1.50	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	472.96	0.15	0.02
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	0.28	2.97	1.50	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	472.96	0.15	0.02
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	0.65	3.78	4.56	0.01	0.00	0.13	0.13	0.00	0.13	0.13	0.00	0.13	0.13	568.30	0.06	0.03
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	0.23	2.29	3.53	0.01	0.00	0.11	0.11	0.00	0.10	0.10	0.00	0.10	0.10	476.73	0.15	0.02
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.21	1.64	3.18	0.01	0.00	0.09	0.09	0.00	0.08	0.08	0.00	0.08	0.08	472.22	0.15	0.02
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.21	1.64	3.18	0.01	0.00	0.09	0.09	0.00	0.08	0.08	0.00	0.08	0.08	472.22	0.15	0.02
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.28	2.97	1.50	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	472.96	0.15	0.02
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.21	1.64	3.18	0.01	0.00	0.09	0.09	0.00	0.08	0.08	0.00	0.08	0.08	472.22	0.15	0.02
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.18	1.24	1.21	0.01	0.00	0.04	0.04	0.00	0.04	0.04	0.00	0.04	0.04	475.22	0.15	0.02
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.21	1.64	3.18	0.01	0.00	0.09	0.09	0.00	0.08	0.08	0.00	0.08	0.08	472.22	0.15	0.02
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.23	2.29	3.53	0.01	0.00	0.11	0.11	0.00	0.10	0.10	0.00	0.10	0.10	476.73	0.15	0.02
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	0.28	2.97	1.50	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	472.96	0.15	0.02
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	0.15	1.95	3.26	0.01	0.00	0.06	0.06	0.00	0.06	0.06	0.00	0.06	0.06	472.85	0.15	0.02
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	0.21	1.64	3.18	0.01	0.00	0.09	0.09	0.00	0.08	0.08	0.00	0.08	0.08	472.22	0.15	0.02
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	0.28	2.97	1.50	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	472.96	0.15	0.02
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	0.21	1.64	3.18	0.01	0.00	0.09	0.09	0.00	0.08	0.08	0.00	0.08	0.08	472.22	0.15	0.02
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	0.21	1.64	3.18	0.01	0.00	0.09	0.09	0.00	0.08	0.08	0.00	0.08	0.08	472.22	0.15	0.02
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	0.65	3.78	4.56	0.01	0.00	0.13	0.13	0.00	0.13	0.13	0.00	0.13	0.13	568.30	0.06	0.03
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	0.23	2.29	3.53	0.01	0.00	0.11	0.11	0.00	0.10	0.10	0.00	0.10	0.10	476.73	0.15	0.02
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	0.15	2.04	3.27	0.01	0.00	0.07	0.07	0.00	0.06	0.06	0.00	0.06	0.06	472.66	0.15	0.02
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	0.00	0.11	0.11	476.43	0.15	0.02
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	0.40	4.09	1.80	0.01	0.00	0.18	0.18	0.00	0.							

Offroad Equipment

Phase Name	Start	End	Emissions (lb/day)													Total MT			
			ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	0.51	5.23	2.30	0.01	0.00	0.24	0.24	0.00	0.07	0.07	851.98	0.28	0.04	3.86	0.00	0.00	2.81
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	0.33	2.21	2.16	0.01	0.00	0.08	0.08	0.00	0.07	0.07	851.98	0.28	0.04	3.86	0.00	0.00	3.95
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	0.46	4.59	7.09	0.01	0.00	0.21	0.21	0.00	0.19	0.19	956.64	0.31	0.04	4.34	0.00	0.00	4.43
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	0.05	0.43	0.46	0.00	0.00	0.01	0.01	0.00	0.01	0.01	207.55	0.07	0.01	2.82	0.00	0.00	2.89
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	0.95	9.57	14.78	0.02	0.00	0.44	0.44	0.00	0.41	0.41	1994.94	0.64	0.09	18.10	0.01	0.00	18.49
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	0.46	4.59	7.09	0.01	0.00	0.21	0.21	0.00	0.19	0.19	956.64	0.31	0.04	8.68	0.00	0.00	8.87
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	0.06	0.63	0.72	0.00	0.00	0.03	0.03	0.00	0.03	0.03	99.26	0.03	0.00	0.90	0.00	0.00	0.92
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	0.96	9.74	14.15	0.02	0.00	0.48	0.48	0.00	0.44	0.44	1912.07	0.62	0.09	17.35	0.01	0.00	17.72
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.50	5.23	2.28	0.01	0.00	0.24	0.24	0.00	0.22	0.22	606.86	0.20	0.03	4.13	0.00	0.00	4.22
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.34	2.37	2.19	0.01	0.00	0.09	0.09	0.00	0.08	0.08	851.67	0.28	0.04	5.79	0.00	0.00	5.92
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.06	0.63	0.72	0.00	0.00	0.03	0.03	0.00	0.03	0.03	99.26	0.03	0.00	0.68	0.00	0.00	0.69
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.48	4.87	7.07	0.01	0.00	0.24	0.24	0.00	0.22	0.22	956.03	0.31	0.04	6.50	0.00	0.00	6.65
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	0.50	5.23	2.28	0.01	0.00	0.24	0.24	0.00	0.22	0.22	606.86	0.20	0.03	4.13	0.00	0.00	4.22
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	0.34	2.37	2.19	0.01	0.00	0.09	0.09	0.00	0.08	0.08	851.67	0.28	0.04	5.79	0.00	0.00	5.92
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	0.48	4.87	7.07	0.01	0.00	0.24	0.24	0.00	0.22	0.22	956.03	0.31	0.04	6.50	0.00	0.00	6.65
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	0.50	5.23	2.28	0.01	0.00	0.24	0.24	0.00	0.22	0.22	606.86	0.20	0.03	5.51	0.00	0.00	5.63
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	0.34	2.37	2.19	0.01	0.00	0.09	0.09	0.00	0.08	0.08	851.67	0.28	0.04	7.73	0.00	0.00	7.89
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	0.48	4.87	7.07	0.01	0.00	0.24	0.24	0.00	0.22	0.22	956.03	0.31	0.04	8.67	0.00	0.00	8.86
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	2.00	20.30	29.50	0.04	0.00	1.00	1.00	0.00	0.92	0.92	3987.36	1.29	0.18	54.26	0.02	0.00	55.44
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	1.11	10.99	12.80	0.02	0.00	0.57	0.57	0.00	0.53	0.53	1913.06	0.62	0.09	26.03	0.01	0.00	26.60
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.67	4.75	4.38	0.02	0.00	0.17	0.17	0.00	0.16	0.16	1703.34	0.55	0.08	23.18	0.01	0.00	23.68
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.96	9.74	14.15	0.02	0.00	0.48	0.48	0.00	0.44	0.44	1912.07	0.62	0.09	26.02	0.01	0.00	26.59
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.80	8.12	11.80	0.02	0.00	0.40	0.40	0.00	0.37	0.37	1594.94	0.52	0.07	21.70	0.01	0.00	22.18
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.44	4.40	5.12	0.01	0.00	0.23	0.23	0.00	0.21	0.21	765.22	0.25	0.04	10.41	0.00	0.00	10.64
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.40	4.18	1.82	0.01	0.00	0.19	0.19	0.00	0.17	0.17	485.49	0.16	0.02	6.61	0.00	0.00	6.75
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.12	0.98	2.06	0.00	0.00	0.05	0.05	0.00	0.04	0.04	316.52	0.10	0.01	4.31	0.00	0.00	4.40
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.54	3.80	3.50	0.01	0.00	0.14	0.14	0.00	0.13	0.13	1362.67	0.44	0.06	18.54	0.01	0.00	18.95
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.77	7.79	11.32	0.02	0.00	0.39	0.39	0.00	0.35	0.35	1529.65	0.49	0.07	20.82	0.01	0.00	21.27
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.25	2.68	1.29	0.00	0.00	0.11	0.11	0.00	0.10	0.10	393.11	0.13	0.02	5.35	0.00	0.00	5.47
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.29	3.14	1.51	0.00	0.00	0.13	0.13	0.00	0.12	0.12	459.64	0.15	0.02	6.25	0.00	0.00	6.39
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.69	3.86	4.56	0.01	0.00	0.15	0.15	0.00	0.15	0.15	563.80	0.06	0.03	7.67	0.00	0.00	7.80
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.48	4.87	7.07	0.01	0.00	0.24	0.24	0.00	0.22	0.22	956.03	0.31	0.04	13.01	0.00	0.00	13.29
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024	0.38	3.89	5.66	0.01	0.00	0.19	0.19	0.00	0.18	0.18	764.83	0.25	0.04	69.38	0.02	0.00	70.90
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	5.03	54.71	26.31	0.08	0.00	2.29	2.29	0.00	2.10	2.10	8013.41	2.59	0.37	109.04	0.04	0.01	111.42
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	1.01	10.94	5.26	0.02	0.00	0.46	0.46	0.00	0.42	0.42	1602.68	0.52	0.07	21.81	0.01	0.00	22.28
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.58	6.28	3.02	0.01	0.00	0.26	0.26	0.00	0.24	0.24	919.27	0.30	0.04	12.51	0.00	0.00	12.78
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	1.38	7.72	9.12	0.01	0.00	0.30	0.30	0.00	0.30	0.30	1127.60	0.12	0.05	15.34	0.00	0.00	15.60
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.96	9.74	14.15	0.02	0.00	0.48	0.48	0.00	0.44	0.44	1912.07	0.62	0.09	26.02	0.01	0.00	26.59
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	4.76	50.25	25.45	0.08	0.00	2.08	2.08	0.00	1.93	1.93	8013.24	2.59	0.37	18.17	0.01	0.00	18.57
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	0.95	10.05	5.09	0.02	0.00	0.42	0.42	0.00	0.39	0.39	1602.65	0.52	0.07	3.63	0.00	0.00	3.71
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	0.55	5.76	2.92	0.01	0.00	0.24	0.24	0.00	0.22	0.22	919.26	0.30	0.04	2.08	0.00	0.00	2.13
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	1.28	7.50	9.04	0.01	0.00	0.26	0.26	0.00	0.26	0.26	1127.60	0.12	0.05	2.56	0.00	0.00	2.60
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	0.91	9.18	14.17	0.02	0.00	0.42	0.42	0.00	0.39	0.39	1913.27	0.62	0.09	4.34	0.00	0.00	4.43
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	1.10	8.67	16.83	0.03	0.00	0.47	0.47	0.00	0.43	0.43	2498.57	0.81	0.11	204.00	0.07	0.01	208.45
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.66	6.92	3.50	0.01	0.00	0.29	0.29	0.00	0.27	0.27	1103.11	0.36	0.05	90.06	0.03	0.00	92.03
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	1.06	8.32	16.16	0.03	0.00	0.45	0.45	0.00	0.41	0.41	2398.63	0.78	0.11	195.84	0.06	0.01	200.11
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.53	3.54	3.46	0.01	0.00	0.13	0.13	0.00	0.12	0.12	1363.17	0.44	0.06	111.30	0.04	0.01	113.73
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	1.09	11.02	17.01	0.02	0.00	0.51	0.51	0.00	0.47	0.47	2295.93	0.74	0.11	187.46	0.06	0.01	191.54
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	0.95	10.05	5.09	0.02	0.00	0.42	0.42	0.00	0.39	0.39	1602.65	0.52	0.07	10.90	0.00	0.00	11.14
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	0.12	1.53	2.56	0.00	0.00	0.05	0.05	0.00	0.05	0.05	3						

Offroad Equipment - Energy Consumption

Phase	Start Date	equipment Name	Category	Year	Days	Hours per day	Number	Fuel Type	Horsepower	Kilowatts	Kilowatt Hours (day)	Kilowatt Hours (total)	lbs of CO2 per day				Total MT			
													CO2	CH4	N2O	CO2e	CO2	CH4	N2O	CO2e
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	Compressor, Stationary 1200cfm	Air Compressors	2023	30	20	1	Electric	350	261	5220	156597	13.99	0.14	0.02	22.65	0.19	0.00	0.00	0.31
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	EPBM and Backup 14'9"	Bore/Drill Rigs	2023	30	20	1	Electric	1800	1342	26845	805356	71.95	0.73	0.09	116.51	0.98	0.01	0.00	1.59
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	Compressor, Stationary 1200cfm	Air compressors	2024	5	20	1	Electric	350	261	5220	26099	13.99	0.14	0.02	22.65	0.03	0.00	0.00	0.05
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	EPBM and Backup 14'9"	Bore/Drill Rigs	2024	5	20	1	Electric	1800	1342	26845	134226	71.95	0.73	0.09	116.51	0.16	0.00	0.00	0.26
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Compressor, Stationary 1200cfm	Air compressors	2024	180	24	1	Electric	350	261	6264	1127498	16.79	0.17	0.02	27.19	1.37	0.01	0.00	2.22
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	EPBM and Backup 14'9"	Bore/Drill Rigs	2024	180	24	1	Electric	1800	1342	32214	5798562	86.33	0.87	0.11	139.81	7.05	0.07	0.01	11.42
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Pump, trash 200gpm/100ft head	Other General Industrial Equipment	2024	180	24	1	Electric	10	7	179	32214	0.48	0.00	0.00	0.78	0.04	0.00	0.00	0.06
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Ventilation Fan 100hp	Other General Industrial Equipment	2024	180	24	2	Electric	100	75	3579	644285	9.59	0.10	0.01	15.53	0.78	0.01	0.00	1.27
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Ventilation Fan 40hp	Other General Industrial Equipment	2024	180	24	1	Electric	40	30	716	128857	1.92	0.02	0.00	3.11	0.16	0.00	0.00	0.25
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Water Treatment Plant	Other General Industrial Equipment	2024	180	24	1	Electric	200	149	3579	644285	9.59	0.10	0.01	15.53	0.78	0.01	0.00	1.27
Tunneling - TBM trailing gear and plant removal	10/7/2024	Compressor, Stationary 1200cfm	Air Compressors	2024	15	24	1	Electric	350	261	6264	93958	16.79	0.17	0.02	27.19	1.11	0.00	0.00	0.18
Tunneling - TBM trailing gear and plant removal	10/7/2024	Pump, subm. 140gpm/20ft head	Other Construction Equipment	2024	15	24	2	Electric	2	1	72	1074	0.19	0.00	0.00	0.31	0.00	0.00	0.00	0.00
Tunneling - TBM trailing gear and plant removal	10/7/2024	Pump, trash 200gpm/100ft head	Other Construction Equipment	2024	15	24	1	Electric	10	7	179	2685	0.48	0.00	0.00	0.78	0.00	0.00	0.00	0.01
Tunneling - TBM trailing gear and plant removal	10/7/2024	Ventilation Fan 100hp	Other Construction Equipment	2024	15	24	2	Electric	100	75	3579	53690	9.59	0.10	0.01	15.53	0.07	0.00	0.00	0.11
Tunneling - TBM trailing gear and plant removal	10/7/2024	Water Treatment Plant	Other Construction Equipment	2024	15	24	1	Electric	200	149	3579	53690	9.59	0.10	0.01	15.53	0.07	0.00	0.00	0.11

Notes:

PG&E 2019 CO2 (lbs per MWh) delivered rate  
 GHG Intensity Factor lb CH4/MWh (Statewide EF's for 2024)  
 GHG Intensity Factor lb N2O/MWh (Statewide EF's for 2024)

2.68  
 0.027  
 0.0033

Demolition Fugitive Dust Emissions

Phase Name	Start Date	End Date	Total Days	Year	Demo Debris Weight (tons)	Demo EF (lb/ton throughput)						Emissions (lb/day)					
						PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/23	4/12/24	200	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00

Truck Loading Fugitive Dust Emissions

Phase Name	Start Date	End Date	Total Days	Year	Total CY	Tons/CY	Throughput (tons)
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	14906	1.2642	18843.66
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0	1.2642	0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	0	1.2642	0.00
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	3376	1.2642	4267.83
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0	1.2642	0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	6429	1.2642	8127.32
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0	1.2642	0.00
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0	1.2642	0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0	1.2642	0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0	1.2642	0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0	1.2642	0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	0	1.2642	0.00
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/23	4/12/24	200	2023	0	1.2642	0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	1.2642	0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	1.2642	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	6762	1.2642	8548.29
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	1.2642	0.00
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0	1.2642	0.00
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	7720	1.2642	9759.36
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0	1.2642	0.00

Truck Loading Fugitive Dust Emissions	Truck Loading EF (lb/ton throughput)						Emissions (lb/day) <sup>1</sup>					
	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Energy Dissipation - Site Clearing and Grading	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.01		0.01	0.00		0.00
Energy Dissipation - Construct energy dissipation structure	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation - Re-vegetation and site demob	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation - Construct ATV Trail to south portal	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.01		0.01	0.00		0.00
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Tunneling - Drive 100' of tunnel at 20 fpd	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Tunneling - Tunnel punch list/clearing	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Tunneling - Muck disposal on site/grading	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Tunneling - Demobilization tunnel plant	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00



**Bulldozing Fugitive Dust Emissions**

Phase Name	Start	End	# of Workdays	First Year of CSTN	Equipment Type	# of Equipment	hours/day
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	Rubber Tired Dozers	1	10
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	Off-Highway Trucks	1	10
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	Tractors/Loaders/Backhoes	1	10
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	30	2024	Bore/Drill Rigs	1	10
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	Tractors/Loaders/Backhoes	1	10
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	Tractors/Loaders/Backhoes	1	10
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	20	2023	Rollers	1	10
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	20	2023	Tractors/Loaders/Backhoes	2	10
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Rubber Tired Dozers	1	10
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Off-Highway Trucks	1	10
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Rollers	1	10
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Tractors/Loaders/Backhoes	1	10
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	Rubber Tired Dozers	1	10
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	Off-Highway Trucks	1	10
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	Tractors/Loaders/Backhoes	1	10
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	Rubber Tired Dozers	1	10
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	Off-Highway Trucks	1	10
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	Tractors/Loaders/Backhoes	1	10
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Tractors/Loaders/Backhoes	2	10
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Other Construction Equipment	2	10
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Off-Highway Trucks	2	10
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Tractors/Loaders/Backhoes	2	10
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Tractors/Loaders/Backhoes	1	8
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Other Construction Equipment	1	8
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Rubber Tired Dozers	1	8
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Excavators	1	8
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Off-Highway Trucks	2	8
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Tractors/Loaders/Backhoes	2	8
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Cranes	1	10
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Cranes	1	10
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Welders	1	10
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Tractors/Loaders/Backhoes	1	10
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024	200	2023	Tractors/Loaders/Backhoes	1	8
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Cranes	1	20
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Cranes	1	20
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Cranes	1	20
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Welders	1	20
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Tractors/Loaders/Backhoes	1	20
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Cranes	1	20
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Cranes	1	20
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Cranes	1	20
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Welders	1	20
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Tractors/Loaders/Backhoes	1	20
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	4	24
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	1	24
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Cranes	1	24
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	2	24
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Off-Highway Trucks	2	8
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	18	24
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Tractors/Loaders/Backhoes	1	24
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Cranes	1	20
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Skid Steer Loaders	1	24
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Other Material Handling Equipment	1	24
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Cranes	1	24
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Other Material Handling Equipment	1	24
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Other Material Handling Equipment	1	24
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Welders	1	24
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Tractors/Loaders/Backhoes	3	24
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	5	2023	Skid Steer Loaders	1	10
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	5	2023	Tractors/Loaders/Backhoes	1	10
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	Rubber Tired Dozers	1	10
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	Off-Highway Trucks	1	10
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	Tractors/Loaders/Backhoes	1	10
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	Tractors/Loaders/Backhoes	1	8

**Bulldozing Fugitive Dust Emissions**

Phase Name	Start	End	Emission Factor (lb/hr)						Emissions (lb/day) <sup>1</sup>					
			PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	0.75		0.75	0.41		0.41	3.39		3.39	1.86		1.86
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.75		0.75	0.41		0.41	3.39		3.39	1.86		1.86
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	0.75		0.75	0.41		0.41	3.39		3.39	1.86		1.86
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	0.75		0.75	0.41		0.41	3.39		3.39	1.86		1.86
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.75		0.75	0.41		0.41	2.71		2.71	1.49		1.49
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	0.75		0.75	0.41		0.41	3.39		3.39	1.86		1.86
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00

Grading Fugitive Dust Emissions

Phase Name	Start	End	# of Workdays	First Year of CSTN	Equipment Type	# of Equipment	Equipment Usage (hours/day)	Acres per 8-hr day	Scaling Factor	Acres per day	Daily VMT
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	Rubber Tired Dozers	1	10	0.5	8	0.625	0.430
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	Off-Highway Trucks	1	10	0	8	0.000	0.000
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	Tractors/Loaders/Backhoes	1	10	0	9	0.000	0.000
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	30	2024	Bore/Drill Rigs	1	10	0	10	0.000	0.000
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	Tractors/Loaders/Backhoes	1	10	0	11	0.000	0.000
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	Tractors/Loaders/Backhoes	1	10	0	12	0.000	0.000
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	20	2023	Rollers	1	10	0	13	0.000	0.000
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	20	2023	Tractors/Loaders/Backhoes	2	10	0	14	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Rubber Tired Dozers	1	10	0.5	15	0.333	0.229
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Off-Highway Trucks	1	10	0	16	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Rollers	1	10	0	17	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Tractors/Loaders/Backhoes	1	10	0	18	0.000	0.000
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	Rubber Tired Dozers	1	10	0.5	19	0.263	0.181
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	Off-Highway Trucks	1	10	0	20	0.000	0.000
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	Tractors/Loaders/Backhoes	1	10	0	21	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	Rubber Tired Dozers	1	10	0.5	22	0.227	0.156
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	Off-Highway Trucks	1	10	0	23	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	Tractors/Loaders/Backhoes	1	10	0	24	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Tractors/Loaders/Backhoes	2	10	0	25	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Other Construction Equipment	2	10	0	26	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Off-Highway Trucks	2	10	0	27	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Tractors/Loaders/Backhoes	2	10	0	28	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Tractors/Loaders/Backhoes	1	8	0	29	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Other Construction Equipment	1	8	0	30	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Rubber Tired Dozers	1	8	0.5	31	0.129	0.089
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Excavators	1	8	0	32	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Off-Highway Trucks	2	8	0	33	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Tractors/Loaders/Backhoes	2	8	0	34	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Cranes	1	10	0	35	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Cranes	1	10	0	36	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Welders	1	10	0	37	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Tractors/Loaders/Backhoes	1	10	0	38	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024	200	2023	Tractors/Loaders/Backhoes	1	8	0	39	0.000	0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Cranes	1	20	0	40	0.000	0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Cranes	1	20	0	41	0.000	0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Cranes	1	20	0	42	0.000	0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Welders	1	20	0	43	0.000	0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Tractors/Loaders/Backhoes	1	20	0	44	0.000	0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Cranes	1	20	0	45	0.000	0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Cranes	1	20	0	46	0.000	0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Cranes	1	20	0	47	0.000	0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Welders	1	20	0	48	0.000	0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Tractors/Loaders/Backhoes	1	20	0	49	0.000	0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	4	24	0	50	0.000	0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	1	24	0	51	0.000	0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Cranes	1	24	0	52	0.000	0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	2	24	0	53	0.000	0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Off-Highway Trucks	2	8	0	54	0.000	0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	18	24	0	55	0.000	0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Tractors/Loaders/Backhoes	1	24	0	56	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Cranes	1	20	0	57	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Skid Steer Loaders	1	24	0	58	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Other Material Handling Equipment	1	24	0	59	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Cranes	1	24	0	60	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Other Material Handling Equipment	1	24	0	61	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Other Material Handling Equipment	1	24	0	62	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Welders	1	24	0	63	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Tractors/Loaders/Backhoes	3	24	0	64	0.000	0.000
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	5	2023	Skid Steer Loaders	1	10	0	65	0.000	0.000
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	5	2023	Tractors/Loaders/Backhoes	1	10	0	66	0.000	0.000
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	Rubber Tired Dozers	1	10	0.5	67	0.075	0.051
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	Off-Highway Trucks	1	10	0	68	0.000	0.000
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	Tractors/Loaders/Backhoes	1	10	0	69	0.000	0.000
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	Tractors/Loaders/Backhoes	1	8	0	70	0.000	0.000

Grading Fugitive Dust Emissions

Phase Name	Start	End	Emission Factor (lb/VMT)						Emissions (lb/day)					
			PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	1.543		1.543	0.167		0.167	0.298		0.298	0.032		0.032
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	1.543		1.543	0.167		0.167	0.159		0.159	0.017		0.017
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	1.543		1.543	0.167		0.167	0.126		0.126	0.014		0.014
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	1.543		1.543	0.167		0.167	0.108		0.108	0.012		0.012
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	1.543		1.543	0.167		0.167	0.062		0.062	0.007		0.007
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	1.543		1.543	0.167		0.167	0.036		0.036	0.004		0.004
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000

Worker Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi) <sup>1</sup>	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	20	2024	10	1.45	0.019	0.103	1.234	0.003	502.618	0.001	502.619	50.124	0.001	50.125	283.963	0.004	0.008
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	60	2024	6	1.45	0.019	0.103	1.234	0.003	502.618	0.001	502.619	50.124	0.001	50.125	283.963	0.004	0.008
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	6	1.45	0.019	0.103	1.234	0.003	502.618	0.001	502.619	50.124	0.001	50.125	283.963	0.004	0.008
Energy Dissipation - Re-vegetation and site demob	12/16/2024	1/24/2025	30	2024	8	1.45	0.019	0.103	1.234	0.003	502.618	0.001	502.619	50.124	0.001	50.125	283.963	0.004	0.008
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	30	2023	10	1.45	0.021	0.115	1.330	0.003	502.618	0.001	502.619	50.124	0.001	50.126	288.597	0.005	0.009
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	10	1.45	0.021	0.115	1.330	0.003	502.618	0.001	502.619	50.124	0.001	50.126	288.597	0.005	0.009
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	8	1.45	0.021	0.115	1.330	0.003	502.618	0.001	502.619	50.124	0.001	50.126	288.597	0.005	0.009
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/2023	8/18/2023	15	2023	8	1.45	0.021	0.115	1.330	0.003	502.618	0.001	502.619	50.124	0.001	50.126	288.597	0.005	0.009
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	30	2023	10	1.45	0.021	0.115	1.330	0.003	502.618	0.001	502.619	50.124	0.001	50.126	288.597	0.005	0.009
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	6	1.45	0.021	0.115	1.330	0.003	502.618	0.001	502.619	50.124	0.001	50.126	288.597	0.005	0.009
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	20	2023	8	1.45	0.021	0.115	1.330	0.003	502.618	0.001	502.619	50.124	0.001	50.126	288.597	0.005	0.009
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	8	1.45	0.021	0.115	1.330	0.003	502.618	0.001	502.619	50.124	0.001	50.126	288.597	0.005	0.009
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024	200	2023	0	1.45	0.021	0.115	1.330	0.003	502.618	0.001	502.619	50.124	0.001	50.126	288.597	0.005	0.009
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	10	1.45	0.021	0.115	1.330	0.003	502.618	0.001	502.619	50.124	0.001	50.126	288.597	0.005	0.009
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	146	1.45	0.019	0.103	1.234	0.003	502.618	0.001	502.619	50.124	0.001	50.125	283.963	0.004	0.008
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	114	1.45	0.019	0.103	1.234	0.003	502.618	0.001	502.619	50.124	0.001	50.125	283.963	0.004	0.008
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	30	2024	56	1.45	0.019	0.103	1.234	0.003	502.618	0.001	502.619	50.124	0.001	50.125	283.963	0.004	0.008
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	15	2023	0	1.45	0.021	0.115	1.330	0.003	502.618	0.001	502.619	50.124	0.001	50.126	288.597	0.005	0.009
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	78	1.45	0.019	0.103	1.234	0.003	502.618	0.001	502.619	50.124	0.001	50.125	283.963	0.004	0.008
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	26	1.45	0.019	0.103	1.234	0.003	502.618	0.001	502.619	50.124	0.001	50.125	283.963	0.004	0.008

Worker Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi) <sup>1</sup>	Non-Running Emission Factors (g/trip)*												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	20	2024	10	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	60	2024	6	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	6	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Re-vegetation and site demob	12/16/2024	1/24/2025	30	2024	8	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	30	2023	10	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	10	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	8	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/2023	8/18/2023	15	2023	8	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	30	2023	10	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	6	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	20	2023	8	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	8	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024	200	2023	0	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	10	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	146	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	114	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	30	2024	56	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	15	2023	0	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	78	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	26	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040

Worker Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi) <sup>1</sup>	Emissions (lb/day)													Total MT			
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	20	2024	10	1.45	0.04	0.01	0.15	0.00	7.23	0.00	7.23	1.60	0.00	1.60	10.91	0.00	0.00	0.10	0.00	0.00	0.10
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	60	2024	6	1.45	0.02	0.01	0.09	0.00	4.34	0.00	4.34	0.96	0.00	0.96	6.55	0.00	0.00	0.18	0.00	0.00	0.18
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	6	1.45	0.02	0.01	0.09	0.00	4.34	0.00	4.34	0.96	0.00	0.96	6.55	0.00	0.00	0.06	0.00	0.00	0.06
Energy Dissipation - Re-vegetation and site demob	12/16/2024	1/24/2025	30	2024	8	1.45	0.03	0.01	0.12	0.00	5.78	0.00	5.78	1.28	0.00	1.28	8.73	0.00	0.00	0.12	0.00	0.00	0.12
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	30	2023	10	1.45	0.04	0.01	0.16	0.00	7.23	0.00	7.23	1.60	0.00	1.60	11.10	0.00	0.00	0.15	0.00	0.00	0.16
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	10	1.45	0.04	0.01	0.16	0.00	7.23	0.00	7.23	1.60	0.00	1.60	11.10	0.00	0.00	0.08	0.00	0.00	0.08
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	8	1.45	0.03	0.01	0.13	0.00	5.78	0.00	5.78	1.28	0.00	1.28	8.88	0.00	0.00	0.06	0.00	0.00	0.06
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/2023	8/18/2023	15	2023	8	1.45	0.03	0.01	0.13	0.00	5.78	0.00	5.78	1.28	0.00	1.28	8.88	0.00	0.00	0.06	0.00	0.00	0.06
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	30	2023	10	1.45	0.04	0.01	0.16	0.00	7.23	0.00	7.23	1.60	0.00	1.60	11.10	0.00	0.00	0.15	0.00	0.00	0.16
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	6	1.45	0.02	0.01	0.10	0.00	4.34	0.00	4.34	0.96	0.00	0.96	6.66	0.00	0.00	0.09	0.00	0.00	0.09
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	20	2023	8	1.45	0.03	0.01	0.13	0.00	5.78	0.00	5.78	1.28	0.00	1.28	8.88	0.00	0.00	0.08	0.00	0.00	0.08
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	8	1.45	0.03	0.01	0.13	0.00	5.78	0.00	5.78	1.28	0.00	1.28	8.88	0.00	0.00	0.12	0.00	0.00	0.13
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024	200	2023	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	10	1.45	0.04	0.01	0.16	0.00	7.23	0.00	7.23	1.60	0.00	1.60	11.10	0.00	0.00	0.15	0.00	0.00	0.16
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	146	1.45	0.53	0.18	2.23	0.00	105.56	0.00	105.56	23.39	0.00	23.40	159.29	0.04	0.02	0.36	0.00	0.00	0.37
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	114	1.45	0.41	0.14	1.74	0.00	82.43	0.00	82.43	18.27	0.00	18.27	124.38	0.03	0.01	10.16	0.00	0.00	10.53
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	30	2024	56	1.45	0.20	0.07	0.85	0.00	40.49	0.00	40.49	8.97	0.00	8.97	61.10	0.01	0.01	0.83	0.00	0.00	0.86
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	15	2023	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	78	1.45	0.28	0.10	1.19	0.00	56.40	0.00	56.40	12.50	0.00	12.50	85.10	0.02	0.01	6.95	0.00	0.00	7.20
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	26	1.45	0.09	0.03	0.40	0.00	18.80	0.00	18.80	4.17	0.00	4.17	28.37	0.01	0.00	0.39	0.00	0.00	0.40

Worker Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	20	2024	10	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	60	2024	6	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	6	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Energy Dissipation - Re-vegetation and site demob	12/16/2024	1/24/2025	30	2024	8	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	30	2023	10	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	10	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	8	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/2023	8/18/2023	15	2023	8	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	30	2023	10	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	6	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	20	2023	8	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	8	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/2023	4/12/2024	200	2023	0	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	10	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	146	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	114	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	30	2024	56	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	15	2023	0	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	78	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	26	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009



Worker Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	20	2024	10	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	60	2024	6	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	6	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Re-vegetation and site demob	12/16/2024	1/24/2025	30	2024	8	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	30	2023	10	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	10	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	8	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/2023	8/18/2023	15	2023	8	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	30	2023	10	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	6	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	20	2023	8	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	8	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/2023	4/12/2024	200	2023	0	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	10	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	146	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	114	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	30	2024	56	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	15	2023	0	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	78	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	26	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040

Worker Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day)												Total MT				
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	20	2024	10	20	0.05	0.06	0.64	0.00	0.13	0.00	0.13	0.03	0.00	0.04	141.18	0.00	0.00	1.28	0.00	0.00	1.29
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	60	2024	6	20	0.03	0.04	0.39	0.00	0.08	0.00	0.08	0.02	0.00	0.02	84.71	0.00	0.00	2.31	0.00	0.00	2.33
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	6	20	0.03	0.04	0.39	0.00	0.08	0.00	0.08	0.02	0.00	0.02	84.71	0.00	0.00	0.77	0.00	0.00	0.78
Energy Dissipation - Re-vegetation and site demob	12/16/2024	1/24/2025	30	2024	8	20	0.04	0.05	0.52	0.00	0.10	0.00	0.10	0.03	0.00	0.03	112.95	0.00	0.00	1.54	0.00	0.00	1.55
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	30	2023	10	20	0.05	0.06	0.69	0.00	0.13	0.00	0.13	0.03	0.00	0.04	143.47	0.01	0.01	1.95	0.00	0.00	1.97
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	10	20	0.05	0.06	0.69	0.00	0.13	0.00	0.13	0.03	0.00	0.04	143.47	0.01	0.01	0.98	0.00	0.00	0.99
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	8	20	0.04	0.05	0.56	0.00	0.10	0.00	0.10	0.03	0.00	0.03	114.77	0.00	0.00	0.78	0.00	0.00	0.79
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/2023	8/18/2023	15	2023	8	20	0.04	0.05	0.56	0.00	0.10	0.00	0.10	0.03	0.00	0.03	114.77	0.00	0.00	0.78	0.00	0.00	0.79
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	30	2023	10	20	0.05	0.06	0.69	0.00	0.13	0.00	0.13	0.03	0.00	0.04	143.47	0.01	0.01	1.95	0.00	0.00	1.97
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	6	20	0.03	0.04	0.42	0.00	0.08	0.00	0.08	0.02	0.00	0.02	86.08	0.00	0.00	1.17	0.00	0.00	1.18
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	20	2023	8	20	0.04	0.05	0.56	0.00	0.10	0.00	0.10	0.03	0.00	0.03	114.77	0.00	0.00	1.04	0.00	0.00	1.05
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	8	20	0.04	0.05	0.56	0.00	0.10	0.00	0.10	0.03	0.00	0.03	114.77	0.00	0.00	1.56	0.00	0.00	1.58
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/2023	4/12/2024	200	2023	0	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	10	20	0.05	0.06	0.69	0.00	0.13	0.00	0.13	0.03	0.00	0.04	143.47	0.01	0.01	1.95	0.00	0.00	1.97
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	146	20	0.67	0.86	9.41	0.02	1.90	0.01	1.91	0.51	0.01	0.52	2061.25	0.07	0.07	4.67	0.00	0.00	4.72
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	114	20	0.52	0.67	7.35	0.02	1.48	0.01	1.49	0.40	0.01	0.40	1609.47	0.05	0.05	131.41	0.00	0.00	132.81
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	30	2024	56	20	0.26	0.33	3.61	0.01	0.73	0.00	0.73	0.19	0.00	0.20	790.62	0.03	0.03	10.76	0.00	0.00	10.87
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	15	2023	0	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	78	20	0.36	0.46	5.03	0.01	1.01	0.01	1.02	0.27	0.01	0.28	1101.22	0.04	0.04	89.91	0.00	0.00	90.87
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	26	20	0.12	0.15	1.68	0.00	0.34	0.00	0.34	0.09	0.00	0.09	367.07	0.01	0.01	5.00	0.00	0.00	5.05

Vendor Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi) <sup>1,2</sup>	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	2	1.45	0.018	1.534	0.106	0.012	502.692	0.012	502.705	50.149	0.012	50.161	1294.563	0.001	0.204
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	6	1.45	0.018	1.534	0.106	0.012	502.692	0.012	502.705	50.149	0.012	50.161	1294.563	0.001	0.204
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	8	1.45	0.018	1.534	0.106	0.012	502.692	0.012	502.705	50.149	0.012	50.161	1294.563	0.001	0.204
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	2	1.45	0.018	1.534	0.106	0.012	502.692	0.012	502.705	50.149	0.012	50.161	1294.563	0.001	0.204
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	10	1.45	0.021	1.646	0.114	0.012	502.692	0.014	502.706	50.149	0.013	50.162	1306.317	0.001	0.206
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	2	1.45	0.021	1.646	0.114	0.012	502.692	0.014	502.706	50.149	0.013	50.162	1306.317	0.001	0.206
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	2	1.45	0.021	1.646	0.114	0.012	502.692	0.014	502.706	50.149	0.013	50.162	1306.317	0.001	0.206
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	2	1.45	0.021	1.646	0.114	0.012	502.692	0.014	502.706	50.149	0.013	50.162	1306.317	0.001	0.206
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	2	1.45	0.021	1.646	0.114	0.012	502.692	0.014	502.706	50.149	0.013	50.162	1306.317	0.001	0.206
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	8	1.45	0.021	1.646	0.114	0.012	502.692	0.014	502.706	50.149	0.013	50.162	1306.317	0.001	0.206
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	8	1.45	0.021	1.646	0.114	0.012	502.692	0.014	502.706	50.149	0.013	50.162	1306.317	0.001	0.206
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	8	1.45	0.021	1.646	0.114	0.012	502.692	0.014	502.706	50.149	0.013	50.162	1306.317	0.001	0.206
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	8	1.45	0.021	1.646	0.114	0.012	502.692	0.014	502.706	50.149	0.013	50.162	1306.317	0.001	0.206
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	1.45	0.021	1.646	0.114	0.012	502.692	0.014	502.706	50.149	0.013	50.162	1306.317	0.001	0.206
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	1.45	0.018	1.534	0.106	0.012	502.692	0.012	502.705	50.149	0.012	50.161	1294.563	0.001	0.204
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	10	1.45	0.018	1.534	0.106	0.012	502.692	0.012	502.705	50.149	0.012	50.161	1294.563	0.001	0.204
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	1.45	0.018	1.534	0.106	0.012	502.692	0.012	502.705	50.149	0.012	50.161	1294.563	0.001	0.204
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	8	1.45	0.021	1.646	0.114	0.012	502.692	0.014	502.706	50.149	0.013	50.162	1306.317	0.001	0.206
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	10	1.45	0.018	1.534	0.106	0.012	502.692	0.012	502.705	50.149	0.012	50.161	1294.563	0.001	0.204
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0	1.45	0.018	1.534	0.106	0.012	502.692	0.012	502.705	50.149	0.012	50.161	1294.563	0.001	0.204

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Vendor Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi) <sup>1,2</sup>	Non-Running Emission Factors (g/trip) <sup>1</sup>													
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	2	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	6	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	8	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	2	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	10	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	2	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	2	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	2	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	2	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	8	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	8	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	8	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	8	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	573.328	0.010	0.090
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	562.948	0.010	0.089
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	10	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	562.948	0.010	0.089
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	562.948	0.010	0.089
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	8	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	573.328	0.010	0.090
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	10	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	562.948	0.010	0.089
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	562.948	0.010	0.089

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Vendor Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi) <sup>1,3</sup>	Emissions (lb/day) <sup>2</sup>											Total MT					
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	2	1.45	0.00	0.03	0.01	0.00	1.45	0.00	1.45	0.14	0.00	0.14	10.76	0.00	0.00	0.10	0.00	0.00	0.10
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	6	1.45	0.00	0.10	0.04	0.00	4.34	0.00	4.34	0.43	0.00	0.43	32.28	0.00	0.01	0.88	0.00	0.00	0.92
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	8	1.45	0.00	0.13	0.06	0.00	5.79	0.00	5.79	0.58	0.00	0.58	43.04	0.00	0.01	0.39	0.00	0.00	0.41
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	2	1.45	0.00	0.03	0.01	0.00	1.45	0.00	1.45	0.14	0.00	0.14	10.76	0.00	0.00	0.15	0.00	0.00	0.15
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	10	1.45	0.01	0.16	0.08	0.00	7.23	0.00	7.23	0.72	0.00	0.72	54.40	0.00	0.01	0.74	0.00	0.00	0.78
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	2	1.45	0.00	0.03	0.02	0.00	1.45	0.00	1.45	0.14	0.00	0.14	10.88	0.00	0.00	0.07	0.00	0.00	0.08
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	2	1.45	0.00	0.03	0.02	0.00	1.45	0.00	1.45	0.14	0.00	0.14	10.88	0.00	0.00	0.07	0.00	0.00	0.08
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	2	1.45	0.00	0.03	0.02	0.00	1.45	0.00	1.45	0.14	0.00	0.14	10.88	0.00	0.00	0.07	0.00	0.00	0.08
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	2	1.45	0.00	0.03	0.02	0.00	1.45	0.00	1.45	0.14	0.00	0.14	10.88	0.00	0.00	0.15	0.00	0.00	0.16
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	8	1.45	0.00	0.13	0.06	0.00	5.79	0.00	5.79	0.58	0.00	0.58	43.52	0.00	0.01	0.59	0.00	0.00	0.62
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	8	1.45	0.00	0.13	0.06	0.00	5.79	0.00	5.79	0.58	0.00	0.58	43.52	0.00	0.01	0.39	0.00	0.00	0.41
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	8	1.45	0.00	0.13	0.06	0.00	5.79	0.00	5.79	0.58	0.00	0.58	43.52	0.00	0.01	0.59	0.00	0.00	0.62
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	8	1.45	0.00	0.13	0.06	0.00	5.79	0.00	5.79	0.58	0.00	0.58	43.52	0.00	0.01	3.95	0.00	0.00	4.13
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	10	1.45	0.01	0.16	0.07	0.00	7.23	0.00	7.23	0.72	0.00	0.72	53.79	0.00	0.01	4.39	0.00	0.00	4.60
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	8	1.45	0.00	0.13	0.06	0.00	5.79	0.00	5.79	0.58	0.00	0.58	43.52	0.00	0.01	0.30	0.00	0.00	0.31
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	10	1.45	0.01	0.16	0.07	0.00	7.23	0.00	7.23	0.72	0.00	0.72	53.79	0.00	0.01	4.39	0.00	0.00	4.60
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Vendor Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	2	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	6	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	8	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	2	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	10	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	2	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	2	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	2	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	2	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	8	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	8	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	8	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	8	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	10	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	8	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	10	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216

Vendor Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>													
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	2	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	6	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	8	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	2	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	10	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	2	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	2	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	2	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	2	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	8	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	8	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	8	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	8	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	573.328	0.010	0.090
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	562.948	0.010	0.089
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	10	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	562.948	0.010	0.089
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	562.948	0.010	0.089
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	8	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	573.328	0.010	0.090
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	10	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	562.948	0.010	0.089
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.003	562.948	0.010	0.089

Vendor Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day)													Total MT			
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	2	20	0.00	0.16	0.02	0.00	0.03	0.00	0.03	0.01	0.00	0.01	123.61	0.00	0.02	1.12	0.00	0.00	1.17
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	6	20	0.01	0.49	0.07	0.00	0.09	0.01	0.10	0.03	0.01	0.03	370.83	0.00	0.06	10.09	0.00	0.00	10.57
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	8	20	0.01	0.65	0.09	0.00	0.13	0.01	0.13	0.04	0.01	0.04	494.44	0.00	0.08	4.49	0.00	0.00	4.70
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	2	20	0.00	0.16	0.02	0.00	0.03	0.00	0.03	0.01	0.00	0.01	123.61	0.00	0.02	1.68	0.00	0.00	1.76
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	10	20	0.02	0.86	0.12	0.01	0.16	0.01	0.17	0.04	0.01	0.06	624.23	0.00	0.10	8.49	0.00	0.00	8.89
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	2	20	0.00	0.17	0.02	0.00	0.03	0.00	0.03	0.01	0.00	0.01	124.85	0.00	0.02	0.85	0.00	0.00	0.89
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	2	20	0.00	0.17	0.02	0.00	0.03	0.00	0.03	0.01	0.00	0.01	124.85	0.00	0.02	0.85	0.00	0.00	0.89
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	2	20	0.00	0.17	0.02	0.00	0.03	0.00	0.03	0.01	0.00	0.01	124.85	0.00	0.02	0.85	0.00	0.00	0.89
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	2	20	0.00	0.17	0.02	0.00	0.03	0.00	0.03	0.01	0.00	0.01	124.85	0.00	0.02	1.70	0.00	0.00	1.78
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	8	20	0.01	0.68	0.10	0.00	0.13	0.01	0.14	0.04	0.01	0.04	499.38	0.00	0.08	6.80	0.00	0.00	7.11
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	8	20	0.01	0.68	0.10	0.00	0.13	0.01	0.14	0.04	0.01	0.04	499.38	0.00	0.08	4.53	0.00	0.00	4.74
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	8	20	0.01	0.68	0.10	0.00	0.13	0.01	0.14	0.04	0.01	0.04	499.38	0.00	0.08	6.80	0.00	0.00	7.11
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	8	20	0.01	0.68	0.10	0.00	0.13	0.01	0.14	0.04	0.01	0.04	499.38	0.00	0.08	45.30	0.00	0.01	47.43
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	10	20	0.02	0.82	0.12	0.01	0.16	0.01	0.17	0.04	0.01	0.05	618.05	0.00	0.10	50.46	0.00	0.01	52.83
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	8	20	0.01	0.68	0.10	0.00	0.13	0.01	0.14	0.04	0.01	0.04	499.38	0.00	0.08	3.40	0.00	0.00	3.56
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	10	20	0.02	0.82	0.12	0.01	0.16	0.01	0.17	0.04	0.01	0.05	618.05	0.00	0.10	50.46	0.00	0.01	52.83
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



Haul Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	94	0.38	0.02	2.03	0.11	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1592.30	0.00	0.25
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0	0.14	0.02	2.03	0.11	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1592.30	0.00	0.25
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	4	0.14	0.02	2.03	0.11	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1592.30	0.00	0.25
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	16	1.46	0.02	2.03	0.11	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1592.30	0.00	0.25
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0	0.58	0.02	2.15	0.12	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1612.53	0.00	0.25
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	54	1.25	0.02	2.15	0.12	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1612.53	0.00	0.25
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0	0.15	0.02	2.15	0.12	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1612.53	0.00	0.25
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0	0.14	0.02	2.15	0.12	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1612.53	0.00	0.25
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0	0.15	0.02	2.15	0.12	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1612.53	0.00	0.25
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0	0.14	0.02	2.15	0.12	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1612.53	0.00	0.25
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0	0.14	0.02	2.15	0.12	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1612.53	0.00	0.25
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	4	1.45	0.02	2.15	0.12	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1612.53	0.00	0.25
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	4	1.45	0.02	2.15	0.12	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1612.53	0.00	0.25
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	0.14	0.02	2.15	0.12	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1612.53	0.00	0.25
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	1.45	0.02	2.03	0.11	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1592.30	0.00	0.25
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	6	1.45	0.02	2.03	0.11	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1592.30	0.00	0.25
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	1.45	0.02	2.03	0.11	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1592.30	0.00	0.25
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0	0.38	0.02	2.15	0.12	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1612.53	0.00	0.25
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	0	0.38	0.02	2.03	0.11	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1592.30	0.00	0.25
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	2	1.45	0.02	2.03	0.11	0.02	667.72	0.01	667.73	66.66	0.01	66.67	1592.30	0.00	0.25

Haul Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>													
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	94	0.38	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0	0.14	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	4	0.14	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	16	1.46	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0	0.58	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	54	1.25	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0	0.15	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0	0.14	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0	0.15	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0	0.14	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0	0.14	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	4	1.45	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	4	1.45	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	0.14	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	1.45	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	6	1.45	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	1.45	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0	0.38	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	0	0.38	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	2	1.45	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15

Haul Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day) <sup>1</sup>											Total MT					
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	94	0.38	0.08	1.74	1.22	0.00	23.59	0.00	23.59	2.35	0.00	2.36	318.44	0.00	0.05	2.89	0.00	0.00	3.03
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	4	0.14	0.00	0.07	0.05	0.00	0.37	0.00	0.37	0.04	0.00	0.04	10.19	0.00	0.00	0.09	0.00	0.00	0.10
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	16	1.46	0.01	0.37	0.21	0.00	15.49	0.00	15.49	1.55	0.00	1.55	115.00	0.00	0.02	1.56	0.00	0.00	1.64
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	54	1.25	0.05	1.20	0.71	0.00	44.71	0.00	44.72	4.46	0.00	4.47	353.39	0.00	0.06	2.40	0.00	0.00	2.52
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	4	1.45	0.00	0.09	0.05	0.00	3.84	0.00	3.84	0.38	0.00	0.38	29.02	0.00	0.00	0.39	0.00	0.00	0.41
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/23	4/12/24	200	2023	4	1.45	0.00	0.09	0.05	0.00	3.84	0.00	3.84	0.38	0.00	0.38	29.02	0.00	0.00	2.63	0.00	0.00	2.76
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	6	1.45	0.01	0.14	0.08	0.00	5.76	0.00	5.76	0.58	0.00	0.58	42.89	0.00	0.01	3.50	0.00	0.00	3.67
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	0	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	2	1.45	0.00	0.05	0.03	0.00	1.92	0.00	1.92	0.19	0.00	0.19	14.30	0.00	0.00	0.19	0.00	0.00	0.20

Haul Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	94	0	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0	0	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	4	27	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	16	20	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	54	20.73068182	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	4	27	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	4	27	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	0	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	6	27	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	0	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	0	0	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	2	27	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25

Haul Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>													
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	94	0	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0	0	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	4	27	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	16	20	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	54	20.73068182	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	4	27	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	4	27	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	0	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	6	27	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	0	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	0	0	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	2	27	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15

Haul Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day)											Total MT						
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2e	CH4	N2O	CO2e	
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	94	0	0.08	1.58	1.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	193.45	0.00	0.03	1.75	0.00	0.00	1.84
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	4	27	0.01	0.51	0.07	0.00	0.09	0.01	0.10	0.03	0.01	0.03	391.49	0.00	0.06	3.55	0.00	0.00	0.00	3.72
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	16	20	0.03	1.57	0.26	0.01	0.27	0.02	0.29	0.08	0.02	0.10	1168.50	0.00	0.18	15.90	0.00	0.00	0.00	16.65
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	54	20.73068182	0.09	5.62	0.90	0.04	0.95	0.07	1.02	0.27	0.07	0.34	4141.80	0.00	0.65	28.18	0.00	0.00	0.00	29.50
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	4	27	0.01	0.52	0.07	0.00	0.09	0.01	0.10	0.03	0.01	0.03	397.04	0.00	0.06	5.40	0.00	0.00	0.00	5.66
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	4	27	0.01	0.52	0.07	0.00	0.09	0.01	0.10	0.03	0.01	0.03	397.04	0.00	0.06	36.02	0.00	0.01	0.01	37.71
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	6	27	0.01	0.76	0.10	0.01	0.14	0.01	0.15	0.04	0.01	0.05	587.23	0.00	0.09	47.95	0.00	0.01	0.01	50.20
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	2	27	0.00	0.25	0.03	0.00	0.05	0.00	0.05	0.01	0.00	0.02	195.74	0.00	0.03	2.66	0.00	0.00	0.00	2.79

Architectural Coating Emissions

Phase Name	Coating Type	SF	Residential Interior EF	Residential Interior Area (SF)	Residential Exterior EF	Residential Exterior Area	Non-Residential Interior EF	Non-Residential Interior Area (SF)	Non-Residential Exterior EF	Non-Residential Exterior Area	Parking EF	Parking Area	Total Emissions
			150	0	150	0	150	0	100	0	150	0.00	0.00
			150	0	150	0	150	0	100	0	150	0.00	0.00
			150	0	150	0	150	0	100	0	150	0.00	0.00
			150	0	150	0	150	0	100	0	150	0.00	0.00
			150	0	150	0	150	0	100	0	150	0.00	0.00
			150	0	150	0	150	0	100	0	150	0.00	0.00
			150	0	150	0	150	0	100	0	150	0.00	0.00
			150	0	150	0	150	0	100	0	150	0.00	0.00
			150	0	150	0	150	0	100	0	150	0.00	0.00
			150	0	150	0	150	0	100	0	150	0.00	0.00
			150	0	150	0	150	0	100	0	150	0.00	0.00
			150	0	150	0	150	0	100	0	150	0.00	0.00
			150	0	150	0	150	0	100	0	150	0.00	0.00
			150	0	150	0	150	0	100	0	150	0.00	0.00

\*No Architectural Coating in North Central Coast Air Basin

Combined Phase Name5	Start Date5	End Date5	# of Workdays5	Emissions (lb/day)
				ROG
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20.00	0.00
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60.00	0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20.00	0.00
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30.00	0.00
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30.00	0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15.00	0.00
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15.00	0.00
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15.00	0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30.00	0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communicat	10/2/23	11/10/23	30.00	0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20.00	0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30.00	0.00
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/23	4/12/24	200.00	0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30.00	0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5.00	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180.00	0.00
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30.00	0.00
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15.00	0.00
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180.00	0.00
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30.00	0.00

**Paving Off-Gassing Emissions**

Phase Name	Acres	Off-Gassing EF (lb/acre)	Total Emissions (lbs)
	0.00	2.62	0.00
	0.00	2.62	0.00

North Central Coast Air Basin - Unmitigated AQ/GHG Analysis

Combined Phase Name5	Start Date5	End Date5	# of Workdays5	Emissions (lb/day)
				ROG
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20.00	0.00
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60.00	0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20.00	0.00
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30.00	0.00
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30.00	0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15.00	0.00
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15.00	0.00
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15.00	0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30.00	0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communicatio	10/2/23	11/10/23	30.00	0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20.00	0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30.00	0.00
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/23	4/12/24	200.00	0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30.00	0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5.00	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180.00	0.00
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30.00	0.00
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15.00	0.00
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180.00	0.00
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30.00	0.00



**Mechanical or Explosive Dismemberment**

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

EF emission factor (lb/ton)  
 k particle size multiplier, AP-42 default for PM10: 0.35; PM2.5: 0.053  
 U mean wind speed, m/s to mph  
 M material moisture content (%), AP-42 Default: 2

Parameter	PM10	PM2.5	CalEEMod Wind Speed (m/s)	Changes based on Project Location 2.8 CEC Forecast Zone 4
	Value	Value		
k (unitless)	0.35	0.053	<--confirm these parameters for location	
U (m/s to mph)	6.26	6.26	<--confirm these parameters for location	
M (%)	2	2	<--confirm these parameters for location	
<b>EF (lb/ton)</b>	<b>1.50E-03</b>	<b>2.27E-04</b>		

**Debris Loading**

$$EF_L = k \times EF_{L-TSP}$$

EF<sub>L</sub> emission factor (lb/ton)  
 k particle size multiplier, AP-42 default for PM10: 0.35; PM2.5: 0.053

Default EF<sub>L-TSP</sub> 0.058

lb/ton of debris	
PM10	PM2.5
0.0203	0.003074

lb/ton of debris	
PM10	PM2.5
2.18E-02	3.30E-03

**Total DEMO EF**

**Mechanical or Explosive Dismemberment**  
 Based on the MRI report, there is no AP-42 emission factor data available for this mechanical or explosive dismemberment. Thus, the emission factor for dismemberment and collapse of a structure is calculated using the following AP-42 equation for batch drop operations:

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

Where:  
 EF<sub>D</sub> = emission factor (lb PM/ton of debris)  
 EF<sub>D-PM10</sub> = 0.0011 lb PM<sub>10</sub>/ton of debris  
 EF<sub>D-PM2.5</sub> = 0.00017 lb PM<sub>2.5</sub>/ton of debris  
 k = particle size multiplier. The AP-42 default value for PM<sub>10</sub> is 0.35 and that for PM<sub>2.5</sub> is 0.053.  
 U = mean wind speed. The program selects the default mean wind speed based on the wind speed (m/s) provided on the project characteristics screen.  
 M = material moisture content. The program uses 2% as the default based on the MRI report.

The dust emissions are calculated by multiplying the above emission factors with the total weight of building waste using the following equation:

$$E_D = EF_D \times W$$

Where:  
 E<sub>D</sub> = emissions (lb of PM)  
 EF<sub>D</sub> = emission factor (lb of PM/ton of debris)  
 W = building waste (ton of debris)

<sup>10</sup> Midwest Research Institute, 1988. Gap Filling PM10 Emission Factors for Selected Open Area Dust Sources.

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**Debris Loading**  
 The dust emission factor of PM<sub>10</sub> and PM<sub>2.5</sub> in pounds per ton building waste is estimated based on the measured total suspended particulates (TSP) emission factor using the following equation:

$$EF_L = k \times EF_{L-TSP}$$

Where:  
 EF<sub>L</sub> = emission factor (lb/ton)  
 k = particle size multiplier. The AP-42 default value for PM<sub>10</sub> is 0.35 and that for PM<sub>2.5</sub> is 0.053.

The default value for EF<sub>L-TSP</sub> is 0.058 lb/ton, the average of the two TSP factor (i.e. 0.053 and 0.063 lb/ton) measured from two tests of the filling of trucks with crushed limestone using a front-end loader.

The dust emissions from debris loading are then calculated following the same methodology used for mechanical and or explosive dismemberment:

$$E_L = EF_L \times SF \times 0.046(\text{ton} / \text{ft}^2)$$

Where:  
 E<sub>L</sub> = emissions (lb)  
 EF<sub>L</sub> = emission factor (lb/ton)  
 SF = building square footage (ft<sup>2</sup>)

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Truck Loading Emissions

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

- EF emission factor (lb/ton)
- k particle size multiplier, AP-42 default for PM10: 0.35; PM2.5: 0.053
- U mean wind speed, m/s to mph
- M material moisture content (%), AP-42 Default: 12

Parameter	CalEEMod Wind Speed (m/s)		Changes based on Project Location
	PM10	PM2.5	2.8 CEC Forecast Zone 4
k (unitless)	0.35	0.053	<--confirm these parameters for location
U (m/s to mph)	6.26	6.26	<--confirm these parameters for location
M (%)	14	14	MJA, DRAFT - Preliminary Geotechnical Design Recommendations , February 2019.
EF (lb/ton)	9.85E-05	1.49E-05	

Emissions

**E=EF x TP**

EF	Emission factor (lb/ton)
TP	Throughput (tons)
CY	39193 <--Enter in Project Value
tons/CY	1.2641662
TP	49546.466
# of days with truck loading	300

13.2.4.2

EMISSION FACTORS

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Table 13.2.4-1. TYPICAL SILT AND MOISTURE CONTENTS OF MATERIALS AT VARIOUS INDUSTRIES\*

Industry	No. Of Facilities	Material	Silt Content (%)			Moisture Content (%)		
			No. Of Samples	Range	Mean	No. Of Samples	Range	Mean
Iron and steel production	9	Pellet ore	13	1.3 - 13	4.3	11	0.64 - 4.0	2.2
		Lump ore	9	2.8 - 19	9.5	6	1.6 - 8.0	5.4
		Coal	12	2.0 - 7.7	4.6	11	2.8 - 11	4.8
		Slag	3	3.0 - 7.3	5.3	3	0.25 - 2.0	0.92
		Flue dust	3	2.7 - 23	13	1	—	7
		Coke breeze	2	4.4 - 5.4	4.9	2	6.4 - 9.2	7.8
		Blended ore	1	—	15	1	—	6.6
		Sinter	1	—	0.7	0	—	—
		Limestone	3	0.4 - 2.3	1.0	2	ND	0.2
		Crushed limestone	2	1.3 - 1.9	1.6	2	0.3 - 1.1	0.7
Stone quarrying and processing	2	Various limestone products	8	0.8 - 14	3.9	8	0.46 - 5.0	2.1
		Pellets	9	2.2 - 5.4	3.4	7	0.05 - 2.0	0.9
Taconite mining and processing	1	Tailings	2	ND	11	1	—	0.4
		Coal	15	3.4 - 16	6.2	7	2.8 - 20	6.9
Western surface coal mining	4	Overburden	15	3.8 - 15	7.5	0	—	—
		Exposed ground	3	5.1 - 21	15	3	0.8 - 6.4	3.4
		Coal (as received)	60	0.6 - 4.8	2.2	59	2.7 - 7.4	4.5
Coal-fired power plant	1	Sand	1	—	2.6	1	—	7.4
		Slag	2	3.0 - 4.7	3.8	2	2.3 - 4.9	3.6
Municipal solid waste landfills	4	Cover	5	5.0 - 16	9.0	5	8.9 - 16	12
		Clay/dirt mix	1	—	9.2	1	—	14
		Clay	2	4.5 - 7.4	6.0	2	8.9 - 11	10
		Fly ash	4	78 - 81	80	4	26 - 29	27
		Misc. fill materials	1	—	12	1	—	11

\* References 1-10. ND = no data.

**Truck Loading**

Processes such as truck dumping on the pile or loading out from the pile to a truck with a front-end loader also cause fugitive dust emissions. The program calculates these emissions using the methodology described in Section 13.2, Introduction to Fugitive Dust Sources, of USEPA AP-42. The emission factor that is based on the material moisture content and mean wind speed is calculated using the following formula:

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

Where:

EF = emission factor (lb/ton)

K = particle size multiplier. The AP-42 default value for PM<sub>10</sub> is 0.35 and that for PM<sub>2.5</sub> is 0.053

U = mean wind speed. The program selects wind speed based on the value listed on the Project Characteristics screen. It has been converted internally to miles per hour.

M = material moisture content (%). The moisture contents of different materials are listed in Table 13.2.4-1 of AP-42. The program uses the moisture content of cover (12%) as default.

The fugitive dust emissions are calculated by multiplying the emission factor with the throughput of loaded and unloaded material that is entered by the user.

$$E = EF \times TP$$

Where:

E = emissions (lb)

EF = emission factor (lb/ton)

TP = throughput of loaded and unloaded materials (ton)

CalEEMod assumes that 1.2641662 tons per cubic yard based on a bulk density of 1.5 grams per cubic centimeter. Typical soil densities range from about 1.25 to about 1.6 and 1.5 is the approximate density of a silty loam soil which is relatively common in most other parts of the state. The density reported above does not account for watering to suppress dust, it only accounts for natural moisture.

**Bulldozing Emissions**

$$EF_{TSP} = \frac{C_{TSP} \times s^{1.2}}{M^{1.3}}, \text{ and } EF_{PM_{2.5}} = EF_{TSP} \times F_{PM_{2.5}}$$

$$EF_{PM_{15}} = \frac{C_{PM_{15}} \times s^{1.5}}{M^{1.4}}, \text{ and } EF_{PM_{10}} = EF_{PM_{15}} \times F_{PM_{10}}$$

- EF emission factor (lb/hr)
- C arbitrary coefficient use by AP-42
- M material moisture content (%)
- S material silt content (%)
- F scaling factor

C <sub>TSP</sub> (unitless)	5.7
C <sub>PM15</sub> (unitless)	1
M(%)	7.9
s (%)	6.9
F <sub>PM10</sub> (unitless)	0.75
F <sub>PM2.5</sub> (unitless)	0.105

EF <sub>TSP</sub>	3.941
EF <sub>PM15</sub>	1.004

**Emission Factors (lb/hr)**

EF <sub>PM10</sub>	<b>0.753</b> Emission Factor Method Confirmed with comparison to CalEEMod outputs
EF <sub>PM2.5</sub>	<b>0.414</b> Emission Factor Method Confirmed with comparison to CalEEMod outputs

**Bulldozing**

Similar to the grading equipment passes emission estimation, the bulldozing emission factors for PM<sub>10</sub> and PM<sub>2.5</sub> are scaled from those of PM<sub>15</sub> and TSP. Based on Section 11.9 of AP-42, the dust emission factor for bulldozing is calculated using the following equations:

$$EF_{TSP} = \frac{C_{TSP} \times s^{1.2}}{M^{1.3}}, \text{ and } EF_{PM_{2.5}} = EF_{TSP} \times F_{PM_{2.5}}$$

$$EF_{PM_{15}} = \frac{C_{PM_{15}} \times s^{1.5}}{M^{1.4}}, \text{ and } EF_{PM_{10}} = EF_{PM_{15}} \times F_{PM_{10}}$$

- Where:
- EF = emission factor (lb/hr)
  - C = arbitrary coefficient used by AP-42
  - M = material moisture content (%)
  - S = material silt content (%)
  - F = scaling factor

C, M, s, and F vary depending on the bulldozed material. The following table summarizes the constants for overburden<sup>8</sup> presented in AP-42<sup>9</sup>.

**Bulldozing Fugitive Emission Factors**

Constant	Overburden
C <sub>TSP</sub>	5.7
C <sub>PM15</sub>	1.0
M	7.9%
s	6.9%
F <sub>PM10</sub>	0.75
F <sub>PM2.5</sub>	0.105

The program uses the constants associated with overburden as default for calculation of bulldozing dust emissions since overburden more closely models the bulldozed materials during the development construction. The dust emissions are calculated by multiplying the emission factor with the hours of operation for the dozers listed in the equipment list using the formula below:

$$E = EF \times Hr$$

- Where:
- E = emissions (lb)
  - EF = emission factor (lb/hr)
  - Hr = hours of operation

<sup>8</sup> The earth that is between the topsoil and the coal seam (USEPA AP-42).

<sup>9</sup> Tables 11.9-1 and 11.9-3 of USEPA AP-42

**Grading Emissions**

EFPM15

$$EF_{PM15} = 0.051 \times (S)^{2.0}, \text{ and } EF_{PM10} = EF_{PM15} \times F_{PM10}$$

$$EF_{TSP} = 0.04 \times (S)^{2.5}, \text{ and } EF_{PM2.5} = EF_{TSP} \times F_{PM2.5}$$

EF Emission Factor (lb/VMT)  
 S mean vehicle speed (mph), AP-42 Default: 7.1 mph  
 F<sub>PM2.5</sub> PM2.5 scaling factor, AP-42 default: 0.031  
 F<sub>PM10</sub> PM10 scaling factor, AP-42 default: 0.6

S 7.1  
 F<sub>PM2.5</sub> 0.031  
 F<sub>PM10</sub> 0.6  
 EF<sub>PM15</sub> 2.57  
 EF<sub>TSP</sub> 5.37  
 Emission factor (lb/VMT)  
 EF<sub>PM10</sub> 1.543  
 EF<sub>PM2.5</sub> 0.167

**Emissions= EF x VMT**

VMT:  
 A<sub>site</sub> acreage of grading site  
 W<sub>b</sub> Width of blade, default: 12 feet  
 Feet/acre conversion 43560  
 feet/mile conversion 5280  
 Acres per 8-hr day amount of acres graded per day, see calc below

The grading dust emissions are calculated by multiplying the emission factors with the total vehicle miles traveled (VMT) for the grading equipment (i.e., grader). The VMT are estimated based on the dimensions of the grading area and the blade width of the grading equipment.

$$E = EF \times VMT, \text{ and}$$

$$VMT = A_s / W_b \times 43,560(\text{sqft} / \text{acre}) / 5,280(\text{ft} / \text{mile})$$

Where:  
 E: emissions (lb)  
 EF: emission factor (lb/VMT)  
 VMT: vehicle miles traveled (mile)  
 A<sub>s</sub>: the acreage of the grading site (acre)  
 W<sub>b</sub>: Blade width of the grading equipment. The program uses a default blade width of 12 ft. based on Caterpillar's 140 Motor Grader<sup>7</sup>.

Note that the dimensions (e.g., length and width) of the grading site have no impact on the calculation, only the total area to be graded. In order to properly grade a piece of land multiple passes with equipment may be required. The acres is based on the equipment list and days in grading or site preparation phase according to the anticipated maximum number of acres a given piece of equipment can pass over in an 8-hour workday. The equipment-specific grading rates are given in the following table as determined by SCAQMD in consultation with building estimator references.

Equipment Type	Acres/8hr-day
Crawler Tractors	0.5
Graders	0.5
Rubber Tired Dozers	0.5
Scrapers	1

Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	NOX	CO	SO2	PM10	PM2.5	CO2	CH4
Aerial Lifts	1990	6	15	5.436	1.804	9.999	4.999	0.833	0.968	0.968	568.299	0.162
Aerial Lifts	1990	16	25	8.446	2.213	6.92	5	0.679	0.735	0.735	568.299	0.199
Aerial Lifts	1990	26	50	22.237	3.256	7.372	6.91	0.692	0.948	0.948	568.299	0.293
Aerial Lifts	1990	51	120	25.547	1.927	13.323	5.026	0.628	1.005	1.005	568.299	0.173
Aerial Lifts	1990	251	500	90.051	1.214	11.7	6.888	0.525	0.605	0.605	568.299	0.109
Aerial Lifts	1990	501	750	162.768	1.214	11.7	6.887	0.538	0.605	0.605	568.299	0.109
Aerial Lifts	2000	6	15	4.911	1.629	8.804	4.729	0.079	0.737	0.737	568.299	0.147
Aerial Lifts	2000	16	25	7.927	2.077	6.401	4.749	0.064	0.569	0.569	568.299	0.187
Aerial Lifts	2000	26	50	21.066	3.084	6.596	6.643	0.065	0.711	0.711	568.3	0.278
Aerial Lifts	2000	51	120	20.809	1.569	9.602	4.216	0.059	0.705	0.705	568.299	0.141
Aerial Lifts	2000	251	500	60.706	0.819	8.191	3.931	0.049	0.31	0.31	568.3	0.073
Aerial Lifts	2000	501	750	109.732	0.819	8.191	3.931	0.051	0.31	0.31	568.299	0.073
Aerial Lifts	2005	6	15	2.733	0.907	5.927	3.649	0.079	0.424	0.424	568.3	0.081
Aerial Lifts	2005	16	25	5.948	1.558	5.978	3.804	0.064	0.474	0.474	568.299	0.14
Aerial Lifts	2005	26	50	18.56	2.717	6.139	6.122	0.065	0.657	0.657	568.299	0.245
Aerial Lifts	2005	51	120	17.765	1.34	8.079	3.898	0.059	0.651	0.651	568.299	0.12
Aerial Lifts	2005	251	500	41.275	0.556	6.521	2.307	0.049	0.217	0.217	568.299	0.05
Aerial Lifts	2005	501	750	76.693	0.572	6.666	2.307	0.051	0.219	0.219	568.299	0.051
Aerial Lifts	2010	6	15	0.646663	0.543	4.927	3.62771	0.005	0.322	0.296	583.4159	0.17
Aerial Lifts	2010	16	25	0.646663	0.543	4.927	3.62771	0.005	0.322	0.296	583.4159	0.17
Aerial Lifts	2010	26	50	0.646663	0.543	4.927	3.62771	0.005	0.322	0.296	583.4159	0.17
Aerial Lifts	2010	51	120	0.478206	0.402	5.13121	3.35167	0.005	0.329	0.303	524.5713	0.153
Aerial Lifts	2010	251	500	0.542967	0.456	7.02372	1.70527	0.005	0.22	0.202	524.505	0.153
Aerial Lifts	2010	501	750	54.853	0.409	5.216	1.535	0.005	0.16	0.16	568.299	0.036
Aerial Lifts	2011	6	15	0.492997	0.414	4.84101	3.43961	0.005	0.274	0.253	581.9574	0.17
Aerial Lifts	2011	16	25	0.492997	0.414	4.84101	3.43961	0.005	0.274	0.253	581.9574	0.17
Aerial Lifts	2011	26	50	0.492997	0.414	4.84101	3.43961	0.005	0.274	0.253	581.9574	0.17
Aerial Lifts	2011	51	120	0.406188	0.341	4.72007	3.31532	0.005	0.287	0.264	523.2599	0.153
Aerial Lifts	2011	251	500	0.547278	0.46	7.05257	1.71344	0.005	0.222	0.204	523.1938	0.153
Aerial Lifts	2011	501	750	50.06	0.373	4.839	1.402	0.005	0.144	0.144	568.299	0.033
Aerial Lifts	2012	6	15	0.448839	0.377	4.66755	3.41137	0.005	0.247	0.227	580.4989	0.17
Aerial Lifts	2012	16	25	0.448839	0.377	4.66755	3.41137	0.005	0.247	0.227	580.4989	0.17
Aerial Lifts	2012	26	50	0.448839	0.377	4.66755	3.41137	0.005	0.247	0.227	580.4989	0.17
Aerial Lifts	2012	51	120	0.348327	0.293	4.38748	3.28979	0.005	0.251	0.231	521.9485	0.153
Aerial Lifts	2012	251	500	0.551589	0.463	7.08141	1.72161	0.005	0.225	0.207	521.8825	0.153
Aerial Lifts	2012	501	750	46.364	0.346	4.488	1.307	0.005	0.131	0.131	568.299	0.031
Aerial Lifts	2013	6	15	0.365114	0.307	4.33199	3.29997	0.005	0.196	0.18	577.5818	0.17
Aerial Lifts	2013	16	25	0.365114	0.307	4.33199	3.29997	0.005	0.196	0.18	577.5818	0.17
Aerial Lifts	2013	26	50	0.365114	0.307	4.33199	3.29997	0.005	0.196	0.18	577.5818	0.17
Aerial Lifts	2013	51	120	0.288639	0.243	3.92887	3.25075	0.005	0.202	0.186	519.3256	0.153
Aerial Lifts	2013	251	500	0.277309	0.233	4.58384	0.97787	0.005	0.1	0.092	519.26	0.153
Aerial Lifts	2013	501	750	43.268	0.322	4.155	1.237	0.005	0.119	0.119	568.299	0.029
Aerial Lifts	2014	6	15	0.309966	0.26	4.09559	3.23337	0.005	0.158	0.145	574.6647	0.17
Aerial Lifts	2014	16	25	0.309966	0.26	4.09559	3.23337	0.005	0.158	0.145	574.6647	0.17
Aerial Lifts	2014	26	50	0.309966	0.26	4.09559	3.23337	0.005	0.158	0.145	574.6647	0.17
Aerial Lifts	2014	51	120	0.240786	0.202	3.37278	3.2195	0.005	0.161	0.148	516.7028	0.153
Aerial Lifts	2014	251	500	0.281092	0.236	4.60231	0.98271	0.005	0.101	0.093	516.6375	0.153
Aerial Lifts	2014	501	750	40.165	0.299	3.761	1.178	0.005	0.109	0.109	568.299	0.027
Aerial Lifts	2015	6	15	0.295589	0.248	3.93284	3.23342	0.005	0.136	0.125	568.8305	0.17
Aerial Lifts	2015	16	25	0.295589	0.248	3.93284	3.23342	0.005	0.136	0.125	568.8305	0.17
Aerial Lifts	2015	26	50	0.295589	0.248	3.93284	3.23342	0.005	0.136	0.125	568.8305	0.17
Aerial Lifts	2015	51	120	0.226785	0.191	3.1134	3.21782	0.005	0.143	0.132	511.457	0.153
Aerial Lifts	2015	251	500	0.284874	0.239	4.62077	0.98755	0.005	0.102	0.094	511.3924	0.153
Aerial Lifts	2015	501	750	37.246	0.278	3.38	1.13	0.005	0.098	0.098	568.299	0.025
Aerial Lifts	2016	6	15	0.271111	0.228	3.67571	3.19737	0.005	0.105	0.096	562.9964	0.17
Aerial Lifts	2016	16	25	0.271111	0.228	3.67571	3.19737	0.005	0.105	0.096	562.9964	0.17
Aerial Lifts	2016	26	50	0.271111	0.228	3.67571	3.19737	0.005	0.105	0.096	562.9964	0.17
Aerial Lifts	2016	51	120	0.196986	0.166	2.72218	3.20103	0.005	0.112	0.103	506.2113	0.153
Aerial Lifts	2016	251	500	0.288656	0.243	4.63924	0.99238	0.005	0.103	0.095	506.1474	0.153
Aerial Lifts	2016	501	750	34.529	0.257	3.015	1.089	0.005	0.088	0.088	568.299	0.023
Aerial Lifts	2017	6	15	0.248829	0.209	3.46956	3.16913	0.005	0.079	0.073	554.2451	0.17
Aerial Lifts	2017	16	25	0.248829	0.209	3.46956	3.16913	0.005	0.079	0.073	554.2451	0.17
Aerial Lifts	2017	26	50	0.248829	0.209	3.46956	3.16913	0.005	0.079	0.073	554.2451	0.17
Aerial Lifts	2017	51	120	0.169799	0.143	2.36368	3.18429	0.005	0.083	0.077	498.3428	0.153
Aerial Lifts	2017	251	500	0.292438	0.246	4.6577	0.99722	0.005	0.105	0.096	498.2798	0.153
Aerial Lifts	2017	501	750	32.148	0.239	2.68	1.059	0.005	0.079	0.079	568.299	0.021
Aerial Lifts	2018	6	15	0.216292	0.182	3.2101	3.11639	0.005	0.054	0.05	545.4939	0.17
Aerial Lifts	2018	16	25	0.216292	0.182	3.2101	3.11639	0.005	0.054	0.05	545.4939	0.17
Aerial Lifts	2018	26	50	0.216292	0.182	3.2101	3.11639	0.005	0.054	0.05	545.4939	0.17
Aerial Lifts	2018	51	120	0.145088	0.122	2.0636	3.16685	0.005	0.057	0.052	490.4742	0.153
Aerial Lifts	2018	251	500	0.074117	0.062	0.63368	0.93655	0.005	0.009	0.008	490.4122	0.153
Aerial Lifts	2018	501	750	30.169	0.225	2.385	1.037	0.005	0.071	0.071	568.299	0.02
Aerial Lifts	2019	6	15	0.204518	0.172	3.07945	3.11451	0.005	0.042	0.038	536.7427	0.17
Aerial Lifts	2019	16	25	0.204518	0.172	3.07945	3.11451	0.005	0.042	0.038	536.7427	0.17
Aerial Lifts	2019	26	50	0.204518	0.172	3.07945	3.11451	0.005	0.042	0.038	536.7427	0.17
Aerial Lifts	2019	51	120	0.14071	0.118	1.97658	3.17254	0.005	0.049	0.045	482.6056	0.153
Aerial Lifts	2019	251	500	0.077988	0.066	0.63586	0.94139	0.005	0.009	0.008	482.5446	0.153
Aerial Lifts	2019	501	750	28.429	0.212	2.117	1.023	0.005	0.064	0.064	568.299	0.019
Aerial Lifts	2020	6	15	0.199447	0.168	2.95486	3.09942	0.005	0.031	0.028	525.0743	0.17
Aerial Lifts	2020	16	25	0.199447	0.168	2.95486	3.09942	0.005	0.031	0.028	525.0743	0.17
Aerial Lifts	2020	26	50	0.199447	0.168	2.95486	3.09942	0.005	0.031	0.028	525.0743	0.17
Aerial Lifts	2020	51	120	0.136778	0.115	1.86859	3.1768	0.005	0.042	0.038	472.1143	0.153
Aerial Lifts	2020	251	500	0.081859	0.069	0.63803	0.94623	0.005	0.009	0.008	472.0545	0.153
Aerial Lifts	2020	501	750	26.846	0.2	1.868	1.013	0.005	0.057	0.057	568.299	0.018
Aerial Lifts	2021	6	15	0.196174	0.165	2.92238	3.11369	0.005	0.027	0.024	525.0743	0.17
Aerial Lifts	2021	16	25	0.196174	0.165	2.92238	3.11369	0.005	0.027	0.024	525.0743	0.17

Year	Year	Horsepower	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	TOG
2018	Aerial Lifts	63	0.12	2.06	3.17	0.01	0.00	0.06	0.06	0.00	0.05	0.05	490.47	0.15	0.02	0.15
2018	Air Compressors	78	0.60	4.05	3.74	0.01	0.00	0.30	0.30	0.00	0.30	0.30	568.30	0.05	0.03	10.22
2018	Bore/Drill Rigs	221	0.16	2.15	1.07	0.01	0.00	0.06	0.06	0						

Aerial Lifts	2021	26	50	0.196174	0.165	2.92238	3.11369	0.005	0.027	0.024	525.0743	0.17
Aerial Lifts	2021	51	120	0.129509	0.109	1.74368	3.17624	0.005	0.033	0.031	472.1142	0.153
Aerial Lifts	2021	251	500	0.08573	0.072	0.64021	0.95107	0.005	0.009	0.008	472.0545	0.153
Aerial Lifts	2021	501	750	25.065	0.187	1.61	1.004	0.005	0.05	0.05	568.299	0.016
Aerial Lifts	2022	6	15	0.192664	0.162	2.90676	3.11231	0.005	0.024	0.022	525.0743	0.17
Aerial Lifts	2022	16	25	0.192664	0.162	2.90676	3.11231	0.005	0.024	0.022	525.0743	0.17
Aerial Lifts	2022	26	50	0.192664	0.162	2.90676	3.11231	0.005	0.024	0.022	525.0743	0.17
Aerial Lifts	2022	51	120	0.124613	0.105	1.62659	3.17602	0.005	0.03	0.028	472.1142	0.153
Aerial Lifts	2022	251	500	0.089601	0.075	0.64238	0.95591	0.005	0.009	0.008	472.0545	0.153
Aerial Lifts	2022	501	750	23.788	0.177	1.424	0.998	0.005	0.044	0.044	568.299	0.016
Aerial Lifts	2023	6	15	0.19346	0.163	2.89722	3.12196	0.005	0.023	0.021	525.0743	0.17
Aerial Lifts	2023	16	25	0.19346	0.163	2.89722	3.12196	0.005	0.023	0.021	525.0743	0.17
Aerial Lifts	2023	26	50	0.19346	0.163	2.89722	3.12196	0.005	0.023	0.021	525.0743	0.17
Aerial Lifts	2023	51	120	0.119594	0.1	1.5481	3.17029	0.005	0.027	0.025	472.1142	0.153
Aerial Lifts	2023	251	500	0.093472	0.079	0.64456	0.96074	0.005	0.009	0.008	472.0545	0.153
Aerial Lifts	2023	501	750	22.675	0.169	1.265	0.995	0.005	0.038	0.038	568.299	0.015
Aerial Lifts	2024	6	15	0.188737	0.159	2.88821	3.11285	0.005	0.022	0.02	525.0743	0.17
Aerial Lifts	2024	16	25	0.188737	0.159	2.88821	3.11285	0.005	0.022	0.02	525.0743	0.17
Aerial Lifts	2024	26	50	0.188737	0.159	2.88821	3.11285	0.005	0.022	0.02	525.0743	0.17
Aerial Lifts	2024	51	120	0.119572	0.1	1.52789	3.17255	0.005	0.026	0.024	472.1142	0.153
Aerial Lifts	2024	251	500	0.097343	0.082	0.64674	0.96558	0.005	0.009	0.009	472.0545	0.153
Aerial Lifts	2024	501	750	21.618	0.161	1.115	0.991	0.005	0.033	0.033	568.299	0.014
Aerial Lifts	2025	6	15	0.182854	0.154	2.87882	3.08837	0.005	0.021	0.019	525.0743	0.17
Aerial Lifts	2025	16	25	0.182854	0.154	2.87882	3.08837	0.005	0.021	0.019	525.0743	0.17
Aerial Lifts	2025	26	50	0.182854	0.154	2.87882	3.08837	0.005	0.021	0.019	525.0743	0.17
Aerial Lifts	2025	51	120	0.117586	0.099	1.51077	3.16742	0.005	0.026	0.024	472.1142	0.153
Aerial Lifts	2025	251	500	0.101214	0.085	0.64891	0.97042	0.005	0.009	0.009	472.0545	0.153
Aerial Lifts	2025	501	750	20.597	0.153	0.974	0.989	0.005	0.028	0.028	568.299	0.013
Aerial Lifts	2030	6	15	1.993	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Aerial Lifts	2030	16	25	2.616	0.685	4.332	3.239	0.007	0.162	0.162	568.299	0.061
Aerial Lifts	2030	26	50	2.317	0.339	3.135	3.764	0.007	0.04	0.04	568.3	0.03
Aerial Lifts	2030	51	120	2.504	0.188	1.657	3.352	0.006	0.036	0.036	568.299	0.017
Aerial Lifts	2030	251	500	9.37	0.126	0.479	0.986	0.005	0.016	0.016	568.299	0.011
Aerial Lifts	2030	501	750	16.962	0.126	0.485	0.986	0.005	0.016	0.016	568.299	0.011
Aerial Lifts	2035	6	15	1.993	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Aerial Lifts	2035	16	25	2.616	0.685	4.332	3.239	0.007	0.161	0.161	568.299	0.061
Aerial Lifts	2035	26	50	2.033	0.297	3.017	3.726	0.007	0.019	0.019	568.299	0.026
Aerial Lifts	2035	51	120	2.202	0.166	1.466	3.345	0.006	0.017	0.017	568.299	0.014
Aerial Lifts	2035	251	500	8.659	0.116	0.33	0.986	0.005	0.011	0.011	568.299	0.01
Aerial Lifts	2035	501	750	15.653	0.116	0.33	0.986	0.005	0.011	0.011	568.299	0.01
Aerial Lifts	2040	6	15	1.993	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Aerial Lifts	2040	16	25	2.616	0.685	4.332	3.239	0.007	0.161	0.161	568.299	0.061
Aerial Lifts	2040	26	50	2.015	0.295	2.966	3.723	0.007	0.013	0.013	568.299	0.026
Aerial Lifts	2040	51	120	2.141	0.161	1.407	3.344	0.006	0.012	0.012	568.299	0.014
Aerial Lifts	2040	251	500	8.324	0.112	0.279	0.986	0.005	0.009	0.009	568.299	0.01
Aerial Lifts	2040	501	750	15.046	0.112	0.279	0.986	0.005	0.009	0.009	568.299	0.01
Air Compressors	1990	6	15	4.702	1.804	9.999	4.999	1.018	0.974	0.974	568.299	0.162
Air Compressors	1990	16	25	11.537	2.213	6.919	4.999	0.83	0.74	0.74	568.299	0.199
Air Compressors	1990	26	50	34.016	4.232	7.735	8.684	0.846	1.152	1.152	568.3	0.381
Air Compressors	1990	51	120	37.275	2.2	14.348	5.46	0.768	1.216	1.216	568.299	0.198
Air Compressors	1990	121	175	48.032	1.504	12.906	4.835	0.736	0.806	0.806	568.299	0.135
Air Compressors	1990	176	250	71.231	1.504	12.906	4.835	0.736	0.806	0.806	568.299	0.135
Air Compressors	1990	251	500	112.803	1.348	12.363	9.633	0.642	0.704	0.704	568.299	0.121
Air Compressors	1990	501	750	174.334	1.348	12.363	9.633	0.658	0.704	0.704	568.299	0.121
Air Compressors	1990	751	1000	235.953	1.344	12.363	9.633	0.658	0.699	0.699	568.3	0.121
Air Compressors	2000	6	15	4.493	1.723	9.08	4.875	0.747	0.747	0.747	568.299	0.155
Air Compressors	2000	16	25	10.924	2.095	6.405	4.783	0.065	0.569	0.569	568.299	0.189
Air Compressors	2000	26	50	31.858	3.963	6.902	8.261	0.066	0.851	0.851	568.299	0.357
Air Compressors	2000	51	120	30.02	1.771	10.276	4.544	0.06	0.835	0.835	568.3	0.159
Air Compressors	2000	121	175	37.86	1.185	9.332	3.7	0.057	0.494	0.494	568.299	0.106
Air Compressors	2000	176	250	47.101	0.994	8.985	2.949	0.057	0.406	0.406	568.299	0.089
Air Compressors	2000	251	500	76.009	0.908	8.611	5.008	0.05	0.36	0.36	568.299	0.082
Air Compressors	2000	501	750	117.469	0.908	8.611	5.008	0.051	0.36	0.36	568.299	0.082
Air Compressors	2000	751	1000	176.359	1.004	9.212	5.6	0.051	0.379	0.379	568.299	0.09
Air Compressors	2005	6	15	3.634	1.394	7.817	4.38	0.079	0.621	0.621	568.299	0.125
Air Compressors	2005	16	25	8.461	1.622	6.014	3.922	0.065	0.483	0.483	568.299	0.146
Air Compressors	2005	26	50	28.493	3.545	6.447	7.671	0.066	0.792	0.792	568.299	0.139
Air Compressors	2005	51	120	25.731	1.518	8.646	4.196	0.06	0.775	0.775	568.299	0.137
Air Compressors	2005	121	175	31.762	0.994	7.911	3.339	0.057	0.428	0.428	568.299	0.089
Air Compressors	2005	176	250	33.701	0.711	7.465	1.989	0.057	0.281	0.281	568.299	0.064
Air Compressors	2005	251	500	52.734	0.63	6.868	2.602	0.05	0.252	0.252	568.299	0.056
Air Compressors	2005	501	750	83.252	0.644	7.019	2.602	0.051	0.255	0.255	568.299	0.058
Air Compressors	2005	751	1000	135.834	0.773	8.036	3.154	0.051	0.271	0.271	568.299	0.069
Air Compressors	2010	6	15	2.931	1.124	6.554	4.027	0.008	0.473	0.473	568.299	0.101
Air Compressors	2010	16	25	6.607	1.267	5.477	3.209	0.007	0.384	0.384	568.299	0.114
Air Compressors	2010	26	50	23.546	2.929	6.067	7.121	0.007	0.669	0.669	568.299	0.264
Air Compressors	2010	51	120	20.566	1.213	7.183	4.044	0.006	0.653	0.653	568.299	0.109
Air Compressors	2010	121	175	25.827	0.808	6.422	3.277	0.006	0.361	0.361	568.299	0.072
Air Compressors	2010	176	250	24.871	0.525	6.008	1.468	0.006	0.198	0.198	568.299	0.047
Air Compressors	2010	251	500	39.447	0.471	5.363	1.648	0.005	0.182	0.182	568.299	0.042
Air Compressors	2010	501	750	62.011	0.479	5.507	1.648	0.005	0.185	0.185	568.299	0.043
Air Compressors	2010	751	1000	105.623	0.601	6.994	2.147	0.005	0.209	0.209	568.299	0.054
Air Compressors	2011	6	15	2.782	1.067	6.283	3.952	0.008	0.441	0.441	568.299	0.096
Air Compressors	2011	16	25	6.215	1.192	5.36	3.179	0.007	0.361	0.361	568.299	0.107
Air Compressors	2011	26	50	22.03	2.741	5.972	6.919	0.007	0.636	0.636	568.299	0.247
Air Compressors	2011	51	120	19.321	1.14	6.805	4.005	0.006	0.626	0.626	568.299	0.102
Air Compressors	2011	121	175	24.432	0.765	6.065	3.264	0.006	0.347	0.347	568.299	0.069
Air Compressors	2011	176	250	22.999	0.485	5.603	1.372	0.006	0.177	0.177	568.299	0.043
Air Compressors	2011	251	500	36.661	0.438	4.981	1.497	0.005	0.165	0.165	568.299	0.039

Other General Industrial Equipment	2020	88	0.45	4.06	3.77	0.01	0.00	0.30	0.30	0.00	0.27	0.27	470.00	0.15	0.02	0.53
Other Material Handling Equipment	2020	168	0.25	2.37	3.17	0.01	0.00	0.12	0.12	0.00	0.11	0.11	472.22	0.15	0.02	0.30
Pavers	2020	130	0.27	2.92	3.01	0.01	0.00	0.14	0.14	0.00	0.13	0.13	472.77	0.15	0.02	0.32
Paving Equipment	2020	132	0.25	2.55	3											

Air Compressors	2011	501	750	57.58	0.445	5.123	1.497	0.005	0.167	0.167	568.299	0.04	Aerial Lifts	2023	63	0.10	1.55	3.17	0.01	0.00	0.03	0.03	0.00	0.03	0.03	472.11	0.15	0.02	0.12
Air Compressors	2011	751	1000	98.738	0.562	6.637	1.971	0.005	0.196	0.196	568.299	0.05	Air Compressors	2023	78	0.39	2.63	3.66	0.01	0.00	0.14	0.14	0.00	0.14	0.14	568.30	0.03	0.03	6.57
Air Compressors	2012	6	15	2.626	1.007	5.999	3.874	0.008	0.407	0.407	568.299	0.09	Bore/Drill Rigs	2023	221	0.11	1.05	1.04	0.01	0.00	0.03	0.03	0.00	0.03	0.03	469.71	0.15	0.02	0.13
Air Compressors	2012	16	25	5.803	1.113	5.239	3.043	0.007	0.337	0.337	568.299	0.1	Cement and Mortar Mixers	2023	9	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.03	1.08
Air Compressors	2012	26	50	20.318	2.527	5.869	6.682	0.007	0.6	0.6	568.299	0.228	Concrete/Industrial Saws	2023	81	0.32	2.48	3.51	0.01	0.00	0.12	0.12	0.00	0.12	0.12	568.30	0.03	0.03	3.22
Air Compressors	2012	51	120	17.991	1.061	6.39	3.964	0.006	0.587	0.587	568.299	0.095	Cranes	2023	231	0.30	3.23	1.55	0.01	0.00	0.14	0.14	0.00	0.12	0.12	472.97	0.15	0.02	0.35
Air Compressors	2012	121	175	22.92	0.717	5.684	3.251	0.006	0.324	0.324	568.299	0.064	Crawler Tractors	2023	212	0.28	3.19	1.40	0.01	0.00	0.12	0.12	0.00	0.11	0.11	471.62	0.15	0.02	0.33
Air Compressors	2012	176	250	21.576	0.455	5.216	1.312	0.006	0.161	0.161	568.299	0.041	Crushing/Proc. Equipment	2023	85	0.39	2.55	3.70	0.01	0.00	0.13	0.13	0.00	0.13	0.13	568.30	0.03	0.03	1.91
Air Compressors	2012	251	500	34.608	0.413	4.618	1.392	0.005	0.15	0.15	568.299	0.037	Dumpers/Tenders	2023	16	0.69	4.33	2.34	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.03	0.82
Air Compressors	2012	501	750	54.283	0.419	4.758	1.392	0.005	0.153	0.153	568.299	0.037	Excavators	2023	158	0.18	1.46	3.08	0.01	0.00	0.07	0.07	0.00	0.07	0.07	472.28	0.15	0.02	0.21
Air Compressors	2012	751	1000	91.671	0.522	6.263	1.8	0.005	0.183	0.183	568.299	0.047	Forklifts	2023	89	0.33	3.06	3.65	0.01	0.00	0.19	0.19	0.00	0.17	0.17	471.53	0.15	0.02	0.39
Air Compressors	2013	6	15	2.471	0.948	5.716	3.796	0.008	0.373	0.373	568.299	0.085	Generator Sets	2023	84	0.28	2.48	3.35	0.01	0.00	0.12	0.12	0.00	0.12	0.12	568.30	0.03	0.03	5.67
Air Compressors	2013	16	25	5.393	1.034	5.117	2.907	0.007	0.314	0.314	568.299	0.093	Graders	2023	187	0.28	3.44	1.25	0.01	0.00	0.11	0.11	0.00	0.10	0.10	473.93	0.15	0.02	0.34
Air Compressors	2013	26	50	18.508	2.302	5.643	6.43	0.007	0.553	0.553	568.299	0.207	Off-Highway Tractors	2023	124	0.20	1.78	3.14	0.01	0.00	0.09	0.09	0.00	0.08	0.08	473.00	0.15	0.02	0.24
Air Compressors	2013	51	120	16.632	0.981	5.978	3.921	0.006	0.543	0.543	568.299	0.088	Off-Highway Trucks	2023	402	0.19	1.32	1.22	0.01	0.00	0.05	0.05	0.00	0.04	0.04	475.05	0.15	0.02	0.22
Air Compressors	2013	121	175	21.377	0.669	5.321	3.238	0.006	0.298	0.298	568.299	0.06	Other Construction Equipment	2023	172	0.27	2.70	3.14	0.01	0.00	0.14	0.14	0.00	0.13	0.13	469.56	0.15	0.02	0.33
Air Compressors	2013	176	250	20.386	0.43	4.839	1.271	0.006	0.147	0.147	568.299	0.038	Other General Industrial Equipment	2023	88	0.21	2.92	3.65	0.01	0.00	0.17	0.17	0.00	0.16	0.16	470.00	0.15	0.02	0.37
Air Compressors	2013	251	500	32.936	0.393	4.268	1.313	0.005	0.137	0.137	568.3	0.035	Other Material Handling Equipment	2023	168	0.32	1.77	3.17	0.01	0.00	0.10	0.10	0.00	0.09	0.09	472.22	0.15	0.02	0.26
Air Compressors	2013	501	750	51.584	0.399	4.406	1.313	0.005	0.14	0.14	568.299	0.036	Pavers	2023	130	0.20	1.96	2.99	0.01	0.00	0.09	0.09	0.00	0.09	0.09	472.72	0.15	0.02	0.24
Air Compressors	2013	751	1000	84.725	0.482	5.883	1.639	0.005	0.17	0.17	568.299	0.043	Paving Equipment	2023	132	0.20	1.91	3.05	0.01	0.00	0.09	0.09	0.00	0.09	0.09	470.66	0.15	0.02	0.24
Air Compressors	2014	6	15	2.324	0.891	5.445	3.723	0.008	0.341	0.341	568.3	0.08	Plate Compactors	2023	8	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.03	0.79
Air Compressors	2014	16	25	5.008	0.96	5	2.78	0.007	0.291	0.291	568.299	0.086	Pressure Washers	2023	13	0.62	4.35	3.51	0.01	0.00	0.19	0.19	0.00	0.19	0.19	568.30	0.06	0.03	1.71
Air Compressors	2014	26	50	16.691	2.076	5.421	6.181	0.007	0.505	0.505	568.299	0.187	Pumps	2023	84	0.30	2.51	3.40	0.01	0.00	0.12	0.12	0.00	0.12	0.12	568.30	0.03	0.03	6.84
Air Compressors	2014	51	120	15.28	0.901	5.608	3.88	0.006	0.495	0.495	568.299	0.081	Rollers	2023	80	0.29	3.00	3.45	0.01	0.00	0.17	0.17	0.00	0.15	0.15	473.94	0.15	0.02	0.34
Air Compressors	2014	121	175	19.856	0.621	4.973	3.227	0.006	0.272	0.272	568.299	0.056	Rough Terrain Forklifts	2023	100	0.15	1.98	3.24	0.01	0.00	0.06	0.06	0.00	0.06	0.06	473.16	0.15	0.02	0.18
Air Compressors	2014	176	250	19.194	0.405	4.399	1.237	0.006	0.134	0.134	568.299	0.036	Rubber Tired Dozers	2023	247	0.39	4.09	1.78	0.01	0.00	0.18	0.18	0.00	0.17	0.17	474.60	0.15	0.02	0.47
Air Compressors	2014	251	500	31.25	0.373	3.855	1.249	0.005	0.125	0.125	568.299	0.033	Rubber Tired Loaders	2023	203	0.21	2.06	1.17	0.01	0.00	0.07	0.07	0.00	0.06	0.06	469.82	0.15	0.02	0.25
Air Compressors	2014	501	750	48.868	0.378	3.991	1.249	0.005	0.128	0.128	568.299	0.034	Scrapers	2023	367	0.25	2.67	1.98	0.01	0.00	0.11	0.11	0.00	0.10	0.10	473.18	0.15	0.02	0.30
Air Compressors	2014	751	1000	78.19	0.445	5.512	1.493	0.005	0.157	0.157	568.3	0.04	Signal Boards	2023	6	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.03	1.04
Air Compressors	2015	6	15	2.191	0.84	5.196	3.658	0.008	0.311	0.311	568.299	0.075	Skid Steer Loaders	2023	65	0.15	2.04	3.27	0.01	0.00	0.07	0.07	0.00	0.06	0.06	472.66	0.15	0.02	0.18
Air Compressors	2015	16	25	4.662	0.894	4.89	2.666	0.007	0.27	0.27	568.299	0.08	Surfacing Equipment	2023	263	0.13	1.48	1.16	0.01	0.00	0.06	0.06	0.00	0.05	0.05	470.37	0.15	0.02	0.16
Air Compressors	2015	26	50	15.015	1.868	5.223	5.968	0.007	0.459	0.459	568.299	0.168	Sweepers/Scrubbers	2023	64	0.35	3.29	3.69	0.01	0.00	0.21	0.21	0.00	0.19	0.19	474.12	0.15	0.02	0.42
Air Compressors	2015	51	120	13.925	0.821	5.19	3.84	0.006	0.446	0.446	568.299	0.074	Tractors/Loaders/Backhoes	2023	97	0.24	2.43	3.53	0.01	0.00	0.12	0.12	0.00	0.11	0.11	476.43	0.15	0.02	0.28
Air Compressors	2015	121	175	18.243	0.571	4.504	3.218	0.006	0.245	0.245	568.299	0.051	Trenchers	2023	78	0.50	4.70	3.77	0.01	0.00	0.33	0.33	0.00	0.30	0.30	475.69	0.15	0.02	0.60
Air Compressors	2015	176	250	18.067	0.381	3.967	1.207	0.006	0.121	0.121	568.299	0.034	Welders	2023	46	0.70	3.89	4.60	0.01	0.00	0.15	0.15	0.00	0.15	0.15	568.30	0.06	0.03	7.32
Air Compressors	2015	251	500	29.662	0.354	3.455	1.198	0.005	0.113	0.113	568.3	0.032	Aerial Lifts	2024	63	0.10	1.53	3.17	0.01	0.00	0.03	0.03	0.00	0.02	0.02	472.11	0.15	0.02	0.12
Air Compressors	2015	501	750	46.316	0.358	3.586	1.198	0.005	0.116	0.116	568.299	0.032	Air Compressors	2024	78	0.37	2.46	3.66	0.01	0.00	0.12	0.12	0.00	0.12	0.12	568.30	0.03	0.03	6.19
Air Compressors	2015	751	1000	71.885	0.409	5.157	1.37	0.005	0.142	0.142	568.299	0.036	Bore/Drill Rigs	2024	221	0.11	0.98	1.05	0.01	0.00	0.03	0.03	0.00	0.03	0.03	470.71	0.15	0.02	0.13
Air Compressors	2016	6	15	2.109	0.809	5.023	3.622	0.008	0.289	0.289	568.299	0.073	Cement and Mortar Mixers	2024	9	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.03	1.08
Air Compressors	2016	16	25	4.462	0.855	4.803	2.604	0.007	0.255	0.255	568.299	0.077	Concrete/Industrial Saws	2024	81	0.30	2.32	3.50	0.01	0.00	0.11	0.11	0.00	0.11	0.11	568.30	0.03	0.03	3.02
Air Compressors	2016	26	50	13.429	1.67	5.042	5.779	0.007	0.415	0.415	568.299	0.15	Cranes	2024	231	0.28	2.97	1.50	0.01	0.00	0.12	0.12	0.00	0.11	0.11	472.96	0.15	0.02	0.33
Air Compressors	2016	51	120	12.618	0.744	4.79	3.804	0.006	0.397	0.397	568.299	0.067	Crawler Tractors	2024	212	0.26	2.95	1.37	0.01	0.00	0.12	0.12	0.00	0.11	0.11	471.86	0.15	0.02	0.31
Air Compressors	2016	121	175	16.69	0.522	4.052	3.211	0.006	0.219	0.219	568.299	0.047	Crushing/Proc. Equipment	2024	85	0.36	2.39	3.70	0.01	0.00	0.11	0.11	0.00	0.11	0.11	568.30	0.03	0.03	1.81
Air Compressors	2016	176	250	17.023	0.359	3.553	1.182																						



Air Compressors	2021	251	500	21.887	0.261	1.663	1.064	0.005	0.058	0.058	568.299	0.023
Air Compressors	2021	501	750	33.933	0.262	1.699	1.064	0.005	0.058	0.058	568.299	0.023
Air Compressors	2021	751	1000	49.951	0.284	3.565	1.134	0.005	0.082	0.082	568.3	0.025
Air Compressors	2022	6	15	1.844	0.707	4.408	3.519	0.008	0.203	0.203	568.299	0.063
Air Compressors	2022	16	25	3.857	0.739	4.47	2.426	0.007	0.193	0.193	568.299	0.066
Air Compressors	2022	26	50	6.549	0.814	4.093	4.959	0.007	0.183	0.183	568.299	0.073
Air Compressors	2022	51	120	7.001	0.413	2.844	3.662	0.006	0.165	0.165	568.299	0.037
Air Compressors	2022	121	175	10.29	0.322	1.959	3.194	0.006	0.101	0.101	568.299	0.029
Air Compressors	2022	176	250	12.099	0.255	1.617	1.102	0.006	0.052	0.052	568.3	0.023
Air Compressors	2022	251	500	20.881	0.249	1.472	1.059	0.005	0.051	0.051	568.299	0.022
Air Compressors	2022	501	750	32.363	0.25	1.502	1.059	0.005	0.051	0.051	568.299	0.022
Air Compressors	2022	751	1000	47.338	0.269	3.378	1.117	0.005	0.075	0.075	568.3	0.024
Air Compressors	2023	6	15	1.82	0.698	4.359	3.508	0.008	0.194	0.194	568.299	0.063
Air Compressors	2023	16	25	3.798	0.728	4.447	2.407	0.007	0.186	0.186	568.299	0.065
Air Compressors	2023	26	50	6.056	0.753	3.975	4.913	0.007	0.156	0.156	568.299	0.067
Air Compressors	2023	51	120	6.568	0.387	2.631	3.657	0.006	0.143	0.143	568.299	0.034
Air Compressors	2023	121	175	9.693	0.303	1.748	3.197	0.006	0.089	0.089	568.299	0.027
Air Compressors	2023	176	250	11.532	0.243	1.42	1.099	0.006	0.045	0.045	568.299	0.021
Air Compressors	2023	251	500	19.964	0.238	1.305	1.055	0.005	0.044	0.044	568.299	0.021
Air Compressors	2023	501	750	30.933	0.239	1.331	1.055	0.005	0.044	0.044	568.299	0.021
Air Compressors	2023	751	1000	44.985	0.256	3.221	1.102	0.005	0.068	0.068	568.299	0.023
Air Compressors	2024	6	15	1.799	0.69	4.316	3.499	0.008	0.188	0.188	568.3	0.062
Air Compressors	2024	16	25	3.746	0.718	4.426	2.39	0.007	0.181	0.181	568.3	0.064
Air Compressors	2024	26	50	5.647	0.702	3.864	4.88	0.007	0.135	0.135	568.299	0.063
Air Compressors	2024	51	120	6.194	0.365	2.461	3.655	0.006	0.123	0.123	568.299	0.032
Air Compressors	2024	121	175	9.143	0.286	1.561	3.202	0.006	0.077	0.077	568.299	0.025
Air Compressors	2024	176	250	10.986	0.232	1.247	1.096	0.006	0.039	0.039	568.299	0.02
Air Compressors	2024	251	500	19.07	0.228	1.148	1.053	0.005	0.038	0.038	568.299	0.02
Air Compressors	2024	501	750	29.542	0.228	1.171	1.053	0.005	0.038	0.038	568.299	0.02
Air Compressors	2024	751	1000	42.762	0.243	3.082	1.09	0.005	0.061	0.061	568.299	0.021
Air Compressors	2025	6	15	1.781	0.683	4.278	3.491	0.008	0.183	0.183	568.3	0.061
Air Compressors	2025	16	25	3.701	0.709	4.407	2.376	0.007	0.177	0.177	568.299	0.064
Air Compressors	2025	26	50	5.297	0.659	3.755	4.851	0.007	0.116	0.116	568.299	0.059
Air Compressors	2025	51	120	5.855	0.345	2.313	3.653	0.006	0.104	0.104	568.299	0.031
Air Compressors	2025	121	175	8.602	0.269	1.383	3.205	0.006	0.065	0.065	568.299	0.024
Air Compressors	2025	176	250	10.451	0.22	1.086	1.094	0.006	0.033	0.033	568.299	0.019
Air Compressors	2025	251	500	18.188	0.217	1.001	1.051	0.005	0.032	0.032	568.299	0.019
Air Compressors	2025	501	750	28.169	0.217	1.021	1.051	0.005	0.032	0.032	568.299	0.019
Air Compressors	2025	751	1000	40.592	0.231	2.954	1.079	0.005	0.055	0.055	568.299	0.02
Air Compressors	2030	6	15	1.73	0.663	4.164	3.47	0.008	0.166	0.166	568.299	0.059
Air Compressors	2030	16	25	3.582	0.687	4.347	2.34	0.007	0.165	0.165	568.299	0.061
Air Compressors	2030	26	50	4.073	0.506	3.34	4.712	0.007	0.046	0.046	568.299	0.045
Air Compressors	2030	51	120	4.485	0.264	1.729	3.63	0.006	0.041	0.041	568.299	0.023
Air Compressors	2030	121	175	6.186	0.193	0.633	3.205	0.006	0.027	0.027	568.299	0.017
Air Compressors	2030	176	250	8.495	0.179	0.529	1.092	0.006	0.018	0.018	568.299	0.016
Air Compressors	2030	251	500	14.937	0.178	0.499	1.048	0.005	0.017	0.017	568.299	0.016
Air Compressors	2030	501	750	23.104	0.178	0.505	1.048	0.005	0.017	0.017	568.3	0.016
Air Compressors	2030	751	1000	32.103	0.182	2.6	1.049	0.005	0.033	0.033	568.299	0.016
Air Compressors	2035	6	15	1.724	0.661	4.143	3.469	0.008	0.162	0.162	568.3	0.059
Air Compressors	2035	16	25	3.574	0.685	4.332	2.339	0.007	0.162	0.162	568.299	0.061
Air Compressors	2035	26	50	3.722	0.463	3.215	4.674	0.007	0.023	0.023	568.299	0.041
Air Compressors	2035	51	120	4.047	0.238	1.53	3.623	0.006	0.02	0.02	568.299	0.021
Air Compressors	2035	121	175	5.429	0.17	0.391	3.205	0.006	0.015	0.015	568.3	0.015
Air Compressors	2035	176	250	7.862	0.166	0.347	1.091	0.006	0.012	0.012	568.299	0.014
Air Compressors	2035	251	500	13.882	0.166	0.343	1.048	0.005	0.012	0.012	568.299	0.014
Air Compressors	2035	501	750	21.455	0.166	0.344	1.048	0.005	0.012	0.012	568.299	0.014
Air Compressors	2035	751	1000	29.363	0.167	2.473	1.048	0.005	0.026	0.026	568.299	0.015
Air Compressors	2040	6	15	1.724	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Air Compressors	2040	16	25	3.574	0.685	4.332	2.339	0.007	0.161	0.161	568.3	0.061
Air Compressors	2040	26	50	3.683	0.458	3.159	4.659	0.007	0.016	0.016	568.3	0.041
Air Compressors	2040	51	120	3.94	0.232	1.468	3.619	0.006	0.015	0.015	568.299	0.02
Air Compressors	2040	121	175	5.155	0.161	0.307	3.201	0.006	0.012	0.012	568.299	0.014
Air Compressors	2040	176	250	7.58	0.16	0.291	1.09	0.006	0.01	0.01	568.299	0.014
Air Compressors	2040	251	500	13.386	0.16	0.291	1.047	0.005	0.01	0.01	568.3	0.014
Air Compressors	2040	501	750	20.688	0.16	0.291	1.047	0.005	0.01	0.01	568.299	0.014
Air Compressors	2040	751	1000	28.179	0.16	2.439	1.047	0.005	0.023	0.023	568.299	0.014
Bore/Drill Rigs	1990	6	15	4.968	1.804	9.999	4.999	1.049	0.975	0.975	568.299	0.162
Bore/Drill Rigs	1990	16	25	9.418	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Bore/Drill Rigs	1990	26	50	34.076	4.124	7.685	8.505	0.871	1.134	1.134	568.299	0.372
Bore/Drill Rigs	1990	51	120	42.911	2.09	13.647	5.23	0.791	1.172	1.172	568.299	0.188
Bore/Drill Rigs	1990	121	175	53.24	1.417	12.365	4.578	0.758	0.749	0.749	568.299	0.127
Bore/Drill Rigs	1990	176	250	70.987	1.417	12.365	4.578	0.758	0.749	0.749	568.299	0.127
Bore/Drill Rigs	1990	251	500	105.966	1.278	11.861	8.788	0.662	0.658	0.658	568.299	0.115
Bore/Drill Rigs	1990	501	750	209.372	1.278	11.861	8.788	1.018	0.67	0.67	568.3	0.115
Bore/Drill Rigs	1990	751	1000	313.129	1.267	11.861	8.788	1.018	0.656	0.656	568.3	0.114
Bore/Drill Rigs	2000	6	15	4.063	1.475	8.242	4.49	0.779	0.676	0.676	568.299	0.133
Bore/Drill Rigs	2000	16	25	8.334	1.958	6.358	4.53	0.065	0.563	0.563	568.299	0.176
Bore/Drill Rigs	2000	26	50	27.226	3.295	6.48	7.058	0.066	0.748	0.748	568.299	0.297
Bore/Drill Rigs	2000	51	120	30.002	1.461	8.27	3.947	0.06	0.726	0.726	568.299	0.131
Bore/Drill Rigs	2000	121	175	37.634	1.002	7.789	3.062	0.057	0.405	0.405	568.3	0.09
Bore/Drill Rigs	2000	176	250	32.523	0.649	7.203	1.698	0.057	0.238	0.238	568.3	0.058
Bore/Drill Rigs	2000	251	500	51.06	0.616	6.993	1.728	0.05	0.224	0.224	568.299	0.055
Bore/Drill Rigs	2000	501	750	100.887	0.616	6.993	1.728	0.052	0.224	0.224	568.299	0.055
Bore/Drill Rigs	2000	751	1000	199.748	0.808	8.005	2.73	0.052	0.282	0.282	568.299	0.072
Bore/Drill Rigs	2005	6	15	2.109	0.766	5.228	3.469	0.079	0.361	0.361	568.299	0.069
Bore/Drill Rigs	2005	16	25	3.913	0.919	5.412	2.642	0.065	0.347	0.347	568.299	0.082
Bore/Drill Rigs	2005	26	50	20.086	2.431	5.697	5.897	0.066	0.625	0.625	568.299	0.219
Bore/Drill Rigs	2005	51	120	24.211	1.179	6.895	3.812	0.06	0.64	0.64	568.3	0.106
Bore/Drill Rigs	2005	121	175	27.251	0.725	6.246	3.035	0.057	0.328	0.328	568.299	0.065

Paving Equipment	2025	132	0.18	1.51	3.04	0.01	0.00	0.08	0.08	0.00	0.07	0.07	470.48	0.15	0.02	0.21
Plate Compactors	2025	8	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.03	0.79
Pressure Washers	2025	13	0.61	4.27	3.49	0.01	0.00	0.18	0.18	0.00	0.18	0.18	568.30	0.05	0.03	1.67
Pumps	2025	84	0.26	2.21	3.39	0.01	0.00	0.09	0.09	0.00	0.09	0.09	568.30	0.02		

Bore/Drill Rigs	2005	176	250	19.806	0.395	5.8	1.094	0.057	0.145	0.145	568.299	0.035
Bore/Drill Rigs	2005	251	500	27.527	0.332	5.051	1.068	0.05	0.133	0.133	568.299	0.029
Bore/Drill Rigs	2005	501	750	58.103	0.354	5.347	1.068	0.052	0.138	0.138	568.299	0.032
Bore/Drill Rigs	2005	751	1000	132.307	0.535	6.8	1.427	0.052	0.183	0.183	568.299	0.048
Bore/Drill Rigs	2010	6	15	1.052412	0.884	5.42137	4.58435	0.006	0.406	0.374	604.3903	0.176
Bore/Drill Rigs	2010	16	25	1.052412	0.884	5.42137	4.58435	0.006	0.406	0.374	604.3903	0.176
Bore/Drill Rigs	2010	26	50	1.052412	0.884	5.42137	4.58435	0.006	0.406	0.374	604.3903	0.176
Bore/Drill Rigs	2010	51	120	0.45108	0.379	4.84273	3.31487	0.005	0.313	0.288	505.1218	0.147
Bore/Drill Rigs	2010	121	175	0.420915	0.354	4.77962	3.03422	0.005	0.231	0.213	533.3654	0.155
Bore/Drill Rigs	2010	176	250	0.301395	0.253	4.60173	1.2308	0.005	0.139	0.128	525.165	0.153
Bore/Drill Rigs	2010	251	500	0.270831	0.228	3.90774	1.39755	0.005	0.131	0.12	517.3193	0.151
Bore/Drill Rigs	2010	501	750	0.19905	0.167	3.03556	1.08296	0.005	0.108	0.099	533.5969	0.155
Bore/Drill Rigs	2010	751	1000	0.189693	0.159	4.32965	0.96001	0.005	0.099	0.091	524.3394	0.153
Bore/Drill Rigs	2011	6	15	1.019273	0.856	5.41672	4.60411	0.006	0.4	0.368	602.9382	0.176
Bore/Drill Rigs	2011	16	25	1.019273	0.856	5.41672	4.60411	0.006	0.4	0.368	602.9382	0.176
Bore/Drill Rigs	2011	26	50	1.019273	0.856	5.41672	4.60411	0.006	0.4	0.368	602.9382	0.176
Bore/Drill Rigs	2011	51	120	0.435142	0.366	4.72727	3.32121	0.005	0.303	0.279	504.2171	0.147
Bore/Drill Rigs	2011	121	175	0.404145	0.34	4.59259	3.03462	0.005	0.219	0.202	531.8097	0.155
Bore/Drill Rigs	2011	176	250	0.289986	0.244	4.34748	1.21102	0.005	0.132	0.122	522.3643	0.152
Bore/Drill Rigs	2011	251	500	0.264468	0.222	3.72448	1.36917	0.005	0.125	0.115	512.0559	0.149
Bore/Drill Rigs	2011	501	750	0.195451	0.164	2.89424	1.06361	0.005	0.098	0.09	532.4717	0.155
Bore/Drill Rigs	2011	751	1000	0.200744	0.169	4.35634	0.96855	0.005	0.101	0.093	523.0129	0.153
Bore/Drill Rigs	2012	6	15	1.043679	0.877	5.45218	4.70758	0.006	0.406	0.374	601.7336	0.176
Bore/Drill Rigs	2012	16	25	1.043679	0.877	5.45218	4.70758	0.006	0.406	0.374	601.7336	0.176
Bore/Drill Rigs	2012	26	50	1.043679	0.877	5.45218	4.70758	0.006	0.406	0.374	601.7336	0.176
Bore/Drill Rigs	2012	51	120	0.439737	0.37	4.70854	3.34211	0.005	0.302	0.278	503.4212	0.147
Bore/Drill Rigs	2012	121	175	0.401496	0.337	4.52801	3.05178	0.005	0.215	0.198	531.6414	0.156
Bore/Drill Rigs	2012	176	250	0.299105	0.251	4.31574	1.23628	0.005	0.134	0.123	520.9621	0.152
Bore/Drill Rigs	2012	251	500	0.271498	0.228	3.71268	1.3973	0.005	0.124	0.115	511.0099	0.149
Bore/Drill Rigs	2012	501	750	0.195855	0.165	2.78397	1.06675	0.005	0.094	0.086	530.0759	0.155
Bore/Drill Rigs	2012	751	1000	0.210392	0.177	4.3794	0.976	0.005	0.103	0.094	521.6821	0.153
Bore/Drill Rigs	2013	6	15	1.019153	0.856	5.44353	4.71588	0.006	0.398	0.366	598.6307	0.176
Bore/Drill Rigs	2013	16	25	1.019153	0.856	5.44353	4.71588	0.006	0.398	0.366	598.6307	0.176
Bore/Drill Rigs	2013	26	50	1.019153	0.856	5.44353	4.71588	0.006	0.398	0.366	598.6307	0.176
Bore/Drill Rigs	2013	51	120	0.417421	0.351	4.52552	3.33685	0.005	0.279	0.257	501.3795	0.147
Bore/Drill Rigs	2013	121	175	0.380511	0.32	4.3027	3.04123	0.005	0.199	0.183	527.5089	0.155
Bore/Drill Rigs	2013	176	250	0.286183	0.24	4.0183	1.21872	0.005	0.124	0.114	517.8225	0.152
Bore/Drill Rigs	2013	251	500	0.260559	0.219	3.49492	1.35236	0.005	0.115	0.106	507.7707	0.149
Bore/Drill Rigs	2013	501	750	0.192576	0.162	2.57636	1.07935	0.005	0.088	0.081	527.7286	0.155
Bore/Drill Rigs	2013	751	1000	0.160352	0.135	3.46658	0.96188	0.005	0.082	0.075	519.8525	0.153
Bore/Drill Rigs	2014	6	15	0.992547	0.834	5.33236	4.69064	0.006	0.382	0.351	591.4418	0.175
Bore/Drill Rigs	2014	16	25	0.992547	0.834	5.33236	4.69064	0.006	0.382	0.351	591.4418	0.175
Bore/Drill Rigs	2014	26	50	0.992547	0.834	5.33236	4.69064	0.006	0.382	0.351	591.4418	0.175
Bore/Drill Rigs	2014	51	120	0.379477	0.319	4.19515	3.32686	0.005	0.249	0.229	501.365	0.148
Bore/Drill Rigs	2014	121	175	0.366384	0.308	4.06571	3.04026	0.005	0.186	0.171	524.0522	0.155
Bore/Drill Rigs	2014	176	250	0.258607	0.217	3.52453	1.17442	0.005	0.105	0.097	512.3362	0.151
Bore/Drill Rigs	2014	251	500	0.240166	0.202	3.18617	1.239	0.005	0.101	0.093	506.1536	0.15
Bore/Drill Rigs	2014	501	750	0.186731	0.157	2.37324	1.08678	0.005	0.08	0.074	525.2397	0.155
Bore/Drill Rigs	2014	751	1000	0.12496	0.105	2.98435	0.95104	0.005	0.058	0.054	516.5998	0.153
Bore/Drill Rigs	2015	6	15	1.007942	0.847	5.30345	4.73461	0.006	0.379	0.349	585.1707	0.175
Bore/Drill Rigs	2015	16	25	1.007942	0.847	5.30345	4.73461	0.006	0.379	0.349	585.1707	0.175
Bore/Drill Rigs	2015	26	50	1.007942	0.847	5.30345	4.73461	0.006	0.379	0.349	585.1707	0.175
Bore/Drill Rigs	2015	51	120	0.378573	0.318	4.02775	3.3349	0.005	0.239	0.22	496.9494	0.148
Bore/Drill Rigs	2015	121	175	0.359562	0.302	3.90422	3.03526	0.005	0.176	0.162	517.2068	0.154
Bore/Drill Rigs	2015	176	250	0.253803	0.213	3.3245	1.17834	0.005	0.1	0.092	506.5047	0.151
Bore/Drill Rigs	2015	251	500	0.237097	0.199	3.00307	1.25564	0.005	0.096	0.088	499.9023	0.149
Bore/Drill Rigs	2015	501	750	0.19253	0.162	2.37558	1.10541	0.005	0.081	0.074	520.4733	0.155
Bore/Drill Rigs	2015	751	1000	0.130029	0.109	2.99386	0.95583	0.005	0.059	0.054	511.2533	0.153
Bore/Drill Rigs	2016	6	15	1.034535	0.869	5.29821	4.79659	0.006	0.383	0.352	579.3262	0.175
Bore/Drill Rigs	2016	16	25	1.034535	0.869	5.29821	4.79659	0.006	0.383	0.352	579.3262	0.175
Bore/Drill Rigs	2016	26	50	1.034535	0.869	5.29821	4.79659	0.006	0.383	0.352	579.3262	0.175
Bore/Drill Rigs	2016	51	120	0.365397	0.307	3.82088	3.32648	0.005	0.221	0.204	491.6548	0.148
Bore/Drill Rigs	2016	121	175	0.33987	0.286	3.61582	3.02337	0.005	0.162	0.149	511.4327	0.154
Bore/Drill Rigs	2016	176	250	0.229144	0.193	2.9021	1.13299	0.005	0.085	0.078	502.128	0.151
Bore/Drill Rigs	2016	251	500	0.203588	0.171	2.50955	1.13338	0.005	0.077	0.071	494.7606	0.149
Bore/Drill Rigs	2016	501	750	0.182018	0.153	2.16636	1.11952	0.005	0.072	0.066	514.8829	0.155
Bore/Drill Rigs	2016	751	1000	0.137307	0.115	3.00833	0.96409	0.005	0.059	0.055	505.9997	0.153
Bore/Drill Rigs	2017	6	15	0.957137	0.804	5.06335	4.65158	0.006	0.351	0.323	563.9173	0.173
Bore/Drill Rigs	2017	16	25	0.957137	0.804	5.06335	4.65158	0.006	0.351	0.323	563.9173	0.173
Bore/Drill Rigs	2017	26	50	0.957137	0.804	5.06335	4.65158	0.006	0.351	0.323	563.9173	0.173
Bore/Drill Rigs	2017	51	120	0.354597	0.298	3.68536	3.33142	0.005	0.211	0.194	485.322	0.149
Bore/Drill Rigs	2017	121	175	0.290928	0.244	2.98245	3.0013	0.005	0.131	0.121	503.7704	0.154
Bore/Drill Rigs	2017	176	250	0.20647	0.173	2.5215	1.1021	0.005	0.072	0.067	494.1381	0.151
Bore/Drill Rigs	2017	251	500	0.197407	0.166	2.36747	1.11891	0.005	0.072	0.067	489.4612	0.15
Bore/Drill Rigs	2017	501	750	0.184153	0.155	2.15656	1.13653	0.005	0.071	0.066	505.1248	0.155
Bore/Drill Rigs	2017	751	1000	0.143503	0.121	3.02051	0.97127	0.005	0.06	0.055	498.1225	0.153
Bore/Drill Rigs	2018	6	15	0.9127	0.767	4.86917	4.56857	0.005	0.329	0.303	554.2038	0.173
Bore/Drill Rigs	2018	16	25	0.9127	0.767	4.86917	4.56857	0.005	0.329	0.303	554.2038	0.173
Bore/Drill Rigs	2018	26	50	0.9127	0.767	4.86917	4.56857	0.005	0.329	0.303	554.2038	0.173
Bore/Drill Rigs	2018	51	120	0.320098	0.269	3.39962	3.32325	0.005	0.184	0.17	479.6719	0.149
Bore/Drill Rigs	2018	121	175	0.241793	0.203	2.35662	2.96107	0.005	0.103	0.095	495.0734	0.154
Bore/Drill Rigs	2018	176	250	0.183927	0.155	2.15308	1.07328	0.005	0.061	0.056	484.5605	0.151
Bore/Drill Rigs	2018	251	500	0.160513	0.135	1.74562	1.03203	0.005	0.052	0.048	485.6893	0.151
Bore/Drill Rigs	2018	501	750	0.14994	0.126	1.67873	1.00559	0.005	0.054	0.05	489.7301	0.152
Bore/Drill Rigs	2018	751	1000	0.149052	0.125	3.03153	0.97772	0.005	0.06	0.056	490.2427	0.153
Bore/Drill Rigs	2019	6	15	0.858717	0.722	4.71795	4.49723	0.005	0.303	0.278	545.293	0.173
Bore/Drill Rigs	2019	16	25	0.858717	0.722	4.71795	4.49723	0.005	0.303	0.278	545.293	0.173
Bore/Drill Rigs	2019	26	50	0.858717	0.722	4.71795	4.49723	0.005	0.303	0.278	545.293	0.173</

Bore/Drill Rigs	2019	121	175	0.215784	0.181	2.01775	2.95563	0.005	0.088	0.081	487.3552	0.154
Bore/Drill Rigs	2019	176	250	0.170614	0.143	1.8943	1.06058	0.005	0.054	0.049	475.7896	0.151
Bore/Drill Rigs	2019	251	500	0.153732	0.129	1.55098	1.03449	0.005	0.048	0.044	477.0462	0.151
Bore/Drill Rigs	2019	501	750	0.138617	0.116	1.44865	0.97074	0.005	0.048	0.044	481.8363	0.152
Bore/Drill Rigs	2019	751	1000	0.153944	0.129	3.04139	0.98342	0.005	0.061	0.056	482.3593	0.153
Bore/Drill Rigs	2020	6	15	0.851825	0.716	4.6451	4.51013	0.006	0.294	0.271	535.2948	0.173
Bore/Drill Rigs	2020	16	25	0.851825	0.716	4.6451	4.51013	0.006	0.294	0.271	535.2948	0.173
Bore/Drill Rigs	2020	26	50	0.851825	0.716	4.6451	4.51013	0.006	0.294	0.271	535.2948	0.173
Bore/Drill Rigs	2020	51	120	0.292949	0.246	3.06601	3.32347	0.005	0.159	0.146	463.5827	0.15
Bore/Drill Rigs	2020	121	175	0.207426	0.174	1.87149	2.96948	0.005	0.082	0.076	477.722	0.155
Bore/Drill Rigs	2020	176	250	0.169462	0.142	1.80732	1.06766	0.005	0.052	0.048	466.8342	0.151
Bore/Drill Rigs	2020	251	500	0.148188	0.125	1.40938	1.01263	0.005	0.045	0.041	466.8219	0.151
Bore/Drill Rigs	2020	501	750	0.129293	0.109	1.23085	0.97413	0.005	0.041	0.038	473.6679	0.153
Bore/Drill Rigs	2020	751	1000	0.158163	0.133	3.05008	0.98839	0.005	0.061	0.056	471.8492	0.153
Bore/Drill Rigs	2021	6	15	0.845639	0.711	4.63432	4.54836	0.006	0.291	0.268	535.3782	0.173
Bore/Drill Rigs	2021	16	25	0.845639	0.711	4.63432	4.54836	0.006	0.291	0.268	535.3782	0.173
Bore/Drill Rigs	2021	26	50	0.845639	0.711	4.63432	4.54836	0.006	0.291	0.268	535.3782	0.173
Bore/Drill Rigs	2021	51	120	0.258162	0.217	2.73675	3.30573	0.005	0.131	0.12	464.9725	0.15
Bore/Drill Rigs	2021	121	175	0.183454	0.154	1.5983	2.9614	0.005	0.07	0.064	477.0482	0.154
Bore/Drill Rigs	2021	176	250	0.157647	0.132	1.55102	1.06418	0.005	0.047	0.043	467.9916	0.151
Bore/Drill Rigs	2021	251	500	0.139268	0.117	1.22069	1.01479	0.005	0.041	0.038	469.8158	0.152
Bore/Drill Rigs	2021	501	750	0.116134	0.098	0.95517	0.97176	0.005	0.033	0.031	474.079	0.153
Bore/Drill Rigs	2021	751	1000	0.161679	0.136	3.05759	0.99261	0.005	0.061	0.057	471.8158	0.153
Bore/Drill Rigs	2022	6	15	0.751445	0.631	4.28474	4.33356	0.005	0.241	0.221	529.8703	0.171
Bore/Drill Rigs	2022	16	25	0.751445	0.631	4.28474	4.33356	0.005	0.241	0.221	529.8703	0.171
Bore/Drill Rigs	2022	26	50	0.751445	0.631	4.28474	4.33356	0.005	0.241	0.221	529.8703	0.171
Bore/Drill Rigs	2022	51	120	0.227425	0.191	2.42459	3.25974	0.005	0.107	0.099	462.2674	0.15
Bore/Drill Rigs	2022	121	175	0.162807	0.137	1.28831	2.95431	0.005	0.057	0.052	477.3719	0.154
Bore/Drill Rigs	2022	176	250	0.136848	0.115	1.16293	1.04734	0.005	0.037	0.034	468.7604	0.152
Bore/Drill Rigs	2022	251	500	0.12801	0.108	1.03525	1.00212	0.005	0.035	0.032	467.1923	0.151
Bore/Drill Rigs	2022	501	750	0.10809	0.091	0.77309	0.97519	0.005	0.028	0.026	477.141	0.154
Bore/Drill Rigs	2022	751	1000	0.067607	0.057	2.27813	0.9452	0.005	0.018	0.017	472.9214	0.153
Bore/Drill Rigs	2023	6	15	0.721105	0.606	4.20831	4.31077	0.005	0.226	0.208	531.9856	0.172
Bore/Drill Rigs	2023	16	25	0.721105	0.606	4.20831	4.31077	0.005	0.226	0.208	531.9856	0.172
Bore/Drill Rigs	2023	26	50	0.721105	0.606	4.20831	4.31077	0.005	0.226	0.208	531.9856	0.172
Bore/Drill Rigs	2023	51	120	0.222828	0.187	2.35656	3.25754	0.005	0.102	0.093	461.214	0.149
Bore/Drill Rigs	2023	121	175	0.149078	0.125	1.07773	2.9693	0.005	0.048	0.044	479.6465	0.155
Bore/Drill Rigs	2023	176	250	0.131367	0.11	1.04653	1.04309	0.005	0.034	0.031	469.7058	0.152
Bore/Drill Rigs	2023	251	500	0.120261	0.101	0.89764	0.98883	0.005	0.03	0.028	464.0407	0.15
Bore/Drill Rigs	2023	501	750	0.108039	0.091	0.71664	0.98235	0.005	0.026	0.024	479.2199	0.155
Bore/Drill Rigs	2023	751	1000	0.062646	0.053	2.26246	0.93615	0.005	0.018	0.016	472.0201	0.153
Bore/Drill Rigs	2024	6	15	0.724524	0.609	4.15902	4.33098	0.005	0.219	0.202	529.8661	0.171
Bore/Drill Rigs	2024	16	25	0.724524	0.609	4.15902	4.33098	0.005	0.219	0.202	529.8661	0.171
Bore/Drill Rigs	2024	26	50	0.724524	0.609	4.15902	4.33098	0.005	0.219	0.202	529.8661	0.171
Bore/Drill Rigs	2024	51	120	0.211018	0.177	2.21634	3.25123	0.005	0.09	0.083	461.2076	0.149
Bore/Drill Rigs	2024	121	175	0.148172	0.125	1.02855	2.97803	0.005	0.046	0.043	478.9441	0.155
Bore/Drill Rigs	2024	176	250	0.128551	0.108	0.97542	1.04591	0.005	0.032	0.03	470.7115	0.152
Bore/Drill Rigs	2024	251	500	0.122153	0.103	0.86053	0.99426	0.005	0.029	0.027	464.4796	0.15
Bore/Drill Rigs	2024	501	750	0.10623	0.089	0.67139	0.98491	0.005	0.026	0.024	480.2246	0.155
Bore/Drill Rigs	2024	751	1000	0.067347	0.057	2.27306	0.94304	0.005	0.018	0.017	471.9261	0.153
Bore/Drill Rigs	2025	6	15	0.703036	0.591	3.97786	4.2728	0.005	0.193	0.178	532.8212	0.172
Bore/Drill Rigs	2025	16	25	0.703036	0.591	3.97786	4.2728	0.005	0.193	0.178	532.8212	0.172
Bore/Drill Rigs	2025	26	50	0.703036	0.591	3.97786	4.2728	0.005	0.193	0.178	532.8212	0.172
Bore/Drill Rigs	2025	51	120	0.183914	0.155	1.96363	3.21758	0.005	0.067	0.062	459.8291	0.149
Bore/Drill Rigs	2025	121	175	0.135422	0.114	0.88787	2.9736	0.005	0.039	0.036	478.2657	0.155
Bore/Drill Rigs	2025	176	250	0.127813	0.107	0.95717	1.04484	0.005	0.031	0.029	470.6535	0.152
Bore/Drill Rigs	2025	251	500	0.120956	0.102	0.82299	0.99738	0.005	0.028	0.026	467.2892	0.151
Bore/Drill Rigs	2025	501	750	0.100521	0.084	0.59628	0.98349	0.005	0.023	0.021	481.2495	0.156
Bore/Drill Rigs	2025	751	1000	0.07426	0.062	2.28923	0.95339	0.005	0.019	0.017	471.9168	0.153
Bore/Drill Rigs	2030	6	15	1.821	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Bore/Drill Rigs	2030	16	25	2.917	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Bore/Drill Rigs	2030	26	50	2.88	0.348	3.02	4.029	0.007	0.013	0.013	568.299	0.031
Bore/Drill Rigs	2030	51	120	3.773	0.183	1.415	3.434	0.006	0.012	0.012	568.299	0.016
Bore/Drill Rigs	2030	121	175	4.786	0.127	0.279	3.038	0.006	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2030	176	250	6.363	0.127	0.274	1.035	0.006	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2030	251	500	10.531	0.127	0.274	1.006	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2030	501	750	20.808	0.127	0.274	1.006	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2030	751	1000	31.441	0.127	2.372	1.006	0.005	0.021	0.021	568.299	0.011
Bore/Drill Rigs	2035	6	15	1.821	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Bore/Drill Rigs	2035	16	25	2.917	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Bore/Drill Rigs	2035	26	50	2.881	0.348	3.019	4.03	0.007	0.013	0.013	568.299	0.031
Bore/Drill Rigs	2035	51	120	3.768	0.183	1.411	3.434	0.006	0.012	0.012	568.3	0.016
Bore/Drill Rigs	2035	121	175	4.767	0.126	0.272	3.039	0.006	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2035	176	250	6.357	0.126	0.272	1.035	0.006	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2035	251	500	10.52	0.126	0.272	1.006	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2035	501	750	20.787	0.126	0.272	1.006	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2035	751	1000	31.372	0.126	2.372	1.006	0.005	0.021	0.021	568.299	0.011
Bore/Drill Rigs	2040	6	15	1.821	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Bore/Drill Rigs	2040	16	25	2.917	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Bore/Drill Rigs	2040	26	50	2.883	0.348	3.019	4.032	0.007	0.013	0.013	568.3	0.031
Bore/Drill Rigs	2040	51	120	3.77	0.183	1.411	3.435	0.006	0.012	0.012	568.299	0.016
Bore/Drill Rigs	2040	121	175	4.77	0.127	0.272	3.039	0.006	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2040	176	250	6.36	0.127	0.272	1.035	0.006	0.01	0.01	568.3	0.011
Bore/Drill Rigs	2040	251	500	10.526	0.127	0.272	1.006	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2040	501	750	20.799	0.127	0.272	1.006	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2040	751	1000	31.389	0.127	2.372	1.006	0.005	0.021	0.021	568.299	0.011
Cement and Mortar Mixer:	1990	6	15	2.932	1.804	9.999	4.999	1.049	0.975	0.975	568.299	0.162
Cement and Mortar Mixer:	1990	16	25	9.992	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Cement and Mortar Mixer:	2000	6	15	2.702	1.662	8.911	4.78	0.079	0.745	0.745	568.299	0.15

Cement and Mortar Mixer:	2000	16	25	9.397	2.081	6.401	4.757	0.065	0.569	0.569	568.299	0.187
Cement and Mortar Mixer:	2005	6	15	1.628	1.001	6.3	3.791	0.079	0.465	0.465	568.299	0.09
Cement and Mortar Mixer:	2005	16	25	6.992	1.548	5.963	3.786	0.065	0.471	0.471	568.299	0.139
Cement and Mortar Mixer:	2010	6	15	1.153	0.709	4.545	3.492	0.008	0.26	0.26	568.299	0.064
Cement and Mortar Mixer:	2010	16	25	5.056	1.119	5.286	3.049	0.007	0.346	0.346	568.299	0.101
Cement and Mortar Mixer:	2011	6	15	1.114	0.685	4.351	3.479	0.008	0.231	0.231	568.299	0.061
Cement and Mortar Mixer:	2011	16	25	4.656	1.031	5.144	2.897	0.007	0.319	0.319	568.299	0.093
Cement and Mortar Mixer:	2012	6	15	1.096	0.674	4.272	3.472	0.008	0.209	0.209	568.299	0.06
Cement and Mortar Mixer:	2012	16	25	4.288	0.949	5.012	2.757	0.007	0.293	0.293	568.299	0.085
Cement and Mortar Mixer:	2013	6	15	1.087	0.669	4.223	3.469	0.008	0.191	0.191	568.299	0.06
Cement and Mortar Mixer:	2013	16	25	3.952	0.875	4.887	2.63	0.007	0.269	0.269	568.299	0.078
Cement and Mortar Mixer:	2014	6	15	1.082	0.666	4.191	3.469	0.008	0.177	0.177	568.299	0.06
Cement and Mortar Mixer:	2014	16	25	3.783	0.837	4.793	2.57	0.007	0.253	0.253	568.299	0.075
Cement and Mortar Mixer:	2015	6	15	1.079	0.663	4.168	3.469	0.008	0.171	0.171	568.3	0.059
Cement and Mortar Mixer:	2015	16	25	3.664	0.811	4.712	2.531	0.007	0.24	0.24	568.299	0.073
Cement and Mortar Mixer:	2016	6	15	1.076	0.662	4.153	3.469	0.008	0.167	0.167	568.3	0.059
Cement and Mortar Mixer:	2016	16	25	3.558	0.788	4.636	2.496	0.007	0.227	0.227	568.299	0.071
Cement and Mortar Mixer:	2017	6	15	1.075	0.661	4.145	3.469	0.008	0.165	0.165	568.299	0.059
Cement and Mortar Mixer:	2017	16	25	3.466	0.767	4.567	2.466	0.007	0.216	0.216	568.299	0.069
Cement and Mortar Mixer:	2018	6	15	1.075	0.661	4.142	3.469	0.008	0.163	0.163	568.299	0.059
Cement and Mortar Mixer:	2018	16	25	3.384	0.749	4.504	2.44	0.007	0.205	0.205	568.299	0.067
Cement and Mortar Mixer:	2019	6	15	1.075	0.661	4.142	3.469	0.008	0.162	0.162	568.299	0.059
Cement and Mortar Mixer:	2019	16	25	3.321	0.735	4.469	2.417	0.007	0.196	0.196	568.299	0.066
Cement and Mortar Mixer:	2020	6	15	1.075	0.661	4.142	3.47	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2020	16	25	3.265	0.723	4.442	2.397	0.007	0.187	0.187	568.299	0.065
Cement and Mortar Mixer:	2021	6	15	1.075	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2021	16	25	3.219	0.712	4.419	2.381	0.007	0.18	0.18	568.299	0.064
Cement and Mortar Mixer:	2022	6	15	1.075	0.661	4.142	3.47	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2022	16	25	3.182	0.704	4.399	2.367	0.007	0.175	0.175	568.299	0.063
Cement and Mortar Mixer:	2023	6	15	1.075	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2023	16	25	3.151	0.697	4.382	2.356	0.007	0.172	0.172	568.299	0.062
Cement and Mortar Mixer:	2024	6	15	1.075	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2024	16	25	3.129	0.693	4.369	2.349	0.007	0.17	0.17	568.299	0.062
Cement and Mortar Mixer:	2025	6	15	1.075	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2025	16	25	3.113	0.689	4.357	2.344	0.007	0.168	0.168	568.299	0.062
Cement and Mortar Mixer:	2030	6	15	1.075	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2030	16	25	3.095	0.685	4.333	2.339	0.007	0.162	0.162	568.299	0.061
Cement and Mortar Mixer:	2035	6	15	1.075	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2035	16	25	3.095	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Cement and Mortar Mixer:	2040	6	15	1.075	0.661	4.142	3.47	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2040	16	25	3.095	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	1990	16	25	4.947	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Concrete/Industrial Saws	1990	26	50	20.26	4.943	8.008	9.962	0.871	1.297	1.297	568.299	0.446
Concrete/Industrial Saws	1990	51	120	24.821	2.467	15.608	5.934	0.791	1.385	1.385	568.299	0.222
Concrete/Industrial Saws	1990	121	175	45.581	2.097	15.952	5.376	0.758	1.172	1.172	568.3	0.189
Concrete/Industrial Saws	2000	16	25	4.266	1.908	6.326	4.438	0.065	0.555	0.555	568.299	0.172
Concrete/Industrial Saws	2000	26	50	14.64	3.572	6.784	7.547	0.066	0.789	0.789	568.299	0.322
Concrete/Industrial Saws	2000	51	120	16.713	1.661	9.903	4.354	0.06	0.77	0.77	568.299	0.149
Concrete/Industrial Saws	2000	121	175	24.252	1.115	9.017	3.531	0.057	0.452	0.452	568.3	0.1
Concrete/Industrial Saws	2005	16	25	1.899	0.849	5.321	2.519	0.065	0.333	0.333	568.299	0.076
Concrete/Industrial Saws	2005	26	50	13.023	3.177	6.32	6.994	0.066	0.732	0.732	568.299	0.286
Concrete/Industrial Saws	2005	51	120	14.366	1.428	8.401	4.05	0.06	0.714	0.714	568.299	0.128
Concrete/Industrial Saws	2005	121	175	20.277	0.932	7.685	3.223	0.057	0.393	0.393	568.299	0.084
Concrete/Industrial Saws	2010	16	25	1.545	0.691	4.411	2.339	0.007	0.216	0.216	568.299	0.062
Concrete/Industrial Saws	2010	26	50	9.492	2.316	5.774	6.039	0.007	0.565	0.565	568.299	0.208
Concrete/Industrial Saws	2010	51	120	10.348	1.028	6.592	3.813	0.006	0.551	0.551	568.299	0.092
Concrete/Industrial Saws	2010	121	175	14.859	0.683	5.838	3.116	0.006	0.306	0.306	568.299	0.061
Concrete/Industrial Saws	2011	16	25	1.539	0.688	4.372	2.339	0.007	0.193	0.193	568.299	0.062
Concrete/Industrial Saws	2011	26	50	8.781	2.142	5.68	5.854	0.007	0.534	0.534	568.299	0.193
Concrete/Industrial Saws	2011	51	120	9.617	0.955	6.222	3.775	0.006	0.524	0.524	568.299	0.086
Concrete/Industrial Saws	2011	121	175	13.917	0.64	5.491	3.104	0.006	0.293	0.293	568.299	0.057
Concrete/Industrial Saws	2012	16	25	1.535	0.686	4.348	2.339	0.007	0.173	0.173	568.299	0.061
Concrete/Industrial Saws	2012	26	50	8.071	1.969	5.59	5.671	0.007	0.503	0.503	568.299	0.177
Concrete/Industrial Saws	2012	51	120	8.902	0.884	5.844	3.74	0.006	0.489	0.489	568.299	0.079
Concrete/Industrial Saws	2012	121	175	12.992	0.597	5.146	3.094	0.006	0.272	0.272	568.299	0.053
Concrete/Industrial Saws	2013	16	25	1.533	0.685	4.335	2.339	0.007	0.168	0.168	568.299	0.061
Concrete/Industrial Saws	2013	26	50	7.362	1.796	5.377	5.489	0.007	0.463	0.463	568.299	0.162
Concrete/Industrial Saws	2013	51	120	8.209	0.816	5.483	3.706	0.006	0.451	0.451	568.299	0.073
Concrete/Industrial Saws	2013	121	175	12.096	0.556	4.829	3.086	0.006	0.25	0.25	568.299	0.05
Concrete/Industrial Saws	2014	16	25	1.532	0.685	4.332	2.339	0.007	0.164	0.164	568.299	0.061
Concrete/Industrial Saws	2014	26	50	6.665	1.626	5.172	5.313	0.007	0.424	0.424	568.299	0.146
Concrete/Industrial Saws	2014	51	120	7.539	0.749	5.16	3.675	0.006	0.412	0.412	568.299	0.067
Concrete/Industrial Saws	2014	121	175	11.238	0.517	4.531	3.08	0.006	0.228	0.228	568.299	0.046
Concrete/Industrial Saws	2015	16	25	1.532	0.685	4.332	2.339	0.007	0.162	0.162	568.299	0.061
Concrete/Industrial Saws	2015	26	50	6.027	1.47	4.989	5.165	0.007	0.386	0.386	568.299	0.132
Concrete/Industrial Saws	2015	51	120	6.878	0.683	4.789	3.647	0.006	0.372	0.372	568.3	0.061
Concrete/Industrial Saws	2015	121	175	10.333	0.475	4.112	3.077	0.006	0.207	0.207	568.299	0.042
Concrete/Industrial Saws	2016	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2016	26	50	5.419	1.322	4.818	5.029	0.007	0.35	0.35	568.3	0.119
Concrete/Industrial Saws	2016	51	120	6.237	0.62	4.432	3.62	0.006	0.333	0.333	568.3	0.055
Concrete/Industrial Saws	2016	121	175	9.455	0.435	3.708	3.074	0.006	0.186	0.186	568.299	0.039
Concrete/Industrial Saws	2017	16	25	1.532	0.685	4.332	2.34	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2017	26	50	4.816	1.175	4.652	4.894	0.007	0.313	0.313	568.299	0.106
Concrete/Industrial Saws	2017	51	120	5.61	0.557	4.086	3.595	0.006	0.294	0.294	568.299	0.05
Concrete/Industrial Saws	2017	121	175	8.602	0.395	3.316	3.073	0.006	0.165	0.165	568.299	0.035
Concrete/Industrial Saws	2018	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2018	26	50	4.233	1.032	4.492	4.766	0.007	0.277	0.277	568.299	0.093
Concrete/Industrial Saws	2018	51	120	5.014	0.498	3.754	3.571	0.006	0.256	0.256	568.299	0.044
Concrete/Industrial Saws	2018	121	175	7.805	0.359	2.945	3.072	0.006	0.145	0.145	568.299	0.032

Concrete/Industrial Saws	2019	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2019	26	50	3.686	0.899	4.338	4.645	0.007	0.242	0.242	568.299	0.081
Concrete/Industrial Saws	2019	51	120	4.463	0.443	3.441	3.55	0.006	0.22	0.22	568.3	0.04
Concrete/Industrial Saws	2019	121	175	7.177	0.33	2.618	3.072	0.006	0.128	0.128	568.299	0.029
Concrete/Industrial Saws	2020	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2020	26	50	3.271	0.798	4.196	4.552	0.007	0.212	0.212	568.299	0.072
Concrete/Industrial Saws	2020	51	120	4.042	0.401	3.163	3.535	0.006	0.19	0.19	568.299	0.036
Concrete/Industrial Saws	2020	121	175	6.669	0.306	2.324	3.072	0.006	0.114	0.114	568.299	0.027
Concrete/Industrial Saws	2021	16	25	1.532	0.685	4.332	2.34	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2021	26	50	2.959	0.722	4.063	4.481	0.007	0.184	0.184	568.3	0.065
Concrete/Industrial Saws	2021	51	120	3.721	0.369	2.913	3.523	0.006	0.166	0.166	568.299	0.033
Concrete/Industrial Saws	2021	121	175	6.227	0.286	2.055	3.072	0.006	0.101	0.101	568.299	0.025
Concrete/Industrial Saws	2022	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2022	26	50	2.705	0.66	3.936	4.422	0.007	0.158	0.158	568.3	0.059
Concrete/Industrial Saws	2022	51	120	3.457	0.343	2.686	3.514	0.006	0.144	0.144	568.299	0.031
Concrete/Industrial Saws	2022	121	175	5.819	0.267	1.806	3.072	0.006	0.089	0.089	568.3	0.024
Concrete/Industrial Saws	2023	16	25	1.532	0.685	4.332	2.34	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2023	26	50	2.484	0.606	3.815	4.372	0.007	0.134	0.134	568.299	0.054
Concrete/Industrial Saws	2023	51	120	3.223	0.32	2.478	3.507	0.006	0.123	0.123	568.3	0.028
Concrete/Industrial Saws	2023	121	175	5.453	0.25	1.599	3.072	0.006	0.077	0.077	568.299	0.022
Concrete/Industrial Saws	2024	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2024	26	50	2.303	0.561	3.701	4.33	0.007	0.115	0.115	568.3	0.05
Concrete/Industrial Saws	2024	51	120	3.023	0.3	2.315	3.5	0.006	0.106	0.106	568.299	0.027
Concrete/Industrial Saws	2024	121	175	5.117	0.235	1.418	3.072	0.006	0.067	0.067	568.299	0.021
Concrete/Industrial Saws	2025	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2025	26	50	2.153	0.525	3.592	4.297	0.007	0.099	0.099	568.299	0.047
Concrete/Industrial Saws	2025	51	120	2.849	0.283	2.176	3.495	0.006	0.089	0.089	568.3	0.025
Concrete/Industrial Saws	2025	121	175	4.8	0.22	1.249	3.073	0.006	0.056	0.056	568.3	0.019
Concrete/Industrial Saws	2030	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2030	26	50	1.679	0.409	3.222	4.199	0.007	0.041	0.041	568.299	0.036
Concrete/Industrial Saws	2030	51	120	2.226	0.221	1.667	3.48	0.006	0.036	0.036	568.299	0.019
Concrete/Industrial Saws	2030	121	175	3.551	0.163	0.59	3.074	0.006	0.025	0.025	568.299	0.014
Concrete/Industrial Saws	2035	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2035	26	50	1.54	0.375	3.107	4.174	0.007	0.021	0.021	568.3	0.033
Concrete/Industrial Saws	2035	51	120	2.015	0.2	1.491	3.476	0.006	0.018	0.018	568.299	0.018
Concrete/Industrial Saws	2035	121	175	3.121	0.143	0.374	3.075	0.006	0.014	0.014	568.299	0.012
Concrete/Industrial Saws	2040	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2040	26	50	1.532	0.373	3.058	4.175	0.007	0.014	0.014	568.299	0.033
Concrete/Industrial Saws	2040	51	120	1.968	0.195	1.434	3.477	0.006	0.013	0.013	568.299	0.017
Concrete/Industrial Saws	2040	121	175	2.965	0.136	0.297	3.076	0.006	0.011	0.011	568.3	0.012
Cranes	1990	26	50	13.537	5.179	8.093	10.396	0.871	1.345	1.345	568.299	0.467
Cranes	1990	51	120	14.178	2.508	15.674	5.983	0.791	1.427	1.427	568.299	0.226
Cranes	1990	121	175	18.412	2.033	15.601	5.387	0.758	1.142	1.142	568.299	0.183
Cranes	1990	176	250	25.703	2.033	15.601	5.387	0.758	1.142	1.142	568.299	0.183
Cranes	1990	251	500	36.191	1.782	14.718	12.529	0.662	0.968	0.968	568.299	0.16
Cranes	1990	501	750	60.897	1.782	14.718	12.529	1.018	0.986	0.986	568.299	0.16
Cranes	1990	1001	9999	194.538	1.778	14.718	12.529	1.018	0.98	0.98	568.299	0.16
Cranes	2000	26	50	12.119	4.636	7.163	9.507	0.666	0.958	0.958	568.3	0.418
Cranes	2000	51	120	10.887	1.926	10.905	4.81	0.06	0.93	0.93	568.299	0.173
Cranes	2000	121	175	11.77	1.299	9.929	3.932	0.057	0.552	0.552	568.299	0.117
Cranes	2000	176	250	14.291	1.13	9.635	3.285	0.057	0.47	0.47	568.299	0.101
Cranes	2000	251	500	20.704	1.019	9.139	5.545	0.05	0.411	0.411	568.299	0.092
Cranes	2000	501	750	34.838	1.019	9.139	5.545	0.052	0.411	0.411	568.299	0.092
Cranes	2000	1001	9999	116.509	1.064	9.643	6.045	0.052	0.394	0.394	568.299	0.096
Cranes	2005	26	50	10.96	4.193	6.736	8.893	0.666	0.898	0.898	568.3	0.378
Cranes	2005	51	120	9.53	1.686	9.357	4.493	0.06	0.875	0.875	568.299	0.152
Cranes	2005	121	175	10.036	1.108	8.542	3.6	0.057	0.487	0.487	568.299	0.099
Cranes	2005	176	250	10.718	0.847	8.163	2.367	0.057	0.343	0.343	568.299	0.076
Cranes	2005	251	500	15.234	0.75	7.448	3.287	0.05	0.303	0.303	568.299	0.067
Cranes	2005	501	750	25.971	0.76	7.598	3.283	0.052	0.305	0.305	568.299	0.068
Cranes	2005	1001	9999	91.74	0.838	8.503	3.718	0.052	0.293	0.293	568.299	0.075
Cranes	2010	26	50	2.786882	2.342	6.30432	7.37084	0.005	0.665	0.612	575.653	0.168
Cranes	2010	51	120	1.626435	1.367	11.2099	5.06328	0.005	0.834	0.767	522.2692	0.152
Cranes	2010	121	175	0.999512	0.84	9.06236	3.96843	0.005	0.483	0.445	527.7153	0.154
Cranes	2010	176	250	0.826087	0.694	8.39974	2.85637	0.005	0.383	0.353	525.6477	0.153
Cranes	2010	251	500	0.629842	0.529	7.05496	4.77692	0.005	0.292	0.268	524.2494	0.153
Cranes	2010	501	750	0.3105	0.261	4.49648	1.59747	0.005	0.149	0.137	523.8164	0.152
Cranes	2010	1001	9999	0.387608	0.326	6.39903	1.00751	0.005	0.151	0.139	524.505	0.153
Cranes	2011	26	50	2.66715	2.241	6.2271	7.21121	0.005	0.641	0.59	574.2181	0.168
Cranes	2011	51	120	1.579127	1.327	10.9169	5.02442	0.005	0.81	0.745	521.0055	0.152
Cranes	2011	121	175	0.990868	0.833	8.96629	3.9727	0.005	0.48	0.441	526.3466	0.154
Cranes	2011	176	250	0.818849	0.688	8.29972	2.82731	0.005	0.379	0.349	524.3412	0.153
Cranes	2011	251	500	0.613791	0.516	6.85019	4.61471	0.005	0.283	0.26	523.002	0.153
Cranes	2011	501	750	0.317708	0.267	4.47987	1.60931	0.005	0.151	0.139	522.4977	0.152
Cranes	2011	1001	9999	0.392668	0.33	6.442	1.01544	0.005	0.153	0.141	523.1938	0.153
Cranes	2012	26	50	2.575229	2.164	6.16881	7.10245	0.005	0.622	0.573	572.7834	0.168
Cranes	2012	51	120	1.549708	1.302	10.7338	4.99918	0.005	0.795	0.732	519.357	0.152
Cranes	2012	121	175	0.992021	0.834	8.9416	3.98552	0.005	0.481	0.442	525.0081	0.154
Cranes	2012	176	250	0.82388	0.692	8.30152	2.83394	0.005	0.381	0.35	522.9802	0.153
Cranes	2012	251	500	0.612564	0.515	6.7893	4.5553	0.005	0.281	0.259	521.6408	0.153
Cranes	2012	501	750	0.324471	0.273	4.45619	1.62066	0.005	0.152	0.14	521.1061	0.152
Cranes	2012	1001	9999	0.397633	0.334	6.48415	1.02322	0.005	0.156	0.144	521.8825	0.153
Cranes	2013	26	50	2.54578	2.139	6.10837	7.11869	0.005	0.61	0.561	569.9097	0.168
Cranes	2013	51	120	1.506211	1.266	10.4655	4.95084	0.005	0.775	0.713	516.6909	0.152
Cranes	2013	121	175	0.982629	0.826	8.83222	3.98019	0.005	0.476	0.438	522.3332	0.154
Cranes	2013	176	250	0.813083	0.683	8.15558	2.80099	0.005	0.375	0.345	520.3446	0.153
Cranes	2013	251	500	0.59291	0.498	6.51563	4.36265	0.005	0.27	0.248	519.0961	0.153
Cranes	2013	501	750	0.327629	0.275	4.36739	1.62896	0.005	0.15	0.138	518.355	0.152
Cranes	2013	1001	9999	0.402502	0.338	6.5255	1.03085	0.005	0.159	0.146	519.26	0.153

Cranes	2014	26	50	2.516704	2.115	6.09324	7.12566	0.005	0.607	0.559	567.0058	0.168
Cranes	2014	51	120	1.481452	1.245	10.3017	4.92305	0.005	0.765	0.704	514.0286	0.152
Cranes	2014	121	175	0.944168	0.793	8.47052	3.93186	0.005	0.457	0.42	519.5114	0.154
Cranes	2014	176	250	0.786323	0.661	7.86026	2.72625	0.005	0.36	0.331	517.6833	0.153
Cranes	2014	251	500	0.574656	0.483	6.26415	4.17708	0.005	0.26	0.239	516.5784	0.153
Cranes	2014	501	750	0.333096	0.28	4.32737	1.63547	0.005	0.151	0.139	515.6071	0.152
Cranes	2014	1001	9999	0.143297	0.12	2.28075	0.94782	0.005	0.054	0.05	516.6375	0.153
Cranes	2015	26	50	2.483294	2.087	6.07491	7.12517	0.005	0.601	0.552	561.2236	0.168
Cranes	2015	51	120	1.444394	1.214	10.0604	4.88366	0.005	0.747	0.687	508.8366	0.152
Cranes	2015	121	175	0.930749	0.782	8.3254	3.91821	0.005	0.45	0.414	514.2598	0.154
Cranes	2015	176	250	0.764242	0.642	7.62156	2.65334	0.005	0.348	0.32	512.4484	0.153
Cranes	2015	251	500	0.565318	0.475	6.12404	4.10962	0.005	0.253	0.233	511.1972	0.153
Cranes	2015	501	750	0.340293	0.286	4.31183	1.64279	0.005	0.152	0.14	510.3342	0.152
Cranes	2015	1001	9999	0.156078	0.131	2.29477	0.95679	0.005	0.055	0.051	511.3924	0.153
Cranes	2016	26	50	2.535089	2.13	6.11027	7.2684	0.005	0.61	0.561	555.4414	0.168
Cranes	2016	51	120	1.373103	1.154	9.60772	4.79702	0.005	0.709	0.653	503.5992	0.152
Cranes	2016	121	175	0.884915	0.744	7.88718	3.86156	0.005	0.427	0.393	508.9515	0.154
Cranes	2016	176	250	0.741297	0.623	7.38068	2.5822	0.005	0.335	0.308	507.1552	0.153
Cranes	2016	251	500	0.527153	0.443	5.64865	3.83445	0.005	0.233	0.215	506.0882	0.153
Cranes	2016	501	750	0.347738	0.292	4.31387	1.65024	0.005	0.153	0.141	505.0695	0.152
Cranes	2016	1001	9999	0.168646	0.142	2.30856	0.96562	0.005	0.056	0.052	506.1474	0.153
Cranes	2017	26	50	2.585562	2.173	6.14479	7.40804	0.005	0.62	0.57	546.7815	0.168
Cranes	2017	51	120	1.304913	1.096	9.15389	4.71022	0.005	0.678	0.624	495.7534	0.152
Cranes	2017	121	175	0.828528	0.696	7.36009	3.78744	0.005	0.397	0.366	501.093	0.154
Cranes	2017	176	250	0.667136	0.561	6.65526	2.38452	0.005	0.297	0.273	499.3721	0.153
Cranes	2017	251	500	0.488095	0.41	5.23184	3.54746	0.005	0.212	0.195	498.439	0.153
Cranes	2017	501	750	0.34114	0.287	4.1579	1.63305	0.005	0.147	0.135	497.1865	0.152
Cranes	2017	1001	9999	0.181003	0.152	2.32212	0.97429	0.005	0.057	0.053	498.2798	0.153
Cranes	2018	26	50	2.466121	2.072	6.00385	7.24744	0.005	0.624	0.574	538.1219	0.168
Cranes	2018	51	120	1.108698	0.932	7.93075	4.45237	0.005	0.583	0.536	488.1172	0.152
Cranes	2018	121	175	0.739223	0.621	6.5572	3.66571	0.005	0.351	0.323	493.0451	0.153
Cranes	2018	176	250	0.574877	0.483	5.77298	2.13445	0.005	0.25	0.23	491.4069	0.153
Cranes	2018	251	500	0.440014	0.37	4.63433	3.1871	0.005	0.187	0.172	490.8912	0.153
Cranes	2018	501	750	0.322048	0.271	3.7688	1.61304	0.005	0.137	0.126	489.0536	0.152
Cranes	2018	1001	9999	0.193147	0.162	2.33544	0.98282	0.005	0.058	0.054	490.4122	0.153
Cranes	2019	26	50	2.434147	2.045	5.95197	7.24465	0.005	0.615	0.566	529.4626	0.168
Cranes	2019	51	120	0.955908	0.803	6.95786	4.26491	0.005	0.5	0.46	480.3251	0.152
Cranes	2019	121	175	0.675554	0.568	5.94857	3.5982	0.005	0.318	0.292	485.1817	0.154
Cranes	2019	176	250	0.50769	0.427	5.0842	1.94079	0.005	0.216	0.198	483.4616	0.153
Cranes	2019	251	500	0.415431	0.349	4.29654	2.96893	0.005	0.173	0.159	483.1422	0.153
Cranes	2019	501	750	0.299943	0.252	3.42803	1.44568	0.005	0.124	0.114	481.1192	0.152
Cranes	2019	1001	9999	0.205078	0.172	2.34854	0.9912	0.005	0.059	0.055	482.5446	0.153
Cranes	2020	26	50	2.47956	2.084	5.98471	7.37625	0.005	0.624	0.574	517.9263	0.168
Cranes	2020	51	120	0.871016	0.732	6.38117	4.17141	0.005	0.453	0.417	469.8821	0.152
Cranes	2020	121	175	0.638941	0.537	5.5697	3.56232	0.005	0.298	0.274	474.5939	0.153
Cranes	2020	176	250	0.45669	0.384	4.56329	1.7904	0.005	0.188	0.173	472.9488	0.153
Cranes	2020	251	500	0.381547	0.321	3.86243	2.66037	0.005	0.155	0.142	472.5579	0.153
Cranes	2020	501	750	0.287724	0.242	3.10471	1.44353	0.005	0.116	0.107	470.4254	0.152
Cranes	2020	1001	9999	0.216797	0.182	2.3614	0.99943	0.005	0.06	0.056	472.0545	0.153
Cranes	2021	26	50	2.516467	2.115	6.01375	7.48883	0.005	0.631	0.581	517.8995	0.167
Cranes	2021	51	120	0.77522	0.651	5.73085	4.06507	0.005	0.398	0.366	469.8867	0.152
Cranes	2021	121	175	0.593174	0.498	5.1125	3.51648	0.005	0.273	0.251	474.5458	0.153
Cranes	2021	176	250	0.415905	0.349	4.10439	1.67824	0.005	0.167	0.153	472.9057	0.153
Cranes	2021	251	500	0.351498	0.295	3.44253	2.44833	0.005	0.139	0.127	472.4553	0.153
Cranes	2021	501	750	0.271141	0.228	2.72739	1.43956	0.005	0.107	0.098	470.5495	0.152
Cranes	2021	1001	9999	0.228304	0.192	2.37402	1.00751	0.005	0.061	0.056	472.0545	0.153
Cranes	2022	26	50	2.41359	2.028	5.8991	7.36828	0.005	0.603	0.555	517.8722	0.167
Cranes	2022	51	120	0.687651	0.578	5.14893	3.97198	0.005	0.346	0.318	469.9929	0.152
Cranes	2022	121	175	0.543527	0.457	4.6169	3.4753	0.005	0.246	0.227	474.5887	0.153
Cranes	2022	176	250	0.375691	0.316	3.54149	1.60164	0.005	0.147	0.135	472.9832	0.153
Cranes	2022	251	500	0.31051	0.261	2.89369	2.21201	0.005	0.117	0.108	472.1806	0.153
Cranes	2022	501	750	0.238348	0.2	2.25087	1.28309	0.005	0.089	0.082	470.4755	0.152
Cranes	2022	1001	9999	0.239599	0.201	2.38641	1.01544	0.005	0.062	0.057	472.0545	0.153
Cranes	2023	26	50	2.435567	2.047	5.9225	7.45254	0.005	0.608	0.559	517.8722	0.167
Cranes	2023	51	120	0.656595	0.552	4.87461	3.9444	0.005	0.323	0.297	469.8891	0.152
Cranes	2023	121	175	0.503663	0.423	4.22184	3.44284	0.005	0.224	0.206	474.595	0.153
Cranes	2023	176	250	0.353966	0.297	3.22938	1.55262	0.005	0.135	0.124	472.9738	0.153
Cranes	2023	251	500	0.281202	0.236	2.5105	2.01	0.005	0.102	0.093	472.294	0.153
Cranes	2023	501	750	0.23207	0.195	2.07257	1.28213	0.005	0.084	0.077	470.2508	0.152
Cranes	2023	1001	9999	0.250681	0.211	2.39857	1.02322	0.005	0.063	0.058	472.0545	0.153
Cranes	2024	26	50	2.304795	1.937	5.78796	7.26852	0.005	0.577	0.531	517.8722	0.167
Cranes	2024	51	120	0.623876	0.524	4.61888	3.90649	0.005	0.301	0.277	469.9032	0.152
Cranes	2024	121	175	0.453764	0.381	3.7029	3.3893	0.005	0.196	0.18	474.6358	0.154
Cranes	2024	176	250	0.334159	0.281	2.96596	1.50208	0.005	0.123	0.114	472.9638	0.153
Cranes	2024	251	500	0.274315	0.231	2.38291	1.93263	0.005	0.096	0.089	472.0664	0.153
Cranes	2024	501	750	0.227031	0.191	1.89979	1.28334	0.005	0.08	0.073	470.3306	0.152
Cranes	2024	1001	9999	0.261551	0.22	2.4105	1.03085	0.005	0.064	0.059	472.0545	0.153
Cranes	2025	26	50	2.155227	1.811	5.63562	7.07168	0.005	0.543	0.499	517.8722	0.167
Cranes	2025	51	120	0.551396	0.463	4.13532	3.83081	0.005	0.26	0.24	469.5332	0.152
Cranes	2025	121	175	0.397698	0.334	3.16038	3.33544	0.005	0.166	0.153	474.7477	0.154
Cranes	2025	176	250	0.31508	0.265	2.68128	1.4697	0.005	0.114	0.105	472.9798	0.153
Cranes	2025	251	500	0.259914	0.218	2.15424	1.83363	0.005	0.088	0.081	471.9671	0.153
Cranes	2025	501	750	0.204336	0.172	1.63763	1.27366	0.005	0.068	0.062	470.2756	0.152
Cranes	2025	1001	9999	0.272209	0.229	2.42219	1.03833	0.005	0.065	0.06	472.0545	0.153
Cranes	2030	26	50	1.788	0.684	3.598	5.366	0.007	0.075	0.075	568.299	0.061
Cranes	2030	51	120	1.941	0.343	1.987	3.812	0.006	0.067	0.067	568.299	0.03
Cranes	2030	121	175	2.293	0.253	0.916	3.356	0.006	0.042	0.042	568.299	0.022
Cranes	2030	176	250	2.835	0.224	0.748	1.147	0.006	0.024	0.024	568.299	0.02
Cranes	2030	251	500	4.512	0.222	0.697	1.09	0.005	0.023	0.023	568.299	0.02

Cranes	2030	501	750	7.602	0.222	0.709	1.09	0.005	0.024	0.024	568.3	0.02
Cranes	2030	1001	9999	26.83	0.245	2.8	1.108	0.005	0.043	0.043	568.299	0.022
Cranes	2035	26	50	1.568	0.6	3.401	5.292	0.007	0.039	0.039	568.299	0.054
Cranes	2035	51	120	1.696	0.3	1.676	3.801	0.006	0.036	0.036	568.3	0.027
Cranes	2035	121	175	1.923	0.212	0.519	3.357	0.006	0.024	0.024	568.299	0.019
Cranes	2035	176	250	2.568	0.203	0.463	1.143	0.006	0.016	0.016	568.299	0.018
Cranes	2035	251	500	4.111	0.202	0.441	1.087	0.005	0.016	0.016	568.299	0.018
Cranes	2035	501	750	6.923	0.202	0.446	1.087	0.005	0.016	0.016	568.299	0.018
Cranes	2035	1001	9999	22.949	0.209	2.618	1.089	0.005	0.031	0.031	568.299	0.018
Cranes	2040	26	50	1.483	0.567	3.324	5.268	0.007	0.024	0.024	568.299	0.051
Cranes	2040	51	120	1.598	0.282	1.552	3.797	0.006	0.021	0.021	568.299	0.025
Cranes	2040	121	175	1.79	0.197	0.371	3.358	0.006	0.016	0.016	568.299	0.017
Cranes	2040	176	250	2.465	0.195	0.344	1.144	0.006	0.013	0.013	568.299	0.017
Cranes	2040	251	500	3.958	0.195	0.34	1.087	0.005	0.013	0.013	568.299	0.017
Cranes	2040	501	750	6.661	0.195	0.341	1.087	0.005	0.013	0.013	568.299	0.017
Cranes	2040	1001	9999	21.703	0.198	2.534	1.087	0.005	0.027	0.027	568.299	0.017
Crawler Tractors	1990	26	50	11.254	4.903	7.983	9.907	0.871	1.291	1.291	568.299	0.442
Crawler Tractors	1990	51	120	14.413	2.374	14.967	5.73	0.791	1.353	1.353	568.299	0.214
Crawler Tractors	1990	121	175	19.335	1.729	13.979	5.079	0.758	0.962	0.962	568.299	0.156
Crawler Tractors	1990	176	250	26.505	1.729	13.979	5.079	0.758	0.962	0.962	568.299	0.156
Crawler Tractors	1990	251	500	36.545	1.528	13.238	11.319	0.662	0.822	0.822	568.3	0.137
Crawler Tractors	1990	501	750	65.509	1.528	13.238	11.319	1.018	0.837	0.837	568.299	0.137
Crawler Tractors	1990	751	1000	92.189	1.518	13.238	11.319	1.018	0.826	0.826	568.299	0.137
Crawler Tractors	2000	26	50	10.858	4.73	7.197	9.675	0.666	0.973	0.973	568.299	0.426
Crawler Tractors	2000	51	120	11.94	1.966	11.097	4.886	0.06	0.949	0.949	568.299	0.177
Crawler Tractors	2000	121	175	14.976	1.339	10.157	4.018	0.057	0.57	0.57	568.3	0.12
Crawler Tractors	2000	176	250	17.901	1.168	9.863	3.367	0.057	0.486	0.486	568.299	0.105
Crawler Tractors	2000	251	500	25.11	1.049	9.341	5.849	0.05	0.424	0.424	568.299	0.094
Crawler Tractors	2000	501	750	45.011	1.049	9.341	5.849	0.052	0.424	0.424	568.299	0.094
Crawler Tractors	2000	751	1000	66.528	1.095	9.844	6.349	0.052	0.407	0.407	568.299	0.098
Crawler Tractors	2005	26	50	9.923	4.323	6.809	9.124	0.066	0.919	0.919	568.299	0.39
Crawler Tractors	2005	51	120	10.68	1.759	9.75	4.63	0.06	0.903	0.903	568.299	0.158
Crawler Tractors	2005	121	175	13.006	1.163	8.886	3.749	0.057	0.513	0.513	568.299	0.104
Crawler Tractors	2005	176	250	13.95	0.91	8.523	2.557	0.057	0.371	0.371	568.299	0.082
Crawler Tractors	2005	251	500	19.249	0.804	7.791	3.945	0.05	0.326	0.326	568.299	0.072
Crawler Tractors	2005	501	750	34.852	0.813	7.93	3.938	0.052	0.328	0.328	568.299	0.073
Crawler Tractors	2005	751	1000	54.011	0.889	8.804	4.359	0.052	0.319	0.319	568.3	0.08
Crawler Tractors	2010	26	50	3.193884	2.684	6.54779	8.18872	0.005	0.785	0.722	572.972	0.167
Crawler Tractors	2010	51	120	1.069208	0.898	7.76656	4.10668	0.005	0.628	0.578	530.0152	0.154
Crawler Tractors	2010	121	175	0.755513	0.635	7.15822	3.40812	0.005	0.378	0.348	524.4997	0.153
Crawler Tractors	2010	176	250	0.540569	0.454	6.46768	1.89919	0.005	0.249	0.229	526.1431	0.153
Crawler Tractors	2010	251	500	0.491926	0.413	5.96739	3.0665	0.005	0.227	0.209	528.681	0.154
Crawler Tractors	2010	501	750	0.418044	0.351	5.31967	1.75694	0.005	0.189	0.174	525.9395	0.153
Crawler Tractors	2010	751	1000	0.545095	0.458	7.25547	2.04187	0.005	0.21	0.193	527.6019	0.154
Crawler Tractors	2011	26	50	3.090465	2.597	6.48764	8.06059	0.005	0.762	0.701	571.2544	0.167
Crawler Tractors	2011	51	120	1.055307	0.887	7.65924	4.11149	0.005	0.624	0.574	528.5468	0.154
Crawler Tractors	2011	121	175	0.753531	0.633	7.0937	3.422	0.005	0.378	0.347	523.1105	0.153
Crawler Tractors	2011	176	250	0.541549	0.455	6.42306	1.8844	0.005	0.248	0.228	524.8932	0.153
Crawler Tractors	2011	251	500	0.494702	0.416	5.91443	3.04503	0.005	0.226	0.208	527.4003	0.154
Crawler Tractors	2011	501	750	0.416615	0.35	5.23606	1.70832	0.005	0.186	0.171	524.9577	0.153
Crawler Tractors	2011	751	1000	0.550612	0.463	7.30105	2.05264	0.005	0.212	0.195	526.3508	0.154
Crawler Tractors	2012	26	50	3.127964	2.628	6.51312	8.16399	0.005	0.77	0.708	569.8895	0.167
Crawler Tractors	2012	51	120	1.066067	0.896	7.67928	4.14375	0.005	0.633	0.582	527.2248	0.154
Crawler Tractors	2012	121	175	0.762695	0.641	7.11308	3.4484	0.005	0.382	0.351	521.7707	0.153
Crawler Tractors	2012	176	250	0.549863	0.462	6.43904	1.8924	0.005	0.25	0.23	523.5287	0.153
Crawler Tractors	2012	251	500	0.502104	0.422	5.9107	3.05662	0.005	0.227	0.209	526.0223	0.154
Crawler Tractors	2012	501	750	0.425611	0.358	5.25574	1.71661	0.005	0.189	0.173	523.7088	0.153
Crawler Tractors	2012	751	1000	0.555874	0.467	7.34463	2.06265	0.005	0.214	0.197	525.1067	0.154
Crawler Tractors	2013	26	50	3.060938	2.572	6.42928	8.10275	0.005	0.753	0.692	567.3537	0.167
Crawler Tractors	2013	51	120	1.067402	0.897	7.64718	4.16448	0.005	0.636	0.585	524.5941	0.154
Crawler Tractors	2013	121	175	0.758762	0.638	7.02367	3.4566	0.005	0.38	0.349	519.0712	0.153
Crawler Tractors	2013	176	250	0.548046	0.461	6.36771	1.8715	0.005	0.247	0.227	520.7236	0.153
Crawler Tractors	2013	251	500	0.501212	0.421	5.82738	2.99715	0.005	0.225	0.207	523.5592	0.154
Crawler Tractors	2013	501	750	0.418079	0.351	5.09878	1.67885	0.005	0.183	0.168	520.5693	0.153
Crawler Tractors	2013	751	1000	0.560878	0.471	7.3862	2.07187	0.005	0.216	0.199	522.5513	0.154
Crawler Tractors	2014	26	50	3.000333	2.521	6.39578	8.04733	0.005	0.743	0.684	564.5641	0.167
Crawler Tractors	2014	51	120	1.051605	0.884	7.52434	4.16815	0.005	0.628	0.578	522.1187	0.154
Crawler Tractors	2014	121	175	0.748303	0.629	6.87548	3.45911	0.005	0.374	0.344	516.4039	0.153
Crawler Tractors	2014	176	250	0.54035	0.454	6.23751	1.83765	0.005	0.241	0.222	518.0363	0.153
Crawler Tractors	2014	251	500	0.490461	0.412	5.61601	2.91108	0.005	0.217	0.2	520.5153	0.154
Crawler Tractors	2014	501	750	0.412689	0.347	4.89468	1.67523	0.005	0.179	0.164	517.8612	0.153
Crawler Tractors	2014	751	1000	0.565619	0.475	7.42576	2.08028	0.005	0.218	0.201	520.0052	0.154
Crawler Tractors	2015	26	50	2.990271	2.513	6.37736	8.07628	0.005	0.741	0.682	558.8878	0.167
Crawler Tractors	2015	51	120	1.05262	0.884	7.4938	4.18907	0.005	0.63	0.58	516.8433	0.154
Crawler Tractors	2015	121	175	0.751623	0.632	6.84937	3.47922	0.005	0.376	0.346	511.3059	0.153
Crawler Tractors	2015	176	250	0.536796	0.451	6.14312	1.81586	0.005	0.237	0.218	512.8973	0.153
Crawler Tractors	2015	251	500	0.485596	0.408	5.48324	2.84505	0.005	0.212	0.195	515.3725	0.154
Crawler Tractors	2015	501	750	0.41802	0.351	4.88301	1.66415	0.005	0.179	0.165	512.5402	0.153
Crawler Tractors	2015	751	1000	0.570092	0.479	7.46329	2.08783	0.005	0.22	0.202	514.83	0.154
Crawler Tractors	2016	26	50	2.99791	2.519	6.31718	8.10441	0.005	0.733	0.674	553.214	0.167
Crawler Tractors	2016	51	120	1.034441	0.869	7.34589	4.18548	0.005	0.619	0.57	511.268	0.154
Crawler Tractors	2016	121	175	0.743125	0.624	6.7205	3.48211	0.005	0.371	0.341	506.0335	0.153
Crawler Tractors	2016	176	250	0.534039	0.449	6.04745	1.80295	0.005	0.233	0.215	507.355	0.153
Crawler Tractors	2016	251	500	0.473782	0.398	5.27907	2.74397	0.005	0.205	0.188	510.3385	0.154
Crawler Tractors	2016	501	750	0.41158	0.346	4.7238	1.6206	0.005	0.174	0.16	507.2527	0.153
Crawler Tractors	2016	751	1000	0.57429	0.483	7.4988	2.09448	0.005	0.222	0.204	509.6671	0.154
Crawler Tractors	2017	26	50	2.926516	2.459	6.20834	8.00596	0.005	0.712	0.655	544.6762	0.167
Crawler Tractors	2017	51	120	1.010844	0.849	7.141	4.17611	0.005	0.604	0.555	503.2791	0.154
Crawler Tractors	2017	121	175	0.731209	0.614	6.55188	3.48322	0.005	0.364	0.335	498.1245	0.153

Crawler Tractors	2017	176	250	0.511144	0.43	5.75969	1.7418	0.005	0.22	0.202	499.832	0.153
Crawler Tractors	2017	251	500	0.458057	0.385	5.02932	2.6349	0.005	0.195	0.179	502.422	0.154
Crawler Tractors	2017	501	750	0.386074	0.324	4.36108	1.5221	0.005	0.16	0.147	499.1046	0.153
Crawler Tractors	2017	751	1000	0.578206	0.486	7.53226	2.10018	0.005	0.223	0.205	501.8777	0.154
Crawler Tractors	2018	26	50	2.910335	2.445	6.16323	8.0094	0.005	0.704	0.647	536.1409	0.167
Crawler Tractors	2018	51	120	0.949614	0.798	6.72257	4.1231	0.005	0.566	0.52	494.9217	0.154
Crawler Tractors	2018	121	175	0.660412	0.555	5.8588	3.42131	0.005	0.325	0.299	490.0002	0.153
Crawler Tractors	2018	176	250	0.473989	0.398	5.28959	1.65354	0.005	0.2	0.184	491.606	0.153
Crawler Tractors	2018	251	500	0.409351	0.344	4.37324	2.38218	0.005	0.169	0.156	493.5104	0.154
Crawler Tractors	2018	501	750	0.351876	0.296	3.8336	1.4447	0.005	0.141	0.13	491.2659	0.153
Crawler Tractors	2018	751	1000	0.581827	0.489	7.56366	2.10483	0.005	0.225	0.207	494.1052	0.154
Crawler Tractors	2019	26	50	2.648469	2.225	5.85476	7.58896	0.005	0.64	0.589	525.9767	0.166
Crawler Tractors	2019	51	120	0.901167	0.757	6.39347	4.08842	0.005	0.535	0.492	486.9909	0.154
Crawler Tractors	2019	121	175	0.615173	0.517	5.38191	3.37886	0.005	0.3	0.276	481.6222	0.152
Crawler Tractors	2019	176	250	0.45175	0.38	4.9721	1.60445	0.005	0.187	0.172	483.4489	0.153
Crawler Tractors	2019	251	500	0.37933	0.319	3.93412	2.21938	0.005	0.153	0.141	485.8645	0.154
Crawler Tractors	2019	501	750	0.316919	0.266	3.34253	1.35585	0.005	0.123	0.113	483.3879	0.153
Crawler Tractors	2019	751	1000	0.547243	0.46	7.21215	2.02037	0.005	0.211	0.194	486.2545	0.154
Crawler Tractors	2020	26	50	2.443056	2.053	5.64276	7.3	0.005	0.591	0.544	515.679	0.167
Crawler Tractors	2020	51	120	0.850709	0.715	6.00933	4.04412	0.005	0.5	0.46	476.3284	0.154
Crawler Tractors	2020	121	175	0.566576	0.476	4.87226	3.33989	0.005	0.272	0.25	471.015	0.152
Crawler Tractors	2020	176	250	0.428471	0.36	4.63225	1.55491	0.005	0.175	0.161	472.941	0.153
Crawler Tractors	2020	251	500	0.358593	0.301	3.62175	2.0875	0.005	0.141	0.13	475.2338	0.154
Crawler Tractors	2020	501	750	0.304872	0.256	3.13716	1.31018	0.005	0.115	0.106	473.3119	0.153
Crawler Tractors	2020	751	1000	0.551035	0.463	7.23682	2.02764	0.005	0.212	0.195	475.6525	0.154
Crawler Tractors	2021	26	50	2.456387	2.064	5.61511	7.34869	0.005	0.591	0.543	516.1077	0.167
Crawler Tractors	2021	51	120	0.800723	0.673	5.65746	4.00549	0.005	0.466	0.428	476.437	0.154
Crawler Tractors	2021	121	175	0.518367	0.436	4.3947	3.30982	0.005	0.245	0.225	471.421	0.152
Crawler Tractors	2021	176	250	0.407794	0.343	4.33394	1.51456	0.005	0.163	0.15	472.9246	0.153
Crawler Tractors	2021	251	500	0.337066	0.283	3.27633	2.02434	0.005	0.129	0.119	474.4843	0.153
Crawler Tractors	2021	501	750	0.284829	0.239	2.82478	1.26985	0.005	0.104	0.095	473.0941	0.153
Crawler Tractors	2021	751	1000	0.475256	0.399	6.3992	1.89563	0.005	0.182	0.167	471.8224	0.153
Crawler Tractors	2022	26	50	2.25944	1.899	5.37962	7.04118	0.005	0.539	0.496	516.1476	0.167
Crawler Tractors	2022	51	120	0.714244	0.6	5.10103	3.92498	0.005	0.408	0.375	476.0219	0.154
Crawler Tractors	2022	121	175	0.463094	0.389	3.82659	3.26382	0.005	0.214	0.197	471.5674	0.153
Crawler Tractors	2022	176	250	0.364117	0.306	3.73672	1.43975	0.005	0.141	0.13	472.0975	0.153
Crawler Tractors	2022	251	500	0.30258	0.254	2.74435	1.91628	0.005	0.111	0.102	474.4115	0.153
Crawler Tractors	2022	501	750	0.235465	0.198	2.12552	1.18638	0.005	0.079	0.073	472.876	0.153
Crawler Tractors	2022	751	1000	0.424397	0.357	5.92299	1.73227	0.005	0.162	0.149	470.7007	0.152
Crawler Tractors	2023	26	50	2.228685	1.873	5.32514	7.02687	0.005	0.526	0.484	516.1587	0.167
Crawler Tractors	2023	51	120	0.663952	0.558	4.76208	3.88936	0.005	0.373	0.343	476.1575	0.154
Crawler Tractors	2023	121	175	0.41309	0.347	3.33004	3.23526	0.005	0.185	0.17	471.7805	0.153
Crawler Tractors	2023	176	250	0.328767	0.276	3.18735	1.39549	0.005	0.124	0.114	471.6244	0.153
Crawler Tractors	2023	251	500	0.286276	0.241	2.47635	1.85216	0.005	0.102	0.094	474.6128	0.153
Crawler Tractors	2023	501	750	0.218505	0.184	1.86667	1.15892	0.005	0.069	0.064	472.5297	0.153
Crawler Tractors	2023	751	1000	0.319268	0.268	4.76968	1.6104	0.005	0.118	0.109	473.6655	0.153
Crawler Tractors	2024	26	50	2.089827	1.756	4.97522	6.68497	0.005	0.466	0.429	515.4658	0.167
Crawler Tractors	2024	51	120	0.610839	0.513	4.40892	3.85173	0.005	0.335	0.309	476.2342	0.154
Crawler Tractors	2024	121	175	0.387606	0.326	3.04107	3.22706	0.005	0.17	0.157	471.8291	0.153
Crawler Tractors	2024	176	250	0.313897	0.264	2.95319	1.36992	0.005	0.115	0.105	471.8603	0.153
Crawler Tractors	2024	251	500	0.271114	0.228	2.2441	1.77984	0.005	0.093	0.085	474.025	0.153
Crawler Tractors	2024	501	750	0.215283	0.181	1.76658	1.15921	0.005	0.066	0.061	472.2827	0.153
Crawler Tractors	2024	751	1000	0.313081	0.263	4.68945	1.58774	0.005	0.115	0.106	474.6448	0.154
Crawler Tractors	2025	26	50	2.075042	1.744	4.93567	6.68642	0.005	0.456	0.42	516.1279	0.167
Crawler Tractors	2025	51	120	0.540303	0.454	3.96126	3.78839	0.005	0.285	0.262	476.1336	0.154
Crawler Tractors	2025	121	175	0.354345	0.298	2.68768	3.20909	0.005	0.15	0.138	471.5923	0.153
Crawler Tractors	2025	176	250	0.276616	0.232	2.46158	1.30849	0.005	0.096	0.088	471.6224	0.153
Crawler Tractors	2025	251	500	0.247477	0.208	1.92007	1.71697	0.005	0.081	0.074	474.0072	0.153
Crawler Tractors	2025	501	750	0.198724	0.167	1.54452	1.12199	0.005	0.057	0.052	472.4081	0.153
Crawler Tractors	2025	751	1000	0.308836	0.26	4.59799	1.59298	0.005	0.111	0.103	475.4901	0.154
Crawler Tractors	2030	26	50	1.912	0.833	3.808	5.605	0.007	0.116	0.116	568.299	0.075
Crawler Tractors	2030	51	120	2.461	0.405	2.341	3.871	0.006	0.105	0.105	568.299	0.036
Crawler Tractors	2030	121	175	3.315	0.296	1.266	3.397	0.006	0.065	0.065	568.299	0.026
Crawler Tractors	2030	176	250	4.019	0.262	1.104	1.207	0.006	0.04	0.04	568.299	0.023
Crawler Tractors	2030	251	500	6.146	0.257	1.016	1.2	0.005	0.038	0.038	568.299	0.023
Crawler Tractors	2030	501	750	11.033	0.257	1.033	1.2	0.005	0.038	0.038	568.299	0.023
Crawler Tractors	2030	751	1000	16.147	0.265	3.094	1.225	0.005	0.056	0.056	568.3	0.023
Crawler Tractors	2035	26	50	1.626	0.708	3.558	5.493	0.007	0.066	0.066	568.299	0.063
Crawler Tractors	2035	51	120	2.099	0.345	1.922	3.85	0.006	0.06	0.06	568.299	0.031
Crawler Tractors	2035	121	175	2.772	0.247	0.794	3.391	0.006	0.038	0.038	568.299	0.022
Crawler Tractors	2035	176	250	3.521	0.229	0.695	1.182	0.006	0.026	0.026	568.299	0.02
Crawler Tractors	2035	251	500	5.432	0.227	0.657	1.145	0.005	0.025	0.025	568.299	0.02
Crawler Tractors	2035	501	750	9.744	0.227	0.664	1.145	0.005	0.025	0.025	568.299	0.02
Crawler Tractors	2035	751	1000	14.073	0.231	2.792	1.159	0.005	0.041	0.041	568.299	0.02
Crawler Tractors	2040	26	50	1.499	0.653	3.42	5.443	0.007	0.042	0.042	568.299	0.058
Crawler Tractors	2040	51	120	1.924	0.316	1.709	3.839	0.006	0.039	0.039	568.299	0.028
Crawler Tractors	2040	121	175	2.48	0.221	0.539	3.388	0.006	0.025	0.025	568.299	0.02
Crawler Tractors	2040	176	250	3.247	0.211	0.491	1.167	0.006	0.018	0.018	568.299	0.019
Crawler Tractors	2040	251	500	5.035	0.21	0.47	1.113	0.005	0.018	0.018	568.299	0.018
Crawler Tractors	2040	501	750	9.03	0.21	0.475	1.113	0.005	0.018	0.018	568.299	0.019
Crawler Tractors	2040	751	1000	12.945	0.213	2.652	1.122	0.005	0.032	0.032	568.299	0.019
Crushing/Proc. Equipment	1990	26	50	11.643	4.43	7.809	9.044	0.871	1.194	1.194	568.299	0.399
Crushing/Proc. Equipment	1990	51	120	11.193	2.255	14.555	5.547	0.791	1.258	1.258	568.299	0.203
Crushing/Proc. Equipment	1990	121	175	15.383	1.54	13.086	4.913	0.758	0.834	0.834	568.299	0.138
Crushing/Proc. Equipment	1990	176	250	22.49	1.54	13.086	4.913	0.758	0.834	0.834	568.299	0.138
Crushing/Proc. Equipment	1990	251	500	30.672	1.374	12.492	10.176	0.662	0.724	0.724	568.299	0.124
Crushing/Proc. Equipment	1990	501	750	48.337	1.374	12.492	10.175	1.018	0.737	0.737	568.299	0.124
Crushing/Proc. Equipment	1990	1001	9999	106.942	1.369	12.492	10.175	1.018	0.731	0.731	568.299	0.123
Crushing/Proc. Equipment	2000	26	50	10.827	4.12	6.954	8.551	0.066	0.876	0.876	568.299	0.371



Crushing/Proc. Equipment	2000	51	120	8.945	1.802	10.363	4.594	0.06	0.857	0.857	568.299	0.162
Crushing/Proc. Equipment	2000	121	175	12.05	1.206	9.416	3.737	0.057	0.506	0.506	568.299	0.108
Crushing/Proc. Equipment	2000	176	250	14.723	1.008	9.058	2.963	0.057	0.414	0.414	568.299	0.09
Crushing/Proc. Equipment	2000	251	500	20.487	0.918	8.658	5.011	0.05	0.366	0.366	568.299	0.082
Crushing/Proc. Equipment	2000	501	750	30.946	0.88	8.459	4.658	0.052	0.348	0.348	568.299	0.079
Crushing/Proc. Equipment	2000	1001	9999	77.281	0.989	9.138	5.329	0.052	0.37	0.37	568.299	0.089
Crushing/Proc. Equipment	2005	26	50	9.624	3.662	6.477	7.904	0.066	0.812	0.812	568.3	0.33
Crushing/Proc. Equipment	2005	51	120	7.644	1.54	8.68	4.24	0.06	0.794	0.794	568.299	0.138
Crushing/Proc. Equipment	2005	121	175	10.064	1.007	7.941	3.372	0.057	0.438	0.438	568.299	0.09
Crushing/Proc. Equipment	2005	176	250	10.399	0.712	7.484	1.97	0.057	0.282	0.282	568.299	0.064
Crushing/Proc. Equipment	2005	251	500	14.029	0.628	6.846	2.549	0.05	0.252	0.252	568.299	0.056
Crushing/Proc. Equipment	2005	501	750	22.225	0.632	6.974	2.431	0.052	0.249	0.249	568.299	0.057
Crushing/Proc. Equipment	2005	1001	9999	60.257	0.771	8.054	3.042	0.052	0.268	0.268	568.299	0.069
Crushing/Proc. Equipment	2010	26	50	7.704	2.931	6.068	7.22	0.007	0.671	0.671	568.299	0.264
Crushing/Proc. Equipment	2010	51	120	5.971	1.203	7.096	4.071	0.006	0.656	0.656	568.299	0.108
Crushing/Proc. Equipment	2010	121	175	8.033	0.804	6.322	3.307	0.006	0.362	0.362	568.299	0.072
Crushing/Proc. Equipment	2010	176	250	7.61	0.521	5.918	1.446	0.006	0.195	0.195	568.299	0.047
Crushing/Proc. Equipment	2010	251	500	10.487	0.47	5.248	1.603	0.005	0.18	0.18	568.299	0.042
Crushing/Proc. Equipment	2010	501	750	16.814	0.478	5.449	1.568	0.005	0.183	0.183	568.299	0.043
Crushing/Proc. Equipment	2010	1001	9999	46.933	0.601	6.987	2.091	0.005	0.209	0.209	568.299	0.054
Crushing/Proc. Equipment	2011	26	50	7.155	2.722	5.972	6.995	0.007	0.636	0.636	568.299	0.245
Crushing/Proc. Equipment	2011	51	120	5.588	1.125	6.704	4.03	0.006	0.625	0.625	568.3	0.101
Crushing/Proc. Equipment	2011	121	175	7.581	0.759	5.953	3.294	0.006	0.347	0.347	568.299	0.068
Crushing/Proc. Equipment	2011	176	250	7.059	0.483	5.498	1.356	0.006	0.175	0.175	568.299	0.043
Crushing/Proc. Equipment	2011	251	500	9.796	0.439	4.858	1.462	0.005	0.162	0.162	568.299	0.039
Crushing/Proc. Equipment	2011	501	750	15.681	0.446	5.054	1.435	0.005	0.165	0.165	568.299	0.04
Crushing/Proc. Equipment	2011	1001	9999	44.108	0.564	6.609	1.923	0.005	0.196	0.196	568.299	0.05
Crushing/Proc. Equipment	2012	26	50	6.538	2.488	5.867	6.733	0.007	0.596	0.596	568.299	0.224
Crushing/Proc. Equipment	2012	51	120	5.173	1.042	6.269	3.984	0.006	0.582	0.582	568.299	0.094
Crushing/Proc. Equipment	2012	121	175	7.084	0.709	5.553	3.28	0.006	0.321	0.321	568.299	0.064
Crushing/Proc. Equipment	2012	176	250	6.627	0.453	5.088	1.299	0.006	0.158	0.158	568.299	0.04
Crushing/Proc. Equipment	2012	251	500	9.273	0.415	4.48	1.362	0.005	0.147	0.147	568.3	0.037
Crushing/Proc. Equipment	2012	501	750	14.786	0.42	4.662	1.341	0.005	0.15	0.15	568.299	0.037
Crushing/Proc. Equipment	2012	1001	9999	41.105	0.526	6.197	1.755	0.005	0.182	0.182	568.299	0.047
Crushing/Proc. Equipment	2013	26	50	5.908	2.248	5.628	6.467	0.007	0.545	0.545	568.299	0.202
Crushing/Proc. Equipment	2013	51	120	4.758	0.958	5.845	3.94	0.006	0.532	0.532	568.299	0.086
Crushing/Proc. Equipment	2013	121	175	6.588	0.659	5.177	3.267	0.006	0.293	0.293	568.299	0.059
Crushing/Proc. Equipment	2013	176	250	6.27	0.429	4.695	1.26	0.006	0.144	0.144	568.299	0.038
Crushing/Proc. Equipment	2013	251	500	8.85	0.396	4.121	1.289	0.005	0.134	0.134	568.299	0.035
Crushing/Proc. Equipment	2013	501	750	14.055	0.399	4.285	1.273	0.005	0.136	0.136	568.299	0.036
Crushing/Proc. Equipment	2013	1001	9999	38.235	0.489	5.785	1.599	0.005	0.168	0.168	568.299	0.044
Crushing/Proc. Equipment	2014	26	50	5.288	2.012	5.399	6.212	0.007	0.494	0.494	568.299	0.181
Crushing/Proc. Equipment	2014	51	120	4.356	0.877	5.468	3.898	0.006	0.481	0.481	568.299	0.079
Crushing/Proc. Equipment	2014	121	175	6.112	0.612	4.823	3.256	0.006	0.265	0.265	568.299	0.055
Crushing/Proc. Equipment	2014	176	250	5.916	0.405	4.239	1.228	0.006	0.13	0.13	568.299	0.036
Crushing/Proc. Equipment	2014	251	500	8.415	0.377	3.702	1.23	0.005	0.121	0.121	568.299	0.034
Crushing/Proc. Equipment	2014	501	750	13.314	0.378	3.844	1.218	0.005	0.123	0.123	568.299	0.034
Crushing/Proc. Equipment	2014	1001	9999	35.652	0.456	5.391	1.46	0.005	0.155	0.155	568.299	0.041
Crushing/Proc. Equipment	2015	26	50	4.722	1.796	5.195	5.996	0.007	0.446	0.446	568.299	0.162
Crushing/Proc. Equipment	2015	51	120	3.959	0.797	5.04	3.859	0.006	0.43	0.43	568.299	0.071
Crushing/Proc. Equipment	2015	121	175	5.614	0.562	4.343	3.247	0.006	0.237	0.237	568.299	0.05
Crushing/Proc. Equipment	2015	176	250	5.585	0.382	3.801	1.201	0.006	0.117	0.117	568.299	0.034
Crushing/Proc. Equipment	2015	251	500	8	0.358	3.304	1.184	0.005	0.109	0.109	568.299	0.032
Crushing/Proc. Equipment	2015	501	750	12.614	0.358	3.422	1.176	0.005	0.111	0.111	568.299	0.032
Crushing/Proc. Equipment	2015	1001	9999	32.981	0.422	5.019	1.343	0.005	0.14	0.14	568.299	0.038
Crushing/Proc. Equipment	2016	26	50	4.186	1.593	5.006	5.801	0.007	0.399	0.399	568.299	0.143
Crushing/Proc. Equipment	2016	51	120	3.576	0.72	4.631	3.823	0.006	0.379	0.379	568.299	0.065
Crushing/Proc. Equipment	2016	121	175	5.132	0.513	3.883	3.241	0.006	0.21	0.21	568.299	0.046
Crushing/Proc. Equipment	2016	176	250	5.267	0.36	3.381	1.178	0.006	0.105	0.105	568.299	0.032
Crushing/Proc. Equipment	2016	251	500	7.601	0.34	2.928	1.146	0.005	0.098	0.098	568.299	0.03
Crushing/Proc. Equipment	2016	501	750	11.944	0.339	3.021	1.14	0.005	0.099	0.099	568.299	0.03
Crushing/Proc. Equipment	2016	1001	9999	31.036	0.397	4.7	1.274	0.005	0.127	0.127	568.299	0.035
Crushing/Proc. Equipment	2017	26	50	3.684	1.402	4.827	5.623	0.007	0.354	0.354	568.299	0.126
Crushing/Proc. Equipment	2017	51	120	3.216	0.647	4.244	3.791	0.006	0.33	0.33	568.299	0.058
Crushing/Proc. Equipment	2017	121	175	4.681	0.468	3.45	3.236	0.006	0.185	0.185	568.299	0.042
Crushing/Proc. Equipment	2017	176	250	4.974	0.34	2.987	1.16	0.006	0.094	0.094	568.299	0.03
Crushing/Proc. Equipment	2017	251	500	7.242	0.324	2.602	1.118	0.005	0.088	0.088	568.299	0.029
Crushing/Proc. Equipment	2017	501	750	11.359	0.323	2.664	1.114	0.005	0.088	0.088	568.299	0.029
Crushing/Proc. Equipment	2017	1001	9999	29.544	0.378	4.423	1.231	0.005	0.117	0.117	568.299	0.034
Crushing/Proc. Equipment	2018	26	50	3.219	1.225	4.657	5.461	0.007	0.31	0.31	568.299	0.11
Crushing/Proc. Equipment	2018	51	120	2.881	0.58	3.881	3.763	0.006	0.284	0.284	568.299	0.052
Crushing/Proc. Equipment	2018	121	175	4.267	0.427	3.049	3.234	0.006	0.161	0.161	568.299	0.038
Crushing/Proc. Equipment	2018	176	250	4.701	0.322	2.622	1.146	0.006	0.083	0.083	568.299	0.029
Crushing/Proc. Equipment	2018	251	500	6.912	0.309	2.312	1.099	0.005	0.079	0.079	568.299	0.027
Crushing/Proc. Equipment	2018	501	750	10.84	0.308	2.358	1.097	0.005	0.079	0.079	568.299	0.027
Crushing/Proc. Equipment	2018	1001	9999	28.23	0.361	4.168	1.198	0.005	0.107	0.107	568.299	0.032
Crushing/Proc. Equipment	2019	26	50	2.798	1.064	4.495	5.316	0.007	0.269	0.269	568.299	0.096
Crushing/Proc. Equipment	2019	51	120	2.577	0.519	3.544	3.739	0.006	0.241	0.241	568.299	0.046
Crushing/Proc. Equipment	2019	121	175	3.938	0.394	2.7	3.233	0.006	0.141	0.141	568.299	0.035
Crushing/Proc. Equipment	2019	176	250	4.451	0.304	2.3	1.134	0.006	0.074	0.074	568.299	0.027
Crushing/Proc. Equipment	2019	251	500	6.592	0.295	2.046	1.087	0.005	0.071	0.071	568.299	0.026
Crushing/Proc. Equipment	2019	501	750	10.352	0.294	2.085	1.085	0.005	0.071	0.071	568.299	0.026
Crushing/Proc. Equipment	2019	1001	9999	26.978	0.345	3.927	1.173	0.005	0.098	0.098	568.299	0.031
Crushing/Proc. Equipment	2020	26	50	2.489	0.947	4.347	5.211	0.007	0.233	0.233	568.299	0.085
Crushing/Proc. Equipment	2020	51	120	2.348	0.473	3.249	3.722	0.006	0.206	0.206	568.299	0.042
Crushing/Proc. Equipment	2020	121	175	3.673	0.367	2.392	3.234	0.006	0.124	0.124	568.299	0.033
Crushing/Proc. Equipment	2020	176	250	4.222	0.289	2.014	1.125	0.006	0.065	0.065	568.299	0.026
Crushing/Proc. Equipment	2020	251	500	6.283	0.281	1.799	1.078	0.005	0.063	0.063	568.299	0.025
Crushing/Proc. Equipment	2020	501	750	9.884	0.281	1.835	1.077	0.005	0.063	0.063	568.299	0.025

Crushing/Proc. Equipment	2020	1001	9999	25.755	0.329	3.699	1.153	0.005	0.089	0.089	568.299	0.029
Crushing/Proc. Equipment	2021	26	50	2.265	0.862	4.211	5.136	0.007	0.201	0.201	568.299	0.077
Crushing/Proc. Equipment	2021	51	120	2.176	0.438	2.989	3.711	0.006	0.178	0.178	568.299	0.039
Crushing/Proc. Equipment	2021	121	175	3.442	0.344	2.114	3.235	0.006	0.109	0.109	568.299	0.031
Crushing/Proc. Equipment	2021	176	250	4.009	0.274	1.756	1.119	0.006	0.057	0.057	568.299	0.024
Crushing/Proc. Equipment	2021	251	500	5.988	0.268	1.574	1.072	0.005	0.055	0.055	568.3	0.024
Crushing/Proc. Equipment	2021	501	750	9.434	0.268	1.606	1.072	0.005	0.055	0.055	568.299	0.024
Crushing/Proc. Equipment	2021	1001	9999	24.586	0.314	3.487	1.136	0.005	0.08	0.08	568.299	0.028
Crushing/Proc. Equipment	2022	26	50	2.09	0.795	4.083	5.081	0.007	0.172	0.172	568.299	0.071
Crushing/Proc. Equipment	2022	51	120	2.036	0.41	2.758	3.704	0.006	0.154	0.154	568.299	0.037
Crushing/Proc. Equipment	2022	121	175	3.231	0.323	1.861	3.237	0.006	0.095	0.095	568.299	0.029
Crushing/Proc. Equipment	2022	176	250	3.808	0.26	1.521	1.114	0.006	0.05	0.05	568.299	0.023
Crushing/Proc. Equipment	2022	251	500	5.706	0.255	1.389	1.067	0.005	0.048	0.048	568.299	0.023
Crushing/Proc. Equipment	2022	501	750	9.002	0.256	1.416	1.067	0.005	0.048	0.048	568.299	0.023
Crushing/Proc. Equipment	2022	1001	9999	23.492	0.3	3.31	1.121	0.005	0.073	0.073	568.299	0.027
Crushing/Proc. Equipment	2023	26	50	1.944	0.739	3.962	5.039	0.007	0.146	0.146	568.299	0.066
Crushing/Proc. Equipment	2023	51	120	1.914	0.385	2.552	3.7	0.006	0.132	0.132	568.299	0.034
Crushing/Proc. Equipment	2023	121	175	3.042	0.304	1.654	3.24	0.006	0.083	0.083	568.299	0.027
Crushing/Proc. Equipment	2023	176	250	3.623	0.248	1.33	1.111	0.006	0.043	0.043	568.299	0.022
Crushing/Proc. Equipment	2023	251	500	5.444	0.244	1.227	1.064	0.005	0.042	0.042	568.299	0.022
Crushing/Proc. Equipment	2023	501	750	8.598	0.244	1.251	1.065	0.005	0.042	0.042	568.3	0.022
Crushing/Proc. Equipment	2023	1001	9999	22.463	0.287	3.16	1.107	0.005	0.066	0.066	568.299	0.025
Crushing/Proc. Equipment	2024	26	50	1.825	0.694	3.85	5.008	0.007	0.125	0.125	568.299	0.062
Crushing/Proc. Equipment	2024	51	120	1.81	0.364	2.389	3.697	0.006	0.112	0.112	568.299	0.032
Crushing/Proc. Equipment	2024	121	175	2.866	0.287	1.472	3.243	0.006	0.071	0.071	568.299	0.025
Crushing/Proc. Equipment	2024	176	250	3.448	0.236	1.165	1.109	0.006	0.036	0.036	568.299	0.021
Crushing/Proc. Equipment	2024	251	500	5.193	0.232	1.077	1.062	0.005	0.035	0.035	568.299	0.021
Crushing/Proc. Equipment	2024	501	750	8.207	0.233	1.098	1.063	0.005	0.036	0.036	568.299	0.021
Crushing/Proc. Equipment	2024	1001	9999	21.454	0.274	3.029	1.096	0.005	0.059	0.059	568.299	0.024
Crushing/Proc. Equipment	2025	26	50	1.724	0.656	3.742	4.982	0.007	0.107	0.107	568.299	0.059
Crushing/Proc. Equipment	2025	51	120	1.716	0.345	2.248	3.694	0.006	0.095	0.095	568.299	0.031
Crushing/Proc. Equipment	2025	121	175	2.696	0.27	1.301	3.246	0.006	0.06	0.06	568.299	0.024
Crushing/Proc. Equipment	2025	176	250	3.279	0.224	1.012	1.108	0.006	0.031	0.031	568.299	0.02
Crushing/Proc. Equipment	2025	251	500	4.95	0.221	0.937	1.061	0.005	0.03	0.03	568.299	0.02
Crushing/Proc. Equipment	2025	501	750	7.826	0.222	0.955	1.061	0.005	0.03	0.03	568.299	0.02
Crushing/Proc. Equipment	2025	1001	9999	20.429	0.261	2.91	1.087	0.005	0.053	0.053	568.299	0.023
Crushing/Proc. Equipment	2030	26	50	1.381	0.525	3.351	4.857	0.007	0.043	0.043	568.299	0.047
Crushing/Proc. Equipment	2030	51	120	1.35	0.272	1.708	3.673	0.006	0.038	0.038	568.299	0.024
Crushing/Proc. Equipment	2030	121	175	1.976	0.197	0.6	3.244	0.006	0.025	0.025	568.299	0.017
Crushing/Proc. Equipment	2030	176	250	2.701	0.185	0.502	1.105	0.006	0.017	0.017	568.299	0.016
Crushing/Proc. Equipment	2030	251	500	4.113	0.184	0.476	1.058	0.005	0.017	0.017	568.299	0.016
Crushing/Proc. Equipment	2030	501	750	6.473	0.184	0.478	1.058	0.005	0.017	0.017	568.299	0.016
Crushing/Proc. Equipment	2030	1001	9999	15.345	0.196	2.59	1.059	0.005	0.032	0.032	568.299	0.017
Crushing/Proc. Equipment	2035	26	50	1.282	0.487	3.237	4.819	0.007	0.023	0.023	568.299	0.044
Crushing/Proc. Equipment	2035	51	120	1.236	0.249	1.531	3.665	0.006	0.02	0.02	568.299	0.022
Crushing/Proc. Equipment	2035	121	175	1.76	0.176	0.382	3.242	0.006	0.015	0.015	568.299	0.015
Crushing/Proc. Equipment	2035	176	250	2.521	0.172	0.342	1.104	0.006	0.012	0.012	568.3	0.015
Crushing/Proc. Equipment	2035	251	500	3.852	0.172	0.338	1.058	0.005	0.012	0.012	568.299	0.015
Crushing/Proc. Equipment	2035	501	750	6.064	0.172	0.338	1.058	0.005	0.012	0.012	568.299	0.015
Crushing/Proc. Equipment	2035	1001	9999	13.865	0.177	2.482	1.058	0.005	0.026	0.026	568.299	0.016
Crushing/Proc. Equipment	2040	26	50	1.284	0.488	3.194	4.833	0.007	0.017	0.017	568.299	0.044
Crushing/Proc. Equipment	2040	51	120	1.219	0.245	1.477	3.67	0.006	0.015	0.015	568.299	0.022
Crushing/Proc. Equipment	2040	121	175	1.698	0.17	0.306	3.246	0.006	0.012	0.012	568.299	0.015
Crushing/Proc. Equipment	2040	176	250	2.464	0.168	0.292	1.106	0.006	0.011	0.011	568.299	0.015
Crushing/Proc. Equipment	2040	251	500	3.766	0.168	0.292	1.059	0.005	0.011	0.011	568.299	0.015
Crushing/Proc. Equipment	2040	501	750	5.941	0.169	0.292	1.059	0.005	0.011	0.011	568.299	0.015
Crushing/Proc. Equipment	2040	1001	9999	13.333	0.17	2.457	1.059	0.005	0.024	0.024	568.299	0.015
Dumpers/Tenders	1990	16	25	2.645	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Dumpers/Tenders	2000	16	25	2.444	2.045	6.397	4.69	0.065	0.571	0.571	568.299	0.184
Dumpers/Tenders	2005	16	25	1.554	1.3	5.74	3.337	0.065	0.426	0.426	568.299	0.117
Dumpers/Tenders	2010	16	25	0.963	0.806	4.804	2.507	0.007	0.271	0.271	568.299	0.072
Dumpers/Tenders	2011	16	25	0.921	0.771	4.686	2.456	0.007	0.251	0.251	568.299	0.069
Dumpers/Tenders	2012	16	25	0.887	0.742	4.576	2.416	0.007	0.232	0.232	568.299	0.066
Dumpers/Tenders	2013	16	25	0.86	0.719	4.477	2.385	0.007	0.216	0.216	568.3	0.064
Dumpers/Tenders	2014	16	25	0.842	0.705	4.433	2.364	0.007	0.2	0.2	568.3	0.063
Dumpers/Tenders	2015	16	25	0.831	0.696	4.402	2.35	0.007	0.187	0.187	568.299	0.062
Dumpers/Tenders	2016	16	25	0.825	0.69	4.378	2.342	0.007	0.175	0.175	568.299	0.062
Dumpers/Tenders	2017	16	25	0.821	0.687	4.362	2.34	0.007	0.171	0.171	568.299	0.062
Dumpers/Tenders	2018	16	25	0.82	0.686	4.35	2.339	0.007	0.169	0.169	568.299	0.061
Dumpers/Tenders	2019	16	25	0.82	0.686	4.341	2.339	0.007	0.167	0.167	568.299	0.061
Dumpers/Tenders	2020	16	25	0.819	0.685	4.336	2.339	0.007	0.165	0.165	568.299	0.061
Dumpers/Tenders	2021	16	25	0.819	0.685	4.333	2.339	0.007	0.163	0.163	568.299	0.061
Dumpers/Tenders	2022	16	25	0.819	0.685	4.332	2.339	0.007	0.162	0.162	568.299	0.061
Dumpers/Tenders	2023	16	25	0.819	0.685	4.332	2.339	0.007	0.162	0.162	568.299	0.061
Dumpers/Tenders	2024	16	25	0.819	0.685	4.332	2.34	0.007	0.161	0.161	568.299	0.061
Dumpers/Tenders	2025	16	25	0.819	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Dumpers/Tenders	2030	16	25	0.819	0.685	4.332	2.34	0.007	0.161	0.161	568.299	0.061
Dumpers/Tenders	2035	16	25	0.819	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Dumpers/Tenders	2040	16	25	0.819	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Excavators	1990	16	25	5.933	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Excavators	1990	26	50	21.032	5.155	8.08	10.359	0.871	1.341	1.341	568.299	0.465
Excavators	1990	51	120	29.647	2.469	15.421	5.901	0.791	1.413	1.413	568.299	0.222
Excavators	1990	121	175	35.634	1.947	15.075	5.271	0.758	1.096	1.096	568.299	0.175
Excavators	1990	176	250	50.388	1.947	15.075	5.271	0.758	1.096	1.096	568.299	0.175
Excavators	1990	251	500	65.206	1.71	14.225	12.155	0.662	0.93	0.93	568.3	0.154
Excavators	1990	501	750	108.079	1.71	14.225	12.155	1.018	0.947	0.947	568.299	0.154
Excavators	2000	16	25	4.937	1.841	6.281	4.315	0.065	0.543	0.543	568.299	0.166
Excavators	2000	26	50	18.836	4.616	7.102	9.494	0.066	0.958	0.958	568.299	0.416
Excavators	2000	51	120	21.925	1.826	10.156	4.602	0.06	0.913	0.913	568.299	0.164

Excavators	2000	121	175	22.624	1.236	9.345	3.672	0.057	0.525	0.525	568.299	0.111
Excavators	2000	176	250	25.927	1.001	8.952	2.794	0.057	0.409	0.409	568.299	0.09
Excavators	2000	251	500	34.719	0.91	8.491	3.974	0.05	0.362	0.362	568.299	0.082
Excavators	2000	501	750	57.546	0.91	8.491	3.974	0.052	0.362	0.362	568.299	0.082
Excavators	2005	16	25	2.091	0.779	5.219	2.397	0.065	0.319	0.319	568.299	0.07
Excavators	2005	26	50	16.217	3.974	6.562	8.597	0.066	0.871	0.871	568.299	0.358
Excavators	2005	51	120	19.001	1.582	8.632	4.354	0.06	0.853	0.853	568.299	0.142
Excavators	2005	121	175	18.9	1.032	7.905	3.452	0.057	0.461	0.461	568.299	0.093
Excavators	2005	176	250	18.379	0.71	7.456	1.892	0.057	0.276	0.276	568.299	0.064
Excavators	2005	251	500	24.005	0.629	6.685	2.194	0.05	0.248	0.248	568.299	0.056
Excavators	2005	501	750	40.443	0.64	6.888	2.192	0.052	0.251	0.251	568.299	0.057
Excavators	2010	16	25	0.993664	0.835	5.19123	4.56926	0.005	0.413	0.38	584.0737	0.17
Excavators	2010	26	50	0.993664	0.835	5.19123	4.56926	0.005	0.413	0.38	584.0737	0.17
Excavators	2010	51	120	0.73275	0.616	6.10169	3.69337	0.005	0.469	0.432	518.9941	0.151
Excavators	2010	121	175	0.572846	0.481	5.82964	3.1674	0.005	0.299	0.275	525.0484	0.153
Excavators	2010	176	250	0.422004	0.355	5.78636	1.45526	0.005	0.182	0.167	525.2427	0.153
Excavators	2010	251	500	0.315965	0.265	4.38582	1.44794	0.005	0.143	0.132	522.2909	0.152
Excavators	2010	501	750	0.327987	0.276	4.52996	1.53784	0.005	0.149	0.137	520.4269	0.151
Excavators	2011	16	25	0.999474	0.84	5.21824	4.67202	0.005	0.413	0.38	582.8586	0.17
Excavators	2011	26	50	0.999474	0.84	5.21824	4.67202	0.005	0.413	0.38	582.8586	0.17
Excavators	2011	51	120	0.675188	0.567	5.70006	3.65807	0.005	0.436	0.401	517.4139	0.151
Excavators	2011	121	175	0.533269	0.448	5.44943	3.15702	0.005	0.278	0.255	523.5178	0.153
Excavators	2011	176	250	0.400356	0.336	5.41822	1.41809	0.005	0.171	0.157	523.6886	0.153
Excavators	2011	251	500	0.303301	0.255	4.1131	1.41288	0.005	0.133	0.123	521.2972	0.152
Excavators	2011	501	750	0.326107	0.274	4.42127	1.47034	0.005	0.146	0.134	519.1221	0.151
Excavators	2012	16	25	1.018057	0.855	5.19511	4.79179	0.005	0.412	0.379	581.4648	0.17
Excavators	2012	26	50	1.018057	0.855	5.19511	4.79179	0.005	0.412	0.379	581.4648	0.17
Excavators	2012	51	120	0.67458	0.567	5.63138	3.68099	0.005	0.434	0.399	516.083	0.151
Excavators	2012	121	175	0.534632	0.449	5.38897	3.17839	0.005	0.275	0.253	522.0959	0.153
Excavators	2012	176	250	0.402641	0.338	5.32577	1.42562	0.005	0.169	0.155	522.4958	0.153
Excavators	2012	251	500	0.308496	0.259	4.05714	1.4255	0.005	0.131	0.121	520.034	0.152
Excavators	2012	501	750	0.334165	0.281	4.3898	1.47962	0.005	0.145	0.134	517.8167	0.151
Excavators	2013	16	25	0.995402	0.836	5.0526	4.80774	0.005	0.393	0.362	578.236	0.17
Excavators	2013	26	50	0.995402	0.836	5.0526	4.80774	0.005	0.393	0.362	578.236	0.17
Excavators	2013	51	120	0.639011	0.537	5.3703	3.66866	0.005	0.404	0.372	513.7321	0.151
Excavators	2013	121	175	0.503929	0.423	5.08991	3.16966	0.005	0.253	0.233	519.496	0.153
Excavators	2013	176	250	0.383779	0.322	4.93756	1.40068	0.005	0.157	0.145	519.8753	0.153
Excavators	2013	251	500	0.295491	0.248	3.73509	1.38754	0.005	0.121	0.111	517.7809	0.152
Excavators	2013	501	750	0.301827	0.254	3.92892	1.36166	0.005	0.126	0.116	514.1872	0.151
Excavators	2014	16	25	0.981904	0.825	4.96504	4.84434	0.005	0.38	0.35	575.2674	0.17
Excavators	2014	26	50	0.981904	0.825	4.96504	4.84434	0.005	0.38	0.35	575.2674	0.17
Excavators	2014	51	120	0.610505	0.513	5.13137	3.66313	0.005	0.382	0.352	511.3057	0.151
Excavators	2014	121	175	0.464169	0.39	4.65701	3.15438	0.005	0.229	0.211	516.9066	0.153
Excavators	2014	176	250	0.350137	0.294	4.37384	1.34557	0.005	0.139	0.128	517.3234	0.153
Excavators	2014	251	500	0.276896	0.233	3.35284	1.32721	0.005	0.108	0.099	515.2151	0.152
Excavators	2014	501	750	0.284069	0.239	3.54089	1.34745	0.005	0.114	0.105	511.9453	0.151
Excavators	2015	16	25	0.991068	0.833	4.91817	4.92488	0.005	0.375	0.345	569.5116	0.17
Excavators	2015	26	50	0.991068	0.833	4.91817	4.92488	0.005	0.375	0.345	569.5116	0.17
Excavators	2015	51	120	0.60346	0.507	5.01907	3.67943	0.005	0.373	0.344	506.1727	0.151
Excavators	2015	121	175	0.456597	0.384	4.4807	3.16762	0.005	0.221	0.203	511.6869	0.153
Excavators	2015	176	250	0.343545	0.289	4.18222	1.33148	0.005	0.133	0.122	512.0555	0.153
Excavators	2015	251	500	0.276143	0.232	3.21395	1.31662	0.005	0.104	0.096	509.8675	0.152
Excavators	2015	501	750	0.28808	0.242	3.47287	1.35372	0.005	0.113	0.104	506.6816	0.151
Excavators	2016	16	25	0.970016	0.815	4.82432	4.94198	0.005	0.359	0.33	563.8026	0.17
Excavators	2016	26	50	0.970016	0.815	4.82432	4.94198	0.005	0.359	0.33	563.8026	0.17
Excavators	2016	51	120	0.566011	0.476	4.70806	3.66066	0.005	0.344	0.317	500.9659	0.151
Excavators	2016	121	175	0.425494	0.358	4.08095	3.15771	0.005	0.201	0.185	506.495	0.153
Excavators	2016	176	250	0.312033	0.262	3.66736	1.27749	0.005	0.116	0.107	506.544	0.153
Excavators	2016	251	500	0.253752	0.213	2.81451	1.23344	0.005	0.091	0.083	504.2899	0.152
Excavators	2016	501	750	0.287698	0.242	3.35762	1.34881	0.005	0.11	0.101	501.6596	0.151
Excavators	2017	16	25	0.91741	0.771	4.67818	4.88904	0.005	0.332	0.305	554.9101	0.17
Excavators	2017	26	50	0.91741	0.771	4.67818	4.88904	0.005	0.332	0.305	554.9101	0.17
Excavators	2017	51	120	0.523542	0.44	4.37952	3.63939	0.005	0.31	0.285	493.409	0.151
Excavators	2017	121	175	0.397029	0.334	3.69967	3.15091	0.005	0.182	0.167	498.5222	0.153
Excavators	2017	176	250	0.293543	0.247	3.31872	1.24911	0.005	0.105	0.097	498.4364	0.153
Excavators	2017	251	500	0.237788	0.2	2.50715	1.19852	0.005	0.081	0.075	496.8098	0.152
Excavators	2017	501	750	0.249769	0.21	2.71934	1.22803	0.005	0.09	0.083	494.5496	0.152
Excavators	2018	16	25	0.818091	0.687	4.39518	4.70022	0.005	0.284	0.261	545.3468	0.17
Excavators	2018	26	50	0.818091	0.687	4.39518	4.70022	0.005	0.284	0.261	545.3468	0.17
Excavators	2018	51	120	0.438055	0.368	3.76366	3.56214	0.005	0.25	0.23	486.056	0.151
Excavators	2018	121	175	0.324959	0.273	2.92361	3.09338	0.005	0.142	0.13	490.6725	0.153
Excavators	2018	176	250	0.240329	0.202	2.59377	1.15209	0.005	0.079	0.073	490.2569	0.153
Excavators	2018	251	500	0.207823	0.175	2.05045	1.13951	0.005	0.066	0.061	489.1025	0.152
Excavators	2018	501	750	0.22476	0.189	2.26567	1.22359	0.005	0.076	0.07	487.6528	0.152
Excavators	2019	16	25	0.75855	0.637	4.19867	4.59698	0.005	0.25	0.23	536.9132	0.17
Excavators	2019	26	50	0.75855	0.637	4.19867	4.59698	0.005	0.25	0.23	536.9132	0.17
Excavators	2019	51	120	0.386598	0.325	3.36874	3.52421	0.005	0.211	0.194	478.2452	0.151
Excavators	2019	121	175	0.293021	0.246	2.53264	3.08163	0.005	0.122	0.112	482.6838	0.153
Excavators	2019	176	250	0.220917	0.186	2.24187	1.12671	0.005	0.068	0.063	482.2503	0.153
Excavators	2019	251	500	0.192898	0.162	1.77986	1.1135	0.005	0.058	0.053	481.2361	0.152
Excavators	2019	501	750	0.209677	0.176	1.98661	1.17289	0.005	0.067	0.062	479.2876	0.152
Excavators	2020	16	25	0.705964	0.593	4.03131	4.50032	0.005	0.222	0.204	525.3675	0.17
Excavators	2020	26	50	0.705964	0.593	4.03131	4.50032	0.005	0.222	0.204	525.3675	0.17
Excavators	2020	51	120	0.356064	0.299	3.08964	3.50495	0.005	0.185	0.17	468.0546	0.151
Excavators	2020	121	175	0.275327	0.231	2.27838	3.08597	0.005	0.11	0.102	472.2891	0.153
Excavators	2020	176	250	0.211076	0.177	2.02738	1.11778	0.005	0.061	0.056	471.8828	0.153
Excavators	2020	251	500	0.182542	0.153	1.57199	1.1016	0.005	0.052	0.048	470.2956	0.152
Excavators	2020	501	750	0.202011	0.17	1.79718	1.14543	0.005	0.061	0.056	468.8706	0.152
Excavators	2021	16	25	0.669315	0.562	3.91866	4.46094	0.005	0.202	0.186	525.3774	0.17

Excavators	2021	26	50	0.669315	0.562	3.91866	4.46094	0.005	0.202	0.186	525.3774	0.17
Excavators	2021	51	120	0.327314	0.275	2.84891	3.49196	0.005	0.161	0.148	467.7906	0.151
Excavators	2021	121	175	0.257574	0.216	2.03357	3.08975	0.005	0.099	0.091	472.3586	0.153
Excavators	2021	176	250	0.193738	0.163	1.70572	1.10324	0.005	0.052	0.048	471.7931	0.153
Excavators	2021	251	500	0.170127	0.143	1.33174	1.08777	0.005	0.045	0.041	469.6156	0.152
Excavators	2021	501	750	0.196683	0.165	1.61856	1.14978	0.005	0.056	0.052	469.547	0.152
Excavators	2022	16	25	0.568779	0.478	3.70039	4.27341	0.005	0.16	0.147	525.4468	0.17
Excavators	2022	26	50	0.568779	0.478	3.70039	4.27341	0.005	0.16	0.147	525.4468	0.17
Excavators	2022	51	120	0.299503	0.252	2.60649	3.47329	0.005	0.138	0.127	467.6256	0.151
Excavators	2022	121	175	0.22749	0.191	1.6781	3.074	0.005	0.081	0.075	472.1917	0.153
Excavators	2022	176	250	0.176606	0.148	1.38616	1.09157	0.005	0.044	0.04	472.0412	0.153
Excavators	2022	251	500	0.152263	0.128	1.03988	1.06126	0.005	0.035	0.032	469.7105	0.152
Excavators	2022	501	750	0.178436	0.15	1.2865	1.144	0.005	0.047	0.043	469.2892	0.152
Excavators	2023	16	25	0.535724	0.45	3.59356	4.23393	0.005	0.139	0.128	525.4286	0.17
Excavators	2023	26	50	0.535724	0.45	3.59356	4.23393	0.005	0.139	0.128	525.4286	0.17
Excavators	2023	51	120	0.273823	0.23	2.38066	3.45367	0.005	0.116	0.107	467.1573	0.151
Excavators	2023	121	175	0.212046	0.178	1.46245	3.07648	0.005	0.072	0.066	472.277	0.153
Excavators	2023	176	250	0.168964	0.142	1.20943	1.08965	0.005	0.039	0.036	472.2131	0.153
Excavators	2023	251	500	0.145171	0.122	0.89311	1.05093	0.005	0.03	0.028	469.8892	0.152
Excavators	2023	501	750	0.171247	0.144	1.15865	1.13199	0.005	0.043	0.04	468.6826	0.152
Excavators	2024	16	25	0.495634	0.416	3.50816	4.20529	0.005	0.12	0.11	525.979	0.17
Excavators	2024	26	50	0.495634	0.416	3.50816	4.20529	0.005	0.12	0.11	525.979	0.17
Excavators	2024	51	120	0.258544	0.217	2.24781	3.45322	0.005	0.102	0.094	467.3843	0.151
Excavators	2024	121	175	0.202572	0.17	1.32479	3.08336	0.005	0.065	0.06	472.4279	0.153
Excavators	2024	176	250	0.165297	0.139	1.10808	1.0899	0.005	0.036	0.033	472.4415	0.153
Excavators	2024	251	500	0.144133	0.121	0.83129	1.05369	0.005	0.029	0.026	469.7108	0.152
Excavators	2024	501	750	0.169017	0.142	1.10467	1.13421	0.005	0.041	0.037	468.652	0.152
Excavators	2025	16	25	0.47994	0.403	3.45298	4.21941	0.005	0.107	0.099	525.7772	0.17
Excavators	2025	26	50	0.47994	0.403	3.45298	4.21941	0.005	0.107	0.099	525.7772	0.17
Excavators	2025	51	120	0.23878	0.201	2.08246	3.43876	0.005	0.085	0.078	466.7376	0.151
Excavators	2025	121	175	0.187811	0.158	1.15367	3.078	0.005	0.057	0.052	472.4964	0.153
Excavators	2025	176	250	0.155588	0.131	0.96211	1.08136	0.005	0.032	0.029	472.5599	0.153
Excavators	2025	251	500	0.137039	0.115	0.72641	1.05072	0.005	0.026	0.024	470.2915	0.152
Excavators	2025	501	750	0.165305	0.139	1.02571	1.13484	0.005	0.038	0.035	468.5582	0.152
Excavators	2030	16	25	1.838	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Excavators	2030	26	50	2.458	0.602	3.393	5.309	0.007	0.038	0.038	568.299	0.054
Excavators	2030	51	120	3.618	0.301	1.676	3.806	0.006	0.034	0.034	568.299	0.027
Excavators	2030	121	175	3.914	0.213	0.525	3.362	0.006	0.023	0.023	568.299	0.019
Excavators	2030	176	250	5.258	0.203	0.452	1.145	0.006	0.016	0.016	568.299	0.018
Excavators	2030	251	500	7.722	0.202	0.433	1.088	0.005	0.016	0.016	568.299	0.018
Excavators	2030	501	750	12.807	0.202	0.437	1.088	0.005	0.016	0.016	568.299	0.018
Excavators	2035	16	25	1.838	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Excavators	2035	26	50	2.333	0.572	3.323	5.287	0.007	0.024	0.024	568.299	0.051
Excavators	2035	51	120	3.411	0.284	1.551	3.802	0.006	0.021	0.021	568.299	0.025
Excavators	2035	121	175	3.622	0.197	0.365	3.363	0.006	0.015	0.015	568.299	0.017
Excavators	2035	176	250	5.059	0.195	0.342	1.145	0.006	0.013	0.013	568.3	0.017
Excavators	2035	251	500	7.45	0.195	0.337	1.089	0.005	0.013	0.013	568.299	0.017
Excavators	2035	501	750	12.348	0.195	0.338	1.088	0.005	0.013	0.013	568.299	0.017
Excavators	2040	16	25	1.838	0.685	4.332	2.339	0.007	0.161	0.161	568.3	0.061
Excavators	2040	26	50	2.314	0.567	3.29	5.283	0.007	0.019	0.019	568.299	0.051
Excavators	2040	51	120	3.36	0.279	1.507	3.802	0.006	0.017	0.017	568.299	0.025
Excavators	2040	121	175	3.532	0.193	0.311	3.363	0.006	0.013	0.013	568.299	0.017
Excavators	2040	176	250	4.971	0.192	0.3	1.145	0.006	0.011	0.011	568.299	0.017
Excavators	2040	251	500	7.322	0.192	0.3	1.089	0.005	0.011	0.011	568.299	0.017
Excavators	2040	501	750	12.137	0.192	0.3	1.089	0.005	0.011	0.011	568.299	0.017
Forklifts	1990	26	50	11.848	4.826	7.952	9.773	0.692	1.266	1.266	568.299	0.435
Forklifts	1990	51	120	12.154	2.326	14.699	5.638	0.628	1.32	1.32	568.3	0.209
Forklifts	1990	121	175	14.423	1.537	12.932	4.938	0.602	0.849	0.849	568.299	0.138
Forklifts	1990	176	250	19.845	1.537	12.932	4.938	0.602	0.849	0.849	568.299	0.138
Forklifts	1990	251	500	25.356	1.365	12.267	10.853	0.525	0.73	0.73	568.299	0.123
Forklifts	2000	26	50	10.952	4.461	7.035	9.216	0.065	0.934	0.934	568.3	0.402
Forklifts	2000	51	120	9.146	1.75	9.75	4.459	0.059	0.882	0.882	568.299	0.157
Forklifts	2000	121	175	11.149	1.188	9.001	3.519	0.057	0.502	0.502	568.299	0.107
Forklifts	2000	176	250	11.958	0.926	8.546	2.534	0.057	0.372	0.372	568.299	0.083
Forklifts	2000	251	500	15.747	0.848	8.126	3.255	0.049	0.333	0.333	568.299	0.076
Forklifts	2005	26	50	10.087	4.108	6.62	8.778	0.065	0.891	0.891	568.299	0.37
Forklifts	2005	51	120	8.425	1.612	8.602	4.35	0.059	0.876	0.876	568.299	0.145
Forklifts	2005	121	175	9.959	1.061	7.94	3.418	0.057	0.475	0.475	568.299	0.095
Forklifts	2005	176	250	8.606	0.666	7.367	1.693	0.057	0.253	0.253	568.299	0.06
Forklifts	2005	251	500	10.976	0.591	6.611	1.803	0.049	0.23	0.23	568.299	0.053
Forklifts	2010	26	50	2.846117	2.392	6.31187	7.62516	0.005	0.729	0.671	583.8704	0.17
Forklifts	2010	51	120	1.045472	0.878	7.63494	4.10764	0.005	0.625	0.575	523.9205	0.153
Forklifts	2010	121	175	0.764801	0.643	7.24303	3.54812	0.005	0.389	0.357	524.5625	0.153
Forklifts	2010	176	250	0.852639	0.716	8.49545	2.88991	0.005	0.398	0.366	525.9172	0.153
Forklifts	2010	251	500	0.814667	0.685	8.13812	5.79345	0.005	0.381	0.351	526.239	0.153
Forklifts	2011	26	50	2.771689	2.329	6.26642	7.5619	0.005	0.715	0.657	582.4107	0.17
Forklifts	2011	51	120	1.023636	0.86	7.45983	4.10232	0.005	0.617	0.568	522.6107	0.153
Forklifts	2011	121	175	0.759385	0.638	7.14122	3.55732	0.005	0.385	0.355	523.2511	0.153
Forklifts	2011	176	250	0.819463	0.689	8.17495	2.77115	0.005	0.381	0.35	524.6024	0.153
Forklifts	2011	251	500	0.787175	0.661	7.84	5.42187	0.005	0.368	0.338	524.9234	0.153
Forklifts	2012	26	50	2.800937	2.354	6.27736	7.68036	0.005	0.72	0.663	580.951	0.17
Forklifts	2012	51	120	1.026513	0.863	7.43066	4.13104	0.005	0.62	0.571	521.3009	0.153
Forklifts	2012	121	175	0.764904	0.643	7.11981	3.58413	0.005	0.387	0.356	521.9397	0.153
Forklifts	2012	176	250	0.82428	0.693	8.14199	2.77846	0.005	0.381	0.35	523.2876	0.153
Forklifts	2012	251	500	0.795085	0.668	7.85628	5.42806	0.005	0.369	0.34	523.6078	0.153
Forklifts	2013	26	50	2.655997	2.232	6.14743	7.4937	0.005	0.689	0.634	578.0317	0.17
Forklifts	2013	51	120	0.996839	0.838	7.21545	4.11855	0.005	0.603	0.555	518.6813	0.153
Forklifts	2013	121	175	0.743778	0.625	6.90229	3.57971	0.005	0.375	0.345	519.3169	0.153
Forklifts	2013	176	250	0.786493	0.661	7.77338	2.67477	0.005	0.36	0.332	520.658	0.153

Forklifts	2013	251	500	0.686735	0.577	6.91072	4.6871	0.005	0.314	0.289	520.9766	0.153
Forklifts	2014	26	50	2.515249	2.114	6.00609	7.32058	0.005	0.656	0.604	575.1123	0.17
Forklifts	2014	51	120	0.945485	0.794	6.84833	4.07936	0.005	0.574	0.528	516.0617	0.153
Forklifts	2014	121	175	0.688099	0.578	6.35205	3.52073	0.005	0.345	0.317	516.694	0.153
Forklifts	2014	176	250	0.731475	0.615	7.27612	2.50114	0.005	0.33	0.304	518.0284	0.153
Forklifts	2014	251	500	0.644228	0.541	6.35258	4.25186	0.005	0.289	0.266	518.3454	0.153
Forklifts	2015	26	50	2.466892	2.073	5.93143	7.29982	0.005	0.643	0.591	569.2736	0.17
Forklifts	2015	51	120	0.914509	0.768	6.60091	4.06346	0.005	0.555	0.51	510.8225	0.153
Forklifts	2015	121	175	0.673169	0.566	6.13482	3.51969	0.005	0.335	0.308	511.4484	0.153
Forklifts	2015	176	250	0.672054	0.565	6.69668	2.32501	0.005	0.298	0.274	512.7693	0.153
Forklifts	2015	251	500	0.539875	0.454	5.33227	3.29951	0.005	0.237	0.218	513.083	0.153
Forklifts	2016	26	50	2.217878	1.864	5.66211	6.93473	0.005	0.583	0.537	563.4349	0.17
Forklifts	2016	51	120	0.860278	0.723	6.22192	4.02311	0.005	0.52	0.479	505.5833	0.153
Forklifts	2016	121	175	0.630613	0.53	5.67466	3.47253	0.005	0.31	0.285	506.2028	0.153
Forklifts	2016	176	250	0.641979	0.539	6.35303	2.22626	0.005	0.28	0.257	507.5101	0.153
Forklifts	2016	251	500	0.419581	0.353	4.04212	2.57209	0.005	0.174	0.16	507.8206	0.153
Forklifts	2017	26	50	2.026819	1.703	5.45035	6.67251	0.005	0.536	0.493	554.6769	0.17
Forklifts	2017	51	120	0.799635	0.672	5.81772	3.97881	0.005	0.48	0.442	497.7245	0.153
Forklifts	2017	121	175	0.604568	0.508	5.36215	3.45188	0.005	0.294	0.27	498.3344	0.153
Forklifts	2017	176	250	0.589964	0.496	5.75116	2.0923	0.005	0.252	0.232	499.6213	0.153
Forklifts	2017	251	500	0.401897	0.338	3.7797	2.50803	0.005	0.161	0.148	499.927	0.153
Forklifts	2018	26	50	1.658295	1.393	5.05181	6.10276	0.005	0.447	0.411	545.9188	0.17
Forklifts	2018	51	120	0.675301	0.567	5.0153	3.85819	0.005	0.4	0.368	489.8657	0.153
Forklifts	2018	121	175	0.508414	0.427	4.42984	3.33646	0.005	0.241	0.222	490.4659	0.153
Forklifts	2018	176	250	0.506009	0.425	4.93757	1.83475	0.005	0.207	0.191	491.7326	0.153
Forklifts	2018	251	500	0.335655	0.282	3.01864	1.87814	0.005	0.125	0.115	492.0335	0.153
Forklifts	2019	26	50	1.480074	1.244	4.86189	5.88034	0.005	0.401	0.369	537.1608	0.17
Forklifts	2019	51	120	0.606336	0.509	4.54965	3.80391	0.005	0.352	0.324	482.0069	0.153
Forklifts	2019	121	175	0.454984	0.382	3.86458	3.28831	0.005	0.21	0.193	482.5975	0.153
Forklifts	2019	176	250	0.445406	0.374	4.2498	1.6773	0.005	0.175	0.161	483.8438	0.153
Forklifts	2019	251	500	0.318129	0.267	2.75148	1.814	0.005	0.112	0.103	484.1399	0.153
Forklifts	2020	26	50	1.337399	1.124	4.68572	5.70563	0.005	0.36	0.331	525.4833	0.17
Forklifts	2020	51	120	0.545921	0.459	4.13299	3.75954	0.005	0.308	0.283	471.5285	0.153
Forklifts	2020	121	175	0.402357	0.338	3.3196	3.24885	0.005	0.18	0.165	472.1062	0.153
Forklifts	2020	176	250	0.348476	0.293	3.24149	1.44178	0.005	0.126	0.116	473.3255	0.153
Forklifts	2020	251	500	0.299035	0.251	2.43991	1.47807	0.005	0.097	0.089	473.6151	0.153
Forklifts	2021	26	50	1.192536	1.002	4.5202	5.53477	0.005	0.318	0.292	525.4833	0.17
Forklifts	2021	51	120	0.490261	0.412	3.75592	3.72	0.005	0.267	0.245	471.5285	0.153
Forklifts	2021	121	175	0.366939	0.308	2.9207	3.23128	0.005	0.158	0.145	472.1062	0.153
Forklifts	2021	176	250	0.296154	0.249	2.58195	1.33672	0.005	0.099	0.091	473.3255	0.153
Forklifts	2021	251	500	0.301833	0.254	2.30266	1.48481	0.005	0.094	0.086	473.6151	0.153
Forklifts	2022	26	50	1.02259	0.859	4.31214	5.30418	0.005	0.27	0.248	525.4833	0.17
Forklifts	2022	51	120	0.430627	0.362	3.36021	3.67507	0.005	0.223	0.205	471.5285	0.153
Forklifts	2022	121	175	0.324265	0.272	2.47982	3.19749	0.005	0.132	0.122	472.1062	0.153
Forklifts	2022	176	250	0.280841	0.236	2.31941	1.3171	0.005	0.09	0.083	473.3255	0.153
Forklifts	2022	251	500	0.275829	0.232	1.99119	1.21922	0.005	0.077	0.071	473.6151	0.153
Forklifts	2023	26	50	0.911766	0.766	4.15219	5.16597	0.005	0.232	0.213	525.4833	0.17
Forklifts	2023	51	120	0.388709	0.327	3.0569	3.64655	0.005	0.189	0.174	471.5285	0.153
Forklifts	2023	121	175	0.289923	0.244	2.11214	3.1799	0.005	0.111	0.102	472.1062	0.153
Forklifts	2023	176	250	0.242474	0.204	1.80718	1.23515	0.005	0.069	0.063	473.3255	0.153
Forklifts	2023	251	500	0.261765	0.22	1.78772	1.21596	0.005	0.069	0.063	473.6151	0.153
Forklifts	2024	26	50	0.823848	0.692	4.03948	5.0885	0.005	0.203	0.187	525.4833	0.17
Forklifts	2024	51	120	0.357083	0.3	2.81432	3.62907	0.005	0.163	0.15	471.5285	0.153
Forklifts	2024	121	175	0.266701	0.224	1.86129	3.17389	0.005	0.096	0.088	472.1062	0.153
Forklifts	2024	176	250	0.232645	0.195	1.6253	1.21846	0.005	0.061	0.056	473.3255	0.153
Forklifts	2024	251	500	0.258844	0.218	1.72336	1.21901	0.005	0.065	0.06	473.6151	0.153
Forklifts	2025	26	50	0.757155	0.636	3.93206	5.02929	0.005	0.178	0.164	525.4833	0.17
Forklifts	2025	51	120	0.329382	0.277	2.60732	3.61138	0.005	0.14	0.128	471.5285	0.153
Forklifts	2025	121	175	0.248361	0.209	1.653	3.17013	0.005	0.084	0.078	472.1062	0.153
Forklifts	2025	176	250	0.226669	0.19	1.46623	1.2143	0.005	0.056	0.052	473.3255	0.153
Forklifts	2025	251	500	0.255656	0.215	1.65848	1.22207	0.005	0.062	0.057	473.6151	0.153
Forklifts	2030	26	50	1.388	0.565	3.33	5.272	0.007	0.023	0.023	568.299	0.051
Forklifts	2030	51	120	1.48	0.283	1.555	3.799	0.006	0.021	0.021	568.299	0.025
Forklifts	2030	121	175	1.875	0.199	0.391	3.36	0.006	0.015	0.015	568.299	0.018
Forklifts	2030	176	250	2.524	0.195	0.341	1.144	0.006	0.012	0.012	568.299	0.017
Forklifts	2030	251	500	3.633	0.195	0.341	1.088	0.005	0.012	0.012	568.299	0.017
Forklifts	2035	26	50	1.371	0.558	3.268	5.234	0.007	0.017	0.017	568.299	0.05
Forklifts	2035	51	120	1.438	0.275	1.495	3.787	0.006	0.016	0.016	568.299	0.024
Forklifts	2035	121	175	1.775	0.189	0.299	3.35	0.006	0.012	0.012	568.3	0.017
Forklifts	2035	176	250	2.433	0.188	0.29	1.141	0.006	0.011	0.011	568.3	0.017
Forklifts	2035	251	500	3.502	0.188	0.29	1.085	0.005	0.011	0.011	568.299	0.017
Forklifts	2040	26	50	1.38	0.562	3.272	5.256	0.007	0.017	0.017	568.299	0.05
Forklifts	2040	51	120	1.444	0.276	1.491	3.794	0.006	0.016	0.016	568.299	0.024
Forklifts	2040	121	175	1.777	0.189	0.288	3.356	0.006	0.012	0.012	568.299	0.017
Forklifts	2040	176	250	2.445	0.189	0.288	1.143	0.006	0.011	0.011	568.299	0.017
Forklifts	2040	251	500	3.518	0.189	0.288	1.087	0.005	0.011	0.011	568.299	0.017
Generator Sets	1990	6	15	4.791	1.804	10	4.999	1.018	0.974	0.974	568.299	0.162
Generator Sets	1990	16	25	10.151	2.213	6.919	4.999	0.83	0.74	0.74	568.299	0.199
Generator Sets	1990	26	50	24.936	3.13	7.325	6.681	0.846	0.928	0.928	568.299	0.282
Generator Sets	1990	51	120	38.362	1.891	13.19	4.97	0.768	0.985	0.985	568.299	0.17
Generator Sets	1990	121	175	47.754	1.292	11.864	4.395	0.736	0.653	0.653	568.3	0.116
Generator Sets	1990	176	250	71.475	1.292	11.864	4.395	0.736	0.653	0.653	568.299	0.116
Generator Sets	1990	251	500	104.891	1.196	11.613	6.53	0.642	0.596	0.596	568.299	0.107
Generator Sets	1990	501	750	169.323	1.196	11.612	6.53	0.658	0.596	0.596	568.299	0.107
Generator Sets	1990	1001	9999	326.002	1.195	11.612	6.53	0.658	0.594	0.594	568.299	0.107
Generator Sets	2000	6	15	4.033	1.518	8.846	4.875	0.079	0.613	0.613	568.299	0.137
Generator Sets	2000	16	25	7.648	1.667	6.405	4.783	0.065	0.51	0.51	568.299	0.15
Generator Sets	2000	26	50	23.582	2.96	6.55	6.415	0.066	0.692	0.692	568.299	0.267
Generator Sets	2000	51	120	31.137	1.535	9.468	4.158	0.06	0.686	0.686	568.299	0.138

Generator Sets	2000	121	175	38.027	1.029	8.612	3.381	0.057	0.404	0.404	568.299	0.092
Generator Sets	2000	176	250	46.981	0.849	8.277	2.656	0.057	0.325	0.325	568.299	0.076
Generator Sets	2000	251	500	70.308	0.802	8.102	3.7	0.05	0.301	0.301	568.299	0.072
Generator Sets	2000	501	750	113.5	0.802	8.102	3.7	0.051	0.301	0.301	568.3	0.072
Generator Sets	2000	1001	9999	251.503	0.921	8.686	4.274	0.051	0.344	0.344	568.299	0.083
Generator Sets	2005	6	15	3.219	1.212	7.615	4.38	0.079	0.505	0.505	568.299	0.109
Generator Sets	2005	16	25	5.748	1.253	6.014	3.922	0.065	0.432	0.432	568.299	0.113
Generator Sets	2005	26	50	20.78	2.608	6.099	5.919	0.066	0.64	0.64	568.3	0.235
Generator Sets	2005	51	120	26.634	1.313	7.987	3.853	0.06	0.634	0.634	568.299	0.118
Generator Sets	2005	121	175	31.579	0.854	7.306	3.067	0.057	0.35	0.35	568.299	0.077
Generator Sets	2005	176	250	33.443	0.604	6.892	1.801	0.057	0.229	0.229	568.299	0.054
Generator Sets	2005	251	500	47.834	0.545	6.465	2.206	0.05	0.211	0.211	568.299	0.049
Generator Sets	2005	501	750	79.444	0.561	6.609	2.206	0.051	0.214	0.214	568.3	0.05
Generator Sets	2005	1001	9999	195.712	0.717	7.582	2.719	0.051	0.255	0.255	568.299	0.064
Generator Sets	2010	6	15	2.532	0.953	6.387	4.027	0.008	0.38	0.38	568.299	0.086
Generator Sets	2010	16	25	4.408	0.961	5.477	3.309	0.007	0.342	0.342	568.299	0.086
Generator Sets	2010	26	50	16.299	2.045	5.68	5.353	0.007	0.522	0.522	568.299	0.184
Generator Sets	2010	51	120	20.399	1.005	6.573	3.677	0.006	0.516	0.516	568.299	0.09
Generator Sets	2010	121	175	24.447	0.661	5.87	2.986	0.006	0.286	0.286	568.299	0.059
Generator Sets	2010	176	250	23.668	0.428	5.501	1.333	0.006	0.163	0.163	568.299	0.038
Generator Sets	2010	251	500	33.685	0.384	5.015	1.482	0.005	0.153	0.153	568.299	0.034
Generator Sets	2010	501	750	56.116	0.396	5.147	1.482	0.005	0.155	0.155	568.299	0.035
Generator Sets	2010	1001	9999	147.466	0.54	6.544	1.93	0.005	0.193	0.193	568.299	0.048
Generator Sets	2011	6	15	2.413	0.908	6.134	3.952	0.008	0.358	0.358	568.299	0.081
Generator Sets	2011	16	25	4.22	0.92	5.36	3.179	0.007	0.325	0.325	568.299	0.083
Generator Sets	2011	26	50	15.152	1.901	5.585	5.2	0.007	0.495	0.495	568.3	0.171
Generator Sets	2011	51	120	19.003	0.937	6.226	3.64	0.006	0.493	0.493	568.299	0.084
Generator Sets	2011	121	175	22.889	0.619	5.544	2.974	0.006	0.274	0.274	568.299	0.055
Generator Sets	2011	176	250	21.62	0.391	5.125	1.249	0.006	0.147	0.147	568.299	0.035
Generator Sets	2011	251	500	30.74	0.35	4.654	1.36	0.005	0.138	0.138	568.299	0.031
Generator Sets	2011	501	750	51.271	0.362	4.784	1.36	0.005	0.14	0.14	568.299	0.032
Generator Sets	2011	1001	9999	137.042	0.502	6.202	1.784	0.005	0.18	0.18	568.299	0.045
Generator Sets	2012	6	15	2.298	0.865	5.874	3.874	0.008	0.338	0.338	568.299	0.078
Generator Sets	2012	16	25	4.059	0.884	5.239	3.043	0.007	0.307	0.307	568.299	0.079
Generator Sets	2012	26	50	13.912	1.746	5.485	5.03	0.007	0.466	0.466	568.299	0.157
Generator Sets	2012	51	120	17.544	0.865	5.848	3.603	0.006	0.46	0.46	568.299	0.078
Generator Sets	2012	121	175	21.243	0.575	5.198	2.963	0.006	0.254	0.254	568.299	0.051
Generator Sets	2012	176	250	19.998	0.361	4.77	1.196	0.006	0.133	0.133	568.3	0.032
Generator Sets	2012	251	500	28.44	0.324	4.315	1.275	0.005	0.125	0.125	568.299	0.029
Generator Sets	2012	501	750	47.464	0.335	4.441	1.275	0.005	0.127	0.127	568.299	0.03
Generator Sets	2012	1001	9999	126.39	0.463	5.849	1.639	0.005	0.166	0.166	568.3	0.041
Generator Sets	2013	6	15	2.187	0.823	5.616	3.796	0.008	0.318	0.318	568.299	0.074
Generator Sets	2013	16	25	3.907	0.851	5.117	2.907	0.007	0.289	0.289	568.299	0.076
Generator Sets	2013	26	50	12.634	1.585	5.263	4.854	0.007	0.428	0.428	568.299	0.143
Generator Sets	2013	51	120	16.078	0.792	5.478	3.567	0.006	0.424	0.424	568.299	0.071
Generator Sets	2013	121	175	19.587	0.53	4.873	2.953	0.006	0.233	0.233	568.299	0.047
Generator Sets	2013	176	250	18.602	0.336	4.428	1.16	0.006	0.122	0.122	568.299	0.03
Generator Sets	2013	251	500	26.484	0.302	3.989	1.211	0.005	0.114	0.114	568.299	0.027
Generator Sets	2013	501	750	44.22	0.312	4.113	1.211	0.005	0.116	0.116	568.299	0.028
Generator Sets	2013	1001	9999	115.946	0.425	5.494	1.502	0.005	0.152	0.152	568.299	0.038
Generator Sets	2014	6	15	2.081	0.783	5.369	3.723	0.008	0.298	0.298	568.299	0.07
Generator Sets	2014	16	25	3.767	0.821	5	2.78	0.007	0.272	0.272	568.299	0.074
Generator Sets	2014	26	50	11.368	1.427	5.048	4.683	0.007	0.389	0.389	568.299	0.128
Generator Sets	2014	51	120	14.638	0.721	5.147	3.532	0.006	0.385	0.385	568.299	0.065
Generator Sets	2014	121	175	17.974	0.486	4.565	2.945	0.006	0.212	0.212	568.299	0.043
Generator Sets	2014	176	250	17.205	0.311	4.025	1.13	0.006	0.111	0.111	568.3	0.028
Generator Sets	2014	251	500	24.516	0.279	3.603	1.157	0.005	0.104	0.104	568.299	0.025
Generator Sets	2014	501	750	40.956	0.289	3.724	1.157	0.005	0.106	0.106	568.299	0.026
Generator Sets	2014	1001	9999	106.127	0.389	5.15	1.377	0.005	0.138	0.138	568.299	0.035
Generator Sets	2015	6	15	1.984	0.747	5.141	3.658	0.008	0.28	0.28	568.299	0.067
Generator Sets	2015	16	25	3.639	0.793	4.89	2.666	0.007	0.256	0.256	568.299	0.071
Generator Sets	2015	26	50	10.213	1.281	4.858	4.538	0.007	0.353	0.353	568.299	0.115
Generator Sets	2015	51	120	13.208	0.651	4.769	3.499	0.006	0.347	0.347	568.299	0.058
Generator Sets	2015	121	175	16.277	0.44	4.138	2.938	0.006	0.191	0.191	568.299	0.039
Generator Sets	2015	176	250	15.884	0.287	3.633	1.104	0.006	0.1	0.1	568.3	0.025
Generator Sets	2015	251	500	22.677	0.258	3.231	1.114	0.005	0.094	0.094	568.299	0.023
Generator Sets	2015	501	750	37.88	0.267	3.347	1.114	0.005	0.096	0.096	568.299	0.024
Generator Sets	2015	1001	9999	95.984	0.351	4.822	1.269	0.005	0.124	0.124	568.299	0.031
Generator Sets	2016	6	15	1.914	0.72	4.978	3.622	0.008	0.264	0.264	568.299	0.065
Generator Sets	2016	16	25	3.548	0.773	4.803	2.604	0.007	0.244	0.244	568.299	0.069
Generator Sets	2016	26	50	9.132	1.146	4.685	4.41	0.007	0.318	0.318	568.299	0.103
Generator Sets	2016	51	120	11.84	0.583	4.41	3.469	0.006	0.309	0.309	568.299	0.052
Generator Sets	2016	121	175	14.658	0.396	3.731	2.934	0.006	0.17	0.17	568.299	0.035
Generator Sets	2016	176	250	14.652	0.265	3.259	1.081	0.006	0.09	0.09	568.299	0.023
Generator Sets	2016	251	500	21.002	0.239	2.882	1.077	0.005	0.084	0.084	568.299	0.021
Generator Sets	2016	501	750	35.041	0.247	2.989	1.077	0.005	0.086	0.086	568.3	0.022
Generator Sets	2016	1001	9999	88.441	0.324	4.542	1.204	0.005	0.113	0.113	568.299	0.029
Generator Sets	2017	6	15	1.857	0.699	4.847	3.599	0.008	0.25	0.25	568.299	0.063
Generator Sets	2017	16	25	3.476	0.757	4.729	2.564	0.007	0.233	0.233	568.299	0.068
Generator Sets	2017	26	50	8.107	1.017	4.522	4.292	0.007	0.285	0.285	568.299	0.091
Generator Sets	2017	51	120	10.557	0.52	4.072	3.442	0.006	0.274	0.274	568.299	0.046
Generator Sets	2017	121	175	13.162	0.356	3.347	2.931	0.006	0.151	0.151	568.299	0.032
Generator Sets	2017	176	250	13.548	0.245	2.91	1.063	0.006	0.081	0.081	568.299	0.022
Generator Sets	2017	251	500	19.649	0.224	2.579	1.048	0.005	0.076	0.076	568.299	0.02
Generator Sets	2017	501	750	32.544	0.23	2.66	1.048	0.005	0.077	0.077	568.299	0.02
Generator Sets	2017	1001	9999	82.27	0.301	4.293	1.161	0.005	0.104	0.104	568.299	0.027
Generator Sets	2018	6	15	1.805	0.679	4.728	3.58	0.008	0.237	0.237	568.299	0.061
Generator Sets	2018	16	25	3.412	0.744	4.661	2.531	0.007	0.224	0.224	568.299	0.067
Generator Sets	2018	26	50	7.133	0.895	4.366	4.182	0.007	0.253	0.253	568.299	0.08

Generator Sets	2018	51	120	9.356	0.461	3.752	3.418	0.006	0.239	0.239	568.299	0.041
Generator Sets	2018	121	175	11.794	0.319	2.989	2.93	0.006	0.133	0.133	568.299	0.028
Generator Sets	2018	176	250	12.549	0.226	2.582	1.048	0.006	0.072	0.072	568.299	0.02
Generator Sets	2018	251	500	18.523	0.211	2.31	1.028	0.005	0.069	0.069	568.299	0.019
Generator Sets	2018	501	750	30.476	0.215	2.37	1.028	0.005	0.07	0.07	568.299	0.019
Generator Sets	2018	1001	9999	76.62	0.28	4.058	1.128	0.005	0.095	0.095	568.299	0.025
Generator Sets	2019	6	15	1.758	0.662	4.617	3.562	0.008	0.224	0.224	568.299	0.059
Generator Sets	2019	16	25	3.356	0.731	4.596	2.501	0.007	0.214	0.214	568.299	0.066
Generator Sets	2019	26	50	6.208	0.779	4.215	4.076	0.007	0.222	0.222	568.299	0.07
Generator Sets	2019	51	120	8.233	0.405	3.446	3.396	0.006	0.206	0.206	568.299	0.036
Generator Sets	2019	121	175	10.727	0.29	2.669	2.929	0.006	0.118	0.118	568.299	0.026
Generator Sets	2019	176	250	11.695	0.211	2.285	1.036	0.006	0.064	0.064	568.299	0.019
Generator Sets	2019	251	500	17.492	0.199	2.056	1.015	0.005	0.062	0.062	568.299	0.018
Generator Sets	2019	501	750	28.675	0.202	2.104	1.015	0.005	0.062	0.062	568.299	0.018
Generator Sets	2019	1001	9999	71.228	0.261	3.829	1.103	0.005	0.087	0.087	568.299	0.023
Generator Sets	2020	6	15	1.715	0.646	4.516	3.546	0.008	0.212	0.212	568.299	0.058
Generator Sets	2020	16	25	3.307	0.721	4.538	2.473	0.007	0.205	0.205	568.299	0.065
Generator Sets	2020	26	50	5.508	0.691	4.075	3.995	0.007	0.194	0.194	568.299	0.062
Generator Sets	2020	51	120	7.383	0.364	3.173	3.38	0.006	0.179	0.179	568.299	0.032
Generator Sets	2020	121	175	9.884	0.267	2.38	2.93	0.006	0.105	0.105	568.299	0.024
Generator Sets	2020	176	250	10.963	0.198	2.016	1.026	0.006	0.057	0.057	568.299	0.017
Generator Sets	2020	251	500	16.528	0.188	1.816	1.005	0.005	0.055	0.055	568.299	0.017
Generator Sets	2020	501	750	27.045	0.191	1.858	1.005	0.005	0.056	0.056	568.299	0.017
Generator Sets	2020	1001	9999	66.08	0.242	3.608	1.082	0.005	0.079	0.079	568.3	0.021
Generator Sets	2021	6	15	1.683	0.634	4.441	3.531	0.008	0.201	0.201	568.299	0.057
Generator Sets	2021	16	25	3.268	0.712	4.497	2.446	0.007	0.196	0.196	568.299	0.064
Generator Sets	2021	26	50	4.884	0.613	3.916	3.905	0.007	0.165	0.165	568.299	0.055
Generator Sets	2021	51	120	6.62	0.326	2.888	3.361	0.006	0.153	0.153	568.299	0.029
Generator Sets	2021	121	175	8.995	0.243	2.068	2.925	0.006	0.091	0.091	568.299	0.021
Generator Sets	2021	176	250	10.146	0.183	1.73	1.016	0.006	0.049	0.049	568.299	0.016
Generator Sets	2021	251	500	15.395	0.175	1.562	0.996	0.005	0.048	0.048	568.299	0.015
Generator Sets	2021	501	750	25.135	0.177	1.596	0.996	0.005	0.048	0.048	568.299	0.016
Generator Sets	2021	1001	9999	60.247	0.22	3.372	1.06	0.005	0.07	0.07	568.3	0.019
Generator Sets	2022	6	15	1.662	0.626	4.39	3.519	0.008	0.193	0.193	568.299	0.056
Generator Sets	2022	16	25	3.242	0.706	4.47	2.426	0.007	0.188	0.188	568.299	0.063
Generator Sets	2022	26	50	4.466	0.56	3.796	3.858	0.007	0.143	0.143	568.299	0.05
Generator Sets	2022	51	120	6.113	0.301	2.671	3.353	0.006	0.134	0.134	568.299	0.027
Generator Sets	2022	121	175	8.363	0.226	1.83	2.926	0.006	0.081	0.081	568.299	0.02
Generator Sets	2022	176	250	9.575	0.173	1.508	1.01	0.006	0.043	0.043	568.299	0.015
Generator Sets	2022	251	500	14.616	0.166	1.384	0.99	0.005	0.042	0.042	568.299	0.015
Generator Sets	2022	501	750	23.822	0.168	1.412	0.99	0.005	0.043	0.043	568.299	0.015
Generator Sets	2022	1001	9999	56.346	0.206	3.202	1.045	0.005	0.063	0.063	568.299	0.018
Generator Sets	2023	6	15	1.643	0.618	4.345	3.508	0.008	0.186	0.186	568.299	0.055
Generator Sets	2023	16	25	3.219	0.701	4.447	2.407	0.007	0.182	0.182	568.299	0.063
Generator Sets	2023	26	50	4.102	0.514	3.685	3.819	0.007	0.124	0.124	568.299	0.046
Generator Sets	2023	51	120	5.671	0.279	2.477	3.347	0.006	0.117	0.117	568.299	0.025
Generator Sets	2023	121	175	7.812	0.211	1.635	2.927	0.006	0.071	0.071	568.299	0.019
Generator Sets	2023	176	250	9.077	0.164	1.328	1.006	0.006	0.038	0.038	568.299	0.014
Generator Sets	2023	251	500	13.922	0.158	1.228	0.986	0.005	0.037	0.037	568.299	0.014
Generator Sets	2023	501	750	22.664	0.16	1.253	0.986	0.005	0.037	0.037	568.299	0.014
Generator Sets	2023	1001	9999	53.06	0.194	3.058	1.031	0.005	0.058	0.058	568.299	0.017
Generator Sets	2024	6	15	1.627	0.612	4.305	3.499	0.008	0.181	0.181	568.299	0.055
Generator Sets	2024	16	25	3.2	0.697	4.426	2.39	0.007	0.178	0.178	568.299	0.062
Generator Sets	2024	26	50	3.789	0.475	3.582	3.787	0.007	0.107	0.107	568.299	0.042
Generator Sets	2024	51	120	5.287	0.26	2.321	3.342	0.006	0.101	0.101	568.299	0.023
Generator Sets	2024	121	175	7.312	0.197	1.462	2.929	0.006	0.062	0.062	568.299	0.017
Generator Sets	2024	176	250	8.611	0.155	1.169	1.003	0.006	0.033	0.033	568.299	0.014
Generator Sets	2024	251	500	13.26	0.151	1.082	0.983	0.005	0.032	0.032	568.3	0.013
Generator Sets	2024	501	750	21.567	0.152	1.104	0.983	0.005	0.032	0.032	568.299	0.013
Generator Sets	2024	1001	9999	50.108	0.183	2.929	1.018	0.005	0.052	0.052	568.3	0.016
Generator Sets	2025	6	15	1.613	0.607	4.269	3.491	0.008	0.178	0.178	568.299	0.054
Generator Sets	2025	16	25	3.185	0.694	4.407	2.376	0.007	0.175	0.175	568.299	0.062
Generator Sets	2025	26	50	3.511	0.44	3.481	3.758	0.007	0.093	0.093	568.3	0.039
Generator Sets	2025	51	120	4.942	0.243	2.185	3.338	0.006	0.087	0.087	568.299	0.021
Generator Sets	2025	121	175	6.832	0.184	1.297	2.93	0.006	0.053	0.053	568.299	0.016
Generator Sets	2025	176	250	8.168	0.147	1.02	1	0.006	0.028	0.028	568.299	0.013
Generator Sets	2025	251	500	12.627	0.144	0.945	0.981	0.005	0.027	0.027	568.3	0.013
Generator Sets	2025	501	750	20.518	0.145	0.964	0.981	0.005	0.027	0.027	568.299	0.013
Generator Sets	2025	1001	9999	47.32	0.173	2.812	1.008	0.005	0.047	0.047	568.299	0.015
Generator Sets	2030	6	15	1.573	0.592	4.164	3.47	0.008	0.166	0.166	568.299	0.053
Generator Sets	2030	16	25	3.15	0.686	4.347	2.34	0.007	0.165	0.165	568.299	0.061
Generator Sets	2030	26	50	2.512	0.315	3.107	3.64	0.007	0.038	0.038	568.299	0.028
Generator Sets	2030	51	120	3.616	0.178	1.645	3.316	0.006	0.034	0.034	568.299	0.016
Generator Sets	2030	121	175	4.837	0.13	0.601	2.929	0.006	0.023	0.023	568.299	0.011
Generator Sets	2030	176	250	6.637	0.12	0.504	0.998	0.006	0.016	0.016	568.299	0.01
Generator Sets	2030	251	500	10.441	0.119	0.476	0.978	0.005	0.015	0.015	568.299	0.01
Generator Sets	2030	501	750	16.888	0.119	0.482	0.978	0.005	0.015	0.015	568.299	0.01
Generator Sets	2030	1001	9999	35.17	0.128	2.483	0.979	0.005	0.029	0.029	568.299	0.011
Generator Sets	2035	6	15	1.565	0.589	4.143	3.47	0.008	0.162	0.162	568.299	0.053
Generator Sets	2035	16	25	3.144	0.685	4.332	2.34	0.007	0.162	0.162	568.299	0.061
Generator Sets	2035	26	50	2.206	0.276	2.991	3.607	0.007	0.018	0.018	568.299	0.024
Generator Sets	2035	51	120	3.176	0.156	1.458	3.31	0.006	0.016	0.016	568.299	0.014
Generator Sets	2035	121	175	4.187	0.113	0.373	2.929	0.006	0.013	0.013	568.299	0.01
Generator Sets	2035	176	250	6.1	0.11	0.331	0.998	0.006	0.011	0.011	568.299	0.009
Generator Sets	2035	251	500	9.666	0.11	0.328	0.978	0.005	0.011	0.011	568.299	0.009
Generator Sets	2035	501	750	15.606	0.11	0.328	0.978	0.005	0.011	0.011	568.299	0.009
Generator Sets	2035	1001	9999	31.223	0.114	2.362	0.978	0.005	0.022	0.022	568.299	0.01
Generator Sets	2040	6	15	1.565	0.589	4.142	3.469	0.008	0.161	0.161	568.299	0.053
Generator Sets	2040	16	25	3.144	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061

Generator Sets	2040	26	50	2.182	0.273	2.941	3.601	0.007	0.012	0.012	568.3	0.024
Generator Sets	2040	51	120	3.086	0.152	1.399	3.308	0.006	0.012	0.012	568.299	0.013
Generator Sets	2040	121	175	3.958	0.107	0.293	2.928	0.006	0.01	0.01	568.299	0.009
Generator Sets	2040	176	250	5.86	0.106	0.277	0.997	0.006	0.009	0.009	568.299	0.009
Generator Sets	2040	251	500	9.29	0.106	0.277	0.978	0.005	0.009	0.009	568.299	0.009
Generator Sets	2040	501	750	14.997	0.106	0.277	0.978	0.005	0.009	0.009	568.3	0.009
Generator Sets	2040	1001	9999	29.36	0.107	2.33	0.978	0.005	0.02	0.02	568.299	0.009
Graders	1990	26	50	10.997	4.776	7.935	9.678	0.871	1.265	1.265	568.3	0.431
Graders	1990	51	120	14.614	2.332	14.78	5.658	0.791	1.325	1.325	568.299	0.21
Graders	1990	121	175	17.684	1.707	13.838	5.007	0.758	0.946	0.946	568.299	0.154
Graders	1990	176	250	24.561	1.707	13.838	5.007	0.758	0.946	0.946	568.299	0.154
Graders	1990	251	500	29.01	1.512	13.128	10.95	0.662	0.811	0.811	568.299	0.136
Graders	1990	501	750	61.406	1.512	13.128	10.95	1.018	0.826	0.826	568.3	0.136
Graders	2000	26	50	10.331	4.487	7.082	9.239	0.066	0.935	0.935	568.299	0.404
Graders	2000	51	120	11.628	1.855	10.486	4.675	0.06	0.904	0.904	568.3	0.167
Graders	2000	121	175	13.017	1.256	9.601	3.786	0.057	0.531	0.531	568.299	0.113
Graders	2000	176	250	15.266	1.061	9.264	3.039	0.057	0.437	0.437	568.299	0.095
Graders	2000	251	500	18.455	0.961	8.805	4.848	0.05	0.384	0.384	568.3	0.086
Graders	2000	501	750	39.064	0.961	8.805	4.848	0.052	0.384	0.384	568.299	0.086
Graders	2005	26	50	9.193	3.993	6.612	8.559	0.066	0.868	0.868	568.299	0.36
Graders	2005	51	120	10.174	1.623	9.021	4.406	0.06	0.849	0.849	568.3	0.146
Graders	2005	121	175	11.01	1.062	8.238	3.522	0.057	0.469	0.469	568.299	0.095
Graders	2005	176	250	11.283	0.784	7.837	2.17	0.057	0.314	0.314	568.299	0.07
Graders	2005	251	500	13.286	0.692	7.117	2.913	0.05	0.279	0.279	568.299	0.062
Graders	2005	501	750	28.569	0.703	7.284	2.909	0.052	0.282	0.282	568.299	0.063
Graders	2010	26	50	3.618169	3.04	6.50487	8.828	0.005	0.852	0.783	547.2284	0.159
Graders	2010	51	120	1.572744	1.322	10.4805	4.95239	0.005	0.854	0.786	523.7684	0.152
Graders	2010	121	175	1.025452	0.862	8.98998	3.90428	0.005	0.496	0.456	536.7031	0.156
Graders	2010	176	250	0.425787	0.358	5.73143	1.43786	0.005	0.182	0.167	530.3343	0.154
Graders	2010	251	500	0.323814	0.272	3.80781	1.81115	0.005	0.142	0.13	525.6597	0.153
Graders	2010	501	750	21.764	0.535	5.386	1.861	0.005	0.202	0.202	568.299	0.048
Graders	2011	26	50	3.655035	3.071	6.52829	8.9223	0.005	0.86	0.791	545.8822	0.159
Graders	2011	51	120	1.554125	1.306	10.3495	4.9423	0.005	0.847	0.78	522.5082	0.152
Graders	2011	121	175	1.019798	0.857	8.91245	3.91881	0.005	0.494	0.455	535.2864	0.156
Graders	2011	176	250	0.436805	0.367	5.74733	1.44556	0.005	0.183	0.169	529.0473	0.154
Graders	2011	251	500	0.341103	0.287	3.81827	1.83104	0.005	0.144	0.132	524.3479	0.153
Graders	2011	501	750	20.697	0.509	4.992	1.744	0.005	0.184	0.184	568.299	0.045
Graders	2012	26	50	3.689945	3.101	6.55055	9.01183	0.005	0.867	0.798	544.5383	0.159
Graders	2012	51	120	1.550155	1.303	10.2881	4.94871	0.005	0.848	0.78	521.1967	0.152
Graders	2012	121	175	1.022941	0.86	8.89699	3.94251	0.005	0.496	0.456	533.878	0.156
Graders	2012	176	250	0.449323	0.378	5.777	1.45898	0.005	0.185	0.171	527.8224	0.154
Graders	2012	251	500	0.355329	0.299	3.8123	1.82432	0.005	0.145	0.133	522.8547	0.153
Graders	2012	501	750	19.697	0.485	4.624	1.642	0.005	0.168	0.168	568.299	0.043
Graders	2013	26	50	3.722893	3.128	6.57166	9.0966	0.005	0.874	0.804	541.8285	0.159
Graders	2013	51	120	1.548648	1.301	10.2424	4.95898	0.005	0.849	0.781	518.5552	0.152
Graders	2013	121	175	1.020021	0.857	8.8338	3.95423	0.005	0.495	0.455	530.9753	0.156
Graders	2013	176	250	0.455824	0.383	5.74577	1.45924	0.005	0.185	0.17	525.0407	0.154
Graders	2013	251	500	0.359627	0.302	3.71231	1.7965	0.005	0.141	0.13	520.0526	0.153
Graders	2013	501	750	18.765	0.462	4.281	1.556	0.005	0.152	0.152	568.299	0.041
Graders	2014	26	50	3.681797	3.094	6.54967	9.06534	0.005	0.867	0.798	539.1216	0.159
Graders	2014	51	120	1.510465	1.269	9.98567	4.91977	0.005	0.832	0.765	515.3819	0.152
Graders	2014	121	175	1.007876	0.847	8.70206	3.95083	0.005	0.488	0.449	527.8337	0.156
Graders	2014	176	250	0.463867	0.39	5.73998	1.46245	0.005	0.185	0.171	522.3298	0.154
Graders	2014	251	500	0.373775	0.314	3.71371	1.79096	0.005	0.143	0.131	517.3766	0.153
Graders	2014	501	750	17.784	0.437	3.876	1.483	0.005	0.138	0.138	568.299	0.039
Graders	2015	26	50	3.711306	3.119	6.56967	9.14399	0.005	0.874	0.804	533.6812	0.159
Graders	2015	51	120	1.474627	1.239	9.73775	4.88439	0.005	0.813	0.748	509.597	0.152
Graders	2015	121	175	1.004333	0.844	8.63742	3.95849	0.005	0.486	0.447	522.2182	0.156
Graders	2015	176	250	0.471304	0.396	5.72754	1.46577	0.005	0.186	0.171	517.1275	0.154
Graders	2015	251	500	0.388063	0.326	3.72122	1.79107	0.005	0.144	0.133	512.0975	0.153
Graders	2015	501	750	16.846	0.414	3.501	1.42	0.005	0.124	0.124	568.299	0.037
Graders	2016	26	50	3.670899	3.085	6.51973	9.10623	0.005	0.864	0.795	528.2444	0.159
Graders	2016	51	120	1.419659	1.193	9.41488	4.82948	0.005	0.78	0.718	503.1614	0.152
Graders	2016	121	175	0.963567	0.81	8.24966	3.91624	0.005	0.463	0.426	516.1305	0.156
Graders	2016	176	250	0.473996	0.398	5.6628	1.45911	0.005	0.184	0.169	511.6959	0.154
Graders	2016	251	500	0.397787	0.334	3.6858	1.77374	0.005	0.144	0.132	506.5064	0.153
Graders	2016	501	750	15.959	0.393	3.154	1.367	0.005	0.112	0.112	568.299	0.035
Graders	2017	26	50	3.5783	3.007	6.423	8.97826	0.005	0.843	0.776	520.0747	0.159
Graders	2017	51	120	1.385767	1.164	9.19125	4.81041	0.005	0.759	0.698	495.9186	0.152
Graders	2017	121	175	0.901	0.757	7.66265	3.84518	0.005	0.43	0.396	506.7478	0.155
Graders	2017	176	250	0.471391	0.396	5.52488	1.44905	0.005	0.18	0.166	503.8022	0.154
Graders	2017	251	500	0.397706	0.334	3.55709	1.70747	0.005	0.139	0.128	498.5996	0.153
Graders	2017	501	750	15.127	0.372	2.835	1.323	0.005	0.1	0.1	568.299	0.033
Graders	2018	26	50	3.342571	2.809	6.17962	8.62631	0.005	0.79	0.726	511.9098	0.159
Graders	2018	51	120	1.27956	1.075	8.51954	4.69711	0.005	0.697	0.641	487.6979	0.152
Graders	2018	121	175	0.78708	0.661	6.60465	3.70957	0.005	0.371	0.342	497.3767	0.155
Graders	2018	176	250	0.457376	0.384	5.27094	1.41595	0.005	0.171	0.158	495.431	0.154
Graders	2018	251	500	0.385909	0.324	3.44465	1.56446	0.005	0.129	0.119	490.5758	0.153
Graders	2018	501	750	14.353	0.353	2.543	1.286	0.005	0.09	0.09	568.299	0.031
Graders	2019	26	50	3.11378	2.616	5.94463	8.27912	0.005	0.737	0.678	503.7509	0.159
Graders	2019	51	120	1.228249	1.032	8.1592	4.6424	0.005	0.665	0.612	479.9011	0.152
Graders	2019	121	175	0.724541	0.609	6.01354	3.65586	0.005	0.337	0.31	489.0419	0.155
Graders	2019	176	250	0.428358	0.36	4.86575	1.35927	0.005	0.156	0.144	486.3288	0.154
Graders	2019	251	500	0.384059	0.323	3.21794	1.52849	0.005	0.124	0.114	482.5879	0.153
Graders	2019	501	750	13.635	0.335	2.276	1.255	0.005	0.08	0.08	568.299	0.03
Graders	2020	26	50	2.994737	2.516	5.82549	8.13394	0.005	0.709	0.652	492.8615	0.159
Graders	2020	51	120	1.161574	0.976	7.72513	4.56142	0.005	0.622	0.572	469.3371	0.152
Graders	2020	121	175	0.674427	0.567	5.53045	3.62102	0.005	0.309	0.284	478.0403	0.155
Graders	2020	176	250	0.41877	0.352	4.67787	1.34183	0.005	0.15	0.138	475.3037	0.154



Graders	2020	251	500	0.383198	0.322	3.10731	1.5256	0.005	0.121	0.111	471.9795	0.153
Graders	2020	501	750	12.961	0.319	2.031	1.229	0.005	0.072	0.072	568.299	0.028
Graders	2021	26	50	2.660206	2.235	5.48468	7.62621	0.005	0.631	0.581	492.9352	0.159
Graders	2021	51	120	1.072144	0.901	7.12535	4.45175	0.005	0.57	0.524	469.0701	0.152
Graders	2021	121	175	0.601372	0.505	4.83947	3.55896	0.005	0.27	0.248	478.5289	0.155
Graders	2021	176	250	0.398657	0.335	4.38134	1.30687	0.005	0.139	0.128	474.5386	0.153
Graders	2021	251	500	0.383194	0.322	3.01257	1.46044	0.005	0.117	0.108	471.8981	0.153
Graders	2021	501	750	12.333	0.303	1.808	1.207	0.005	0.064	0.064	568.299	0.027
Graders	2022	26	50	2.506375	2.106	5.33188	7.42848	0.005	0.595	0.547	493.0249	0.159
Graders	2022	51	120	0.947815	0.796	6.36004	4.32966	0.005	0.493	0.453	469.6301	0.152
Graders	2022	121	175	0.524016	0.44	4.12488	3.49283	0.005	0.229	0.211	478.5664	0.155
Graders	2022	176	250	0.365229	0.307	3.8881	1.27327	0.005	0.124	0.114	474.239	0.153
Graders	2022	251	500	0.370143	0.311	2.80191	1.38967	0.005	0.108	0.1	471.9278	0.153
Graders	2022	501	750	11.747	0.289	1.606	1.187	0.005	0.057	0.057	568.299	0.026
Graders	2023	26	50	2.316861	1.947	5.14799	7.19094	0.005	0.549	0.505	494.0202	0.16
Graders	2023	51	120	0.855685	0.719	5.74006	4.22811	0.005	0.436	0.401	469.2859	0.152
Graders	2023	121	175	0.463941	0.39	3.54785	3.45006	0.005	0.195	0.18	478.4629	0.155
Graders	2023	176	250	0.337478	0.284	3.44101	1.25173	0.005	0.111	0.103	473.9256	0.153
Graders	2023	251	500	0.367269	0.309	2.70451	1.38481	0.005	0.105	0.097	471.0306	0.152
Graders	2023	501	750	11.215	0.276	1.425	1.17	0.005	0.051	0.051	568.3	0.024
Graders	2024	26	50	2.201935	1.85	5.0278	7.05059	0.005	0.52	0.479	493.7913	0.16
Graders	2024	51	120	0.812369	0.683	5.43389	4.20033	0.005	0.408	0.375	469.8208	0.152
Graders	2024	121	175	0.433005	0.364	3.20219	3.43239	0.005	0.177	0.163	478.4966	0.155
Graders	2024	176	250	0.312074	0.262	3.07323	1.22497	0.005	0.1	0.092	473.6685	0.153
Graders	2024	251	500	0.348233	0.293	2.43171	1.35613	0.005	0.095	0.088	470.2664	0.152
Graders	2024	501	750	10.734	0.264	1.265	1.155	0.005	0.046	0.046	568.3	0.023
Graders	2025	26	50	2.21878	1.864	5.04301	7.12535	0.005	0.522	0.48	493.5322	0.16
Graders	2025	51	120	0.759044	0.638	5.07379	4.14911	0.005	0.371	0.342	468.3155	0.151
Graders	2025	121	175	0.391287	0.329	2.77396	3.41759	0.005	0.152	0.14	478.5084	0.155
Graders	2025	176	250	0.273788	0.23	2.55629	1.17888	0.005	0.082	0.076	473.4704	0.153
Graders	2025	251	500	0.332717	0.28	2.26485	1.31461	0.005	0.088	0.081	470.7533	0.152
Graders	2025	501	750	10.301	0.253	1.125	1.141	0.005	0.041	0.041	568.3	0.022
Graders	2030	26	50	1.493	0.648	3.53	5.239	0.007	0.065	0.065	568.299	0.058
Graders	2030	51	120	2.028	0.323	1.903	3.775	0.006	0.058	0.058	568.299	0.029
Graders	2030	121	175	2.458	0.237	0.815	3.326	0.006	0.038	0.038	568.3	0.021
Graders	2030	176	250	3.114	0.216	0.684	1.148	0.006	0.024	0.024	568.299	0.019
Graders	2030	251	500	4.115	0.214	0.647	1.097	0.005	0.023	0.023	568.299	0.019
Graders	2030	501	750	8.717	0.214	0.654	1.097	0.005	0.023	0.023	568.299	0.019
Graders	2035	26	50	1.367	0.593	3.356	5.189	0.007	0.037	0.037	568.299	0.053
Graders	2035	51	120	1.837	0.293	1.661	3.767	0.006	0.034	0.034	568.299	0.026
Graders	2035	121	175	2.136	0.206	0.506	3.326	0.006	0.022	0.022	568.3	0.018
Graders	2035	176	250	2.822	0.196	0.452	1.137	0.006	0.016	0.016	568.299	0.017
Graders	2035	251	500	3.746	0.195	0.434	1.083	0.005	0.016	0.016	568.299	0.017
Graders	2035	501	750	7.933	0.195	0.438	1.083	0.005	0.016	0.016	568.299	0.017
Graders	2040	26	50	1.297	0.563	3.298	5.161	0.007	0.026	0.026	568.3	0.05
Graders	2040	51	120	1.747	0.278	1.56	3.764	0.006	0.024	0.024	568.299	0.025
Graders	2040	121	175	2.002	0.193	0.38	3.326	0.006	0.017	0.017	568.299	0.017
Graders	2040	176	250	2.719	0.188	0.36	1.133	0.006	0.013	0.013	568.299	0.017
Graders	2040	251	500	3.619	0.188	0.351	1.079	0.005	0.013	0.013	568.299	0.017
Graders	2040	501	750	7.663	0.188	0.353	1.079	0.005	0.013	0.013	568.299	0.017
Off-Highway Tractors	1990	51	120	7.901	2.432	15.285	5.842	0.791	1.384	1.384	568.299	0.219
Off-Highway Tractors	1990	121	175	8.363	1.85	14.647	5.217	0.758	1.033	1.033	568.299	0.166
Off-Highway Tractors	1990	176	250	8.363	1.85	14.647	5.217	0.758	1.033	1.033	568.299	0.166
Off-Highway Tractors	1990	501	750	32.077	1.629	13.849	11.847	1.018	0.896	0.896	568.3	0.147
Off-Highway Tractors	1990	751	1000	45.779	1.622	13.849	11.847	1.018	0.888	0.888	568.3	0.146
Off-Highway Tractors	2000	51	120	6.648	2.047	11.606	5.046	0.06	0.972	0.972	568.299	0.184
Off-Highway Tractors	2000	121	175	6.386	1.413	10.675	4.213	0.057	0.602	0.602	568.299	0.127
Off-Highway Tractors	2000	176	250	5.736	1.269	10.426	3.665	0.057	0.532	0.532	568.299	0.114
Off-Highway Tractors	2000	501	750	22.339	1.134	9.864	6.836	0.052	0.461	0.461	568.299	0.102
Off-Highway Tractors	2000	751	1000	33.036	1.17	10.29	7.259	0.052	0.444	0.444	568.299	0.105
Off-Highway Tractors	2005	51	120	6.042	1.86	10.379	4.801	0.06	0.932	0.932	568.299	0.167
Off-Highway Tractors	2005	121	175	5.63	1.246	9.479	3.943	0.057	0.547	0.547	568.299	0.112
Off-Highway Tractors	2005	176	250	4.641	1.027	9.16	2.923	0.057	0.425	0.425	568.299	0.092
Off-Highway Tractors	2005	501	750	17.978	0.913	8.543	4.992	0.052	0.372	0.372	568.299	0.082
Off-Highway Tractors	2005	751	1000	27.525	0.975	9.293	5.369	0.052	0.359	0.359	568.299	0.088
Off-Highway Tractors	2010	51	120	1.004164	0.844	7.39576	4.06859	0.005	0.61	0.561	529.8898	0.154
Off-Highway Tractors	2010	121	175	0.623556	0.524	6.19445	3.25207	0.005	0.322	0.297	526.0485	0.153
Off-Highway Tractors	2010	176	250	0.540439	0.454	6.56823	1.80076	0.005	0.241	0.222	522.8212	0.152
Off-Highway Tractors	2010	501	750	0.353776	0.297	4.74911	1.65183	0.005	0.163	0.15	526.6401	0.153
Off-Highway Tractors	2010	751	1000	1.235451	1.038	12.2723	13.844	0.005	0.624	0.574	524.505	0.153
Off-Highway Tractors	2011	51	120	0.958318	0.805	7.12201	4.04749	0.005	0.588	0.541	528.6123	0.154
Off-Highway Tractors	2011	121	175	0.588696	0.495	5.88095	3.25718	0.005	0.307	0.282	524.5528	0.153
Off-Highway Tractors	2011	176	250	0.522937	0.439	6.3706	1.73271	0.005	0.23	0.212	521.5328	0.152
Off-Highway Tractors	2011	501	750	0.366196	0.308	4.77936	1.66137	0.005	0.166	0.153	525.3172	0.153
Off-Highway Tractors	2011	751	1000	1.235451	1.038	12.2723	13.844	0.005	0.624	0.574	523.1938	0.153
Off-Highway Tractors	2012	51	120	0.956826	0.804	7.07175	4.07302	0.005	0.588	0.541	527.1281	0.154
Off-Highway Tractors	2012	121	175	0.573556	0.482	5.70904	3.27598	0.005	0.299	0.276	523.1986	0.153
Off-Highway Tractors	2012	176	250	0.51645	0.434	6.26836	1.70131	0.005	0.225	0.207	520.2636	0.152
Off-Highway Tractors	2012	501	750	0.3785	0.318	4.80904	1.67078	0.005	0.169	0.155	523.9941	0.153
Off-Highway Tractors	2012	751	1000	1.235451	1.038	12.2723	13.844	0.005	0.624	0.574	521.8825	0.153
Off-Highway Tractors	2013	51	120	0.915141	0.769	6.79599	4.04714	0.005	0.564	0.519	524.1555	0.154
Off-Highway Tractors	2013	121	175	0.54434	0.457	5.42114	3.28016	0.005	0.281	0.258	520.6151	0.153
Off-Highway Tractors	2013	176	250	0.508791	0.428	6.11434	1.67153	0.005	0.219	0.201	517.5627	0.152
Off-Highway Tractors	2013	501	750	0.342496	0.288	4.32547	1.42496	0.005	0.149	0.137	519.6246	0.153
Off-Highway Tractors	2013	751	1000	1.235451	1.038	12.2723	13.844	0.005	0.624	0.574	519.26	0.153
Off-Highway Tractors	2014	51	120	0.830806	0.698	6.28073	3.97241	0.005	0.513	0.472	520.8244	0.154
Off-Highway Tractors	2014	121	175	0.504784	0.424	5.02525	3.26511	0.005	0.258	0.237	518.1639	0.153
Off-Highway Tractors	2014	176	250	0.481559	0.405	5.66092	1.62822	0.005	0.203	0.187	514.3699	0.152
Off-Highway Tractors	2014	501	750	0.317193	0.267	4.00651	1.33448	0.005	0.133	0.122	516.904	0.153

Off-Highway Tractors	2014	751	1000	0.100665	0.085	2.27938	0.94694	0.005	0.054	0.05	516.6375	0.153
Off-Highway Tractors	2015	51	120	0.802587	0.674	6.06726	3.96474	0.005	0.494	0.455	515.3203	0.154
Off-Highway Tractors	2015	121	175	0.478075	0.402	4.72365	3.26419	0.005	0.239	0.22	512.6079	0.153
Off-Highway Tractors	2015	176	250	0.476529	0.4	5.52773	1.60534	0.005	0.199	0.183	509.1896	0.152
Off-Highway Tractors	2015	501	750	0.312134	0.262	3.87437	1.17195	0.005	0.126	0.116	511.0814	0.153
Off-Highway Tractors	2015	751	1000	0.114305	0.096	2.29983	0.96003	0.005	0.056	0.051	511.3924	0.153
Off-Highway Tractors	2016	51	120	0.743357	0.625	5.6465	3.92464	0.005	0.454	0.418	509.4472	0.154
Off-Highway Tractors	2016	121	175	0.465284	0.391	4.51093	3.27806	0.005	0.229	0.211	507.6294	0.153
Off-Highway Tractors	2016	176	250	0.426838	0.359	4.92994	1.47177	0.005	0.171	0.157	504.1229	0.152
Off-Highway Tractors	2016	501	750	0.299821	0.252	3.57265	1.14348	0.005	0.117	0.108	505.762	0.153
Off-Highway Tractors	2016	751	1000	0.127675	0.107	2.31987	0.97285	0.005	0.057	0.053	506.1474	0.153
Off-Highway Tractors	2017	51	120	0.697857	0.586	5.31726	3.90108	0.005	0.423	0.389	501.2453	0.154
Off-Highway Tractors	2017	121	175	0.423504	0.356	4.02594	3.2589	0.005	0.205	0.189	499.2446	0.153
Off-Highway Tractors	2017	176	250	0.389773	0.328	4.38216	1.403	0.005	0.151	0.139	496.4983	0.152
Off-Highway Tractors	2017	501	750	0.294592	0.248	3.32351	1.14456	0.005	0.112	0.103	497.6181	0.152
Off-Highway Tractors	2017	751	1000	0.140776	0.118	2.33951	0.98542	0.005	0.059	0.054	498.2798	0.153
Off-Highway Tractors	2018	51	120	0.621057	0.522	4.78732	3.83227	0.005	0.373	0.343	492.8709	0.153
Off-Highway Tractors	2018	121	175	0.374746	0.315	3.49764	3.2191	0.005	0.176	0.162	491.3128	0.153
Off-Highway Tractors	2018	176	250	0.323278	0.272	3.45421	1.29494	0.005	0.119	0.109	488.6765	0.152
Off-Highway Tractors	2018	501	750	0.232675	0.196	2.1656	1.11871	0.005	0.081	0.074	490.1818	0.153
Off-Highway Tractors	2018	751	1000	0.153606	0.129	2.35874	0.99773	0.005	0.06	0.055	490.4122	0.153
Off-Highway Tractors	2019	51	120	0.562974	0.473	4.42145	3.79465	0.005	0.331	0.305	484.2693	0.153
Off-Highway Tractors	2019	121	175	0.350048	0.294	3.20755	3.21895	0.005	0.159	0.146	483.4306	0.153
Off-Highway Tractors	2019	176	250	0.283777	0.238	2.9142	1.21832	0.005	0.098	0.09	481.2751	0.152
Off-Highway Tractors	2019	501	750	0.244248	0.205	2.17682	1.12934	0.005	0.082	0.075	482.3091	0.153
Off-Highway Tractors	2019	751	1000	0.166166	0.14	2.37757	1.00978	0.005	0.062	0.057	482.5446	0.153
Off-Highway Tractors	2020	51	120	0.533073	0.448	4.18317	3.78798	0.005	0.307	0.282	474.1481	0.153
Off-Highway Tractors	2020	121	175	0.322507	0.271	2.89032	3.21511	0.005	0.14	0.129	472.9169	0.153
Off-Highway Tractors	2020	176	250	0.263453	0.221	2.57547	1.1813	0.005	0.086	0.079	470.943	0.152
Off-Highway Tractors	2020	501	750	0.239679	0.201	2.04663	1.13143	0.005	0.076	0.07	471.8151	0.153
Off-Highway Tractors	2020	751	1000	0.178457	0.15	2.39599	1.02156	0.005	0.063	0.058	472.0545	0.153
Off-Highway Tractors	2021	51	120	0.469894	0.395	3.77306	3.74258	0.005	0.261	0.24	474.5155	0.153
Off-Highway Tractors	2021	121	175	0.307902	0.259	2.65962	3.21953	0.005	0.129	0.118	472.9236	0.153
Off-Highway Tractors	2021	176	250	0.237665	0.2	2.11341	1.16179	0.005	0.072	0.067	471.0028	0.152
Off-Highway Tractors	2021	501	750	0.215694	0.181	1.71505	1.12237	0.005	0.063	0.058	471.8056	0.153
Off-Highway Tractors	2021	751	1000	0.190478	0.16	2.41401	1.0331	0.005	0.064	0.059	472.0545	0.153
Off-Highway Tractors	2022	51	120	0.414344	0.348	3.39986	3.70994	0.005	0.219	0.202	475.2338	0.154
Off-Highway Tractors	2022	121	175	0.275155	0.231	2.23877	3.18586	0.005	0.107	0.099	472.8111	0.153
Off-Highway Tractors	2022	176	250	0.213642	0.18	1.73242	1.14284	0.005	0.06	0.055	471.1313	0.152
Off-Highway Tractors	2022	501	750	0.20345	0.171	1.43309	1.12111	0.005	0.055	0.05	471.939	0.153
Off-Highway Tractors	2022	751	1000	0.202228	0.17	2.43162	1.04437	0.005	0.066	0.06	472.0545	0.153
Off-Highway Tractors	2023	51	120	0.37642	0.316	3.09527	3.68654	0.005	0.187	0.172	476.0871	0.154
Off-Highway Tractors	2023	121	175	0.239199	0.201	1.78476	3.14329	0.005	0.085	0.079	472.9962	0.153
Off-Highway Tractors	2023	176	250	0.20356	0.171	1.49148	1.13796	0.005	0.053	0.049	470.845	0.152
Off-Highway Tractors	2023	501	750	0.199838	0.168	1.28868	1.12418	0.005	0.051	0.047	471.9321	0.153
Off-Highway Tractors	2023	751	1000	0.213709	0.18	2.44883	1.05538	0.005	0.067	0.062	472.0545	0.153
Off-Highway Tractors	2024	51	120	0.359218	0.302	2.94932	3.69095	0.005	0.171	0.157	476.3711	0.154
Off-Highway Tractors	2024	121	175	0.21727	0.183	1.49579	3.1328	0.005	0.071	0.066	473.097	0.153
Off-Highway Tractors	2024	176	250	0.200963	0.169	1.37732	1.13461	0.005	0.049	0.045	470.6894	0.152
Off-Highway Tractors	2024	501	750	0.200706	0.169	1.23477	1.13006	0.005	0.048	0.044	471.9247	0.153
Off-Highway Tractors	2024	751	1000	0.22492	0.189	2.46563	1.06613	0.005	0.068	0.063	472.0545	0.153
Off-Highway Tractors	2025	51	120	0.32831	0.276	2.70745	3.66914	0.005	0.144	0.132	476.9211	0.154
Off-Highway Tractors	2025	121	175	0.208537	0.175	1.34858	3.14246	0.005	0.065	0.059	473.3021	0.153
Off-Highway Tractors	2025	176	250	0.183862	0.154	1.11624	1.13017	0.005	0.04	0.037	470.861	0.152
Off-Highway Tractors	2025	501	750	0.199094	0.167	1.11804	1.13452	0.005	0.045	0.041	471.9169	0.153
Off-Highway Tractors	2025	751	1000	0.235862	0.198	2.48203	1.07663	0.005	0.069	0.064	472.0545	0.153
Off-Highway Tractors	2030	51	120	1.683	0.518	2.959	3.944	0.006	0.175	0.175	568.299	0.046
Off-Highway Tractors	2030	121	175	1.689	0.373	1.916	3.435	0.006	0.104	0.104	568.299	0.033
Off-Highway Tractors	2030	176	250	1.423	0.315	1.715	1.286	0.006	0.064	0.064	568.299	0.028
Off-Highway Tractors	2030	501	750	5.992	0.304	1.59	1.351	0.005	0.06	0.06	568.299	0.027
Off-Highway Tractors	2030	751	1000	8.981	0.318	3.569	1.409	0.005	0.078	0.078	568.3	0.028
Off-Highway Tractors	2035	51	120	1.359	0.418	2.35	3.902	0.006	0.107	0.107	568.299	0.037
Off-Highway Tractors	2035	121	175	1.361	0.301	1.252	3.421	0.006	0.065	0.065	568.299	0.027
Off-Highway Tractors	2035	176	250	1.211	0.268	1.115	1.232	0.006	0.042	0.042	568.299	0.024
Off-Highway Tractors	2035	501	750	5.163	0.262	1.045	1.238	0.005	0.04	0.04	568.299	0.023
Off-Highway Tractors	2035	751	1000	7.617	0.269	3.116	1.268	0.005	0.056	0.056	568.299	0.024
Off-Highway Tractors	2040	51	120	1.176	0.362	1.976	3.878	0.006	0.067	0.067	568.299	0.032
Off-Highway Tractors	2040	121	175	1.162	0.257	0.836	3.412	0.006	0.041	0.041	568.299	0.023
Off-Highway Tractors	2040	176	250	1.073	0.237	0.747	1.198	0.006	0.028	0.028	568.299	0.021
Off-Highway Tractors	2040	501	750	4.612	0.234	0.71	1.164	0.005	0.027	0.027	568.299	0.021
Off-Highway Tractors	2040	751	1000	6.743	0.238	2.844	1.183	0.005	0.042	0.042	568.299	0.021
Off-Highway Trucks	1990	121	175	6.457	2.005	15.394	5.36	0.758	1.133	1.133	568.299	0.18
Off-Highway Trucks	1990	176	250	8.597	2.005	15.394	5.36	0.758	1.133	1.133	568.299	0.18
Off-Highway Trucks	1990	251	500	12.319	1.757	14.499	12.538	0.662	0.959	0.959	568.299	0.158
Off-Highway Trucks	1990	501	750	19.982	1.757	14.499	12.538	1.018	0.976	0.976	568.299	0.158
Off-Highway Trucks	1990	751	1000	28.084	1.746	14.499	12.538	1.018	0.963	0.963	568.3	0.157
Off-Highway Trucks	2000	121	175	4.115	1.278	9.57	3.772	0.057	0.548	0.548	568.299	0.115
Off-Highway Trucks	2000	176	250	4.454	1.039	9.178	2.896	0.057	0.425	0.425	568.299	0.093
Off-Highway Trucks	2000	251	500	6.594	0.94	8.675	4.214	0.05	0.376	0.376	568.299	0.084
Off-Highway Trucks	2000	501	750	10.696	0.94	8.675	4.214	0.052	0.376	0.376	568.299	0.084
Off-Highway Trucks	2000	751	1000	16.13	1.003	9.339	4.878	0.052	0.355	0.355	568.3	0.09
Off-Highway Trucks	2005	121	175	3.462	1.075	8.1	3.531	0.057	0.481	0.481	568.299	0.097
Off-Highway Trucks	2005	176	250	3.21	0.748	7.652	1.978	0.057	0.291	0.291	568.299	0.067
Off-Highway Trucks	2005	251	500	4.695	0.669	6.848	2.332	0.05	0.26	0.26	568.299	0.06
Off-Highway Trucks	2005	501	750	7.697	0.677	7.052	2.33	0.052	0.264	0.264	568.299	0.061
Off-Highway Trucks	2005	751	1000	12.436	0.773	8.177	2.812	0.052	0.266	0.266	568.299	0.069
Off-Highway Trucks	2010	121	175	0.758703	0.638	6.59182	3.51002	0.005	0.39	0.359	522.6455	0.152
Off-Highway Trucks	2010	176	250	0.657432	0.552	6.86617	2.13151	0.005	0.29	0.267	521.8781	0.152
Off-Highway Trucks	2010	251	500	0.5118	0.43	5.52051	2.32222	0.005	0.213	0.196	528.8078	0.154

Off-Highway Trucks	2010	501	750	0.633984	0.533	6.54487	3.68555	0.005	0.276	0.254	530.4366	0.154
Off-Highway Trucks	2010	751	1000	0.549873	0.462	7.15365	2.05613	0.005	0.211	0.194	526.5915	0.153
Off-Highway Trucks	2011	121	175	0.704506	0.592	6.13879	3.48667	0.005	0.357	0.328	521.3222	0.152
Off-Highway Trucks	2011	176	250	0.640546	0.538	6.53722	2.08881	0.005	0.278	0.256	520.1539	0.152
Off-Highway Trucks	2011	251	500	0.515485	0.433	5.39802	2.27798	0.005	0.21	0.193	527.2602	0.154
Off-Highway Trucks	2011	501	750	0.643792	0.541	6.51376	3.68121	0.005	0.276	0.254	529.0143	0.154
Off-Highway Trucks	2011	751	1000	0.55014	0.462	7.09609	2.03783	0.005	0.211	0.194	524.7459	0.153
Off-Highway Trucks	2012	121	175	0.704248	0.592	6.0668	3.51164	0.005	0.354	0.325	519.901	0.152
Off-Highway Trucks	2012	176	250	0.646155	0.543	6.43814	2.1013	0.005	0.277	0.255	518.7133	0.152
Off-Highway Trucks	2012	251	500	0.525914	0.442	5.37678	2.29017	0.005	0.21	0.193	525.9398	0.154
Off-Highway Trucks	2012	501	750	0.661317	0.556	6.55684	3.73128	0.005	0.28	0.258	527.6141	0.154
Off-Highway Trucks	2012	751	1000	0.55909	0.47	7.10377	2.05327	0.005	0.213	0.196	523.3305	0.153
Off-Highway Trucks	2013	121	175	0.671819	0.565	5.78297	3.51059	0.005	0.33	0.304	517.0124	0.152
Off-Highway Trucks	2013	176	250	0.623589	0.524	6.05816	2.04802	0.005	0.263	0.242	515.8273	0.152
Off-Highway Trucks	2013	251	500	0.502477	0.422	5.06239	2.17762	0.005	0.197	0.181	523.5459	0.154
Off-Highway Trucks	2013	501	750	0.645495	0.542	6.30864	3.55888	0.005	0.268	0.247	525.1075	0.154
Off-Highway Trucks	2013	751	1000	0.543085	0.456	6.89277	1.9094	0.005	0.205	0.189	520.5876	0.153
Off-Highway Trucks	2014	121	175	0.610195	0.513	5.21922	3.47308	0.005	0.292	0.269	514.0574	0.152
Off-Highway Trucks	2014	176	250	0.574728	0.483	5.4411	1.93163	0.005	0.235	0.217	512.8333	0.152
Off-Highway Trucks	2014	251	500	0.468214	0.393	4.68575	2.07518	0.005	0.18	0.165	521.0573	0.154
Off-Highway Trucks	2014	501	750	0.576983	0.485	5.57816	2.95299	0.005	0.231	0.212	521.2295	0.154
Off-Highway Trucks	2014	751	1000	0.493307	0.415	6.36534	1.77934	0.005	0.187	0.172	516.9385	0.153
Off-Highway Trucks	2015	121	175	0.604782	0.508	5.10449	3.48853	0.005	0.284	0.262	508.7011	0.152
Off-Highway Trucks	2015	176	250	0.563373	0.473	5.24228	1.89994	0.005	0.227	0.209	507.8087	0.152
Off-Highway Trucks	2015	251	500	0.457555	0.384	4.52794	2.0367	0.005	0.173	0.159	515.8419	0.154
Off-Highway Trucks	2015	501	750	0.537539	0.452	5.12427	2.61969	0.005	0.208	0.192	514.6436	0.154
Off-Highway Trucks	2015	751	1000	0.489174	0.411	6.28012	1.77206	0.005	0.185	0.17	511.1369	0.153
Off-Highway Trucks	2016	121	175	0.562854	0.473	4.64707	3.45883	0.005	0.258	0.237	503.5515	0.152
Off-Highway Trucks	2016	176	250	0.530487	0.446	4.82646	1.82377	0.005	0.208	0.191	502.4732	0.152
Off-Highway Trucks	2016	251	500	0.418147	0.351	4.04798	1.88523	0.005	0.153	0.141	509.8604	0.154
Off-Highway Trucks	2016	501	750	0.497396	0.418	4.64247	2.43646	0.005	0.187	0.172	508.3916	0.153
Off-Highway Trucks	2016	751	1000	0.467579	0.393	6.0352	1.70739	0.005	0.175	0.161	505.7218	0.153
Off-Highway Trucks	2017	121	175	0.525186	0.441	4.23649	3.43636	0.005	0.233	0.215	495.924	0.152
Off-Highway Trucks	2017	176	250	0.496493	0.417	4.36785	1.75281	0.005	0.189	0.174	494.7935	0.152
Off-Highway Trucks	2017	251	500	0.387096	0.325	3.66841	1.74773	0.005	0.136	0.125	501.4368	0.154
Off-Highway Trucks	2017	501	750	0.468516	0.394	4.25656	2.35644	0.005	0.17	0.157	500.1987	0.153
Off-Highway Trucks	2017	751	1000	0.430867	0.362	5.65254	1.54555	0.005	0.159	0.146	497.1154	0.152
Off-Highway Trucks	2018	121	175	0.456313	0.383	3.54273	3.38333	0.005	0.192	0.177	488.0439	0.152
Off-Highway Trucks	2018	176	250	0.405448	0.341	3.45071	1.54329	0.005	0.141	0.13	487.6353	0.152
Off-Highway Trucks	2018	251	500	0.341588	0.287	3.08995	1.5595	0.005	0.113	0.104	493.5059	0.154
Off-Highway Trucks	2018	501	750	0.413946	0.348	3.69054	2.17619	0.005	0.143	0.132	492.1136	0.153
Off-Highway Trucks	2018	751	1000	0.352998	0.297	4.85753	1.35734	0.005	0.126	0.116	487.7902	0.152
Off-Highway Trucks	2019	121	175	0.38382	0.323	2.82463	3.32598	0.005	0.149	0.137	480.3623	0.152
Off-Highway Trucks	2019	176	250	0.365362	0.307	2.98481	1.46079	0.005	0.119	0.109	480.1703	0.152
Off-Highway Trucks	2019	251	500	0.313575	0.263	2.66851	1.48346	0.005	0.097	0.089	485.3832	0.154
Off-Highway Trucks	2019	501	750	0.389037	0.327	3.32044	2.04129	0.005	0.129	0.118	483.2182	0.153
Off-Highway Trucks	2019	751	1000	0.351304	0.295	4.76495	1.3561	0.005	0.124	0.114	480.3479	0.152
Off-Highway Trucks	2020	121	175	0.36879	0.31	2.62769	3.3388	0.005	0.137	0.126	470.0967	0.152
Off-Highway Trucks	2020	176	250	0.327003	0.275	2.50726	1.39106	0.005	0.098	0.09	470.1675	0.152
Off-Highway Trucks	2020	251	500	0.292906	0.246	2.34677	1.41417	0.005	0.086	0.079	474.5787	0.153
Off-Highway Trucks	2020	501	750	0.371665	0.312	3.05816	2.02683	0.005	0.12	0.11	472.7499	0.153
Off-Highway Trucks	2020	751	1000	0.360605	0.303	4.79365	1.37163	0.005	0.125	0.115	469.8892	0.152
Off-Highway Trucks	2021	121	175	0.331341	0.278	2.24626	3.32405	0.005	0.113	0.104	470.2898	0.152
Off-Highway Trucks	2021	176	250	0.29675	0.249	2.10869	1.34839	0.005	0.082	0.076	470.1932	0.152
Off-Highway Trucks	2021	251	500	0.267636	0.225	1.95357	1.33781	0.005	0.072	0.066	474.542	0.153
Off-Highway Trucks	2021	501	750	0.348975	0.293	2.66798	1.93522	0.005	0.106	0.098	472.991	0.153
Off-Highway Trucks	2021	751	1000	0.304392	0.256	4.15817	1.25154	0.005	0.099	0.091	471.0552	0.152
Off-Highway Trucks	2022	121	175	0.286556	0.241	1.81091	3.28383	0.005	0.088	0.081	470.1813	0.152
Off-Highway Trucks	2022	176	250	0.255309	0.215	1.61794	1.27852	0.005	0.064	0.059	469.6151	0.152
Off-Highway Trucks	2022	251	500	0.233409	0.196	1.48975	1.24664	0.005	0.054	0.05	474.7136	0.154
Off-Highway Trucks	2022	501	750	0.313397	0.263	2.26799	1.74571	0.005	0.088	0.081	473.9773	0.153
Off-Highway Trucks	2022	751	1000	0.27833	0.234	3.84239	1.2141	0.005	0.086	0.079	472.3437	0.153
Off-Highway Trucks	2023	121	175	0.280582	0.236	1.68277	3.30432	0.005	0.081	0.074	470.2917	0.152
Off-Highway Trucks	2023	176	250	0.24623	0.207	1.45572	1.27325	0.005	0.059	0.054	469.4464	0.152
Off-Highway Trucks	2023	251	500	0.222566	0.187	1.32428	1.22057	0.005	0.048	0.044	475.0488	0.154
Off-Highway Trucks	2023	501	750	0.312722	0.263	2.18151	1.71923	0.005	0.084	0.078	473.7666	0.153
Off-Highway Trucks	2023	751	1000	0.254284	0.214	3.54374	1.19398	0.005	0.074	0.068	472.8574	0.153
Off-Highway Trucks	2024	121	175	0.266426	0.224	1.49436	3.3248	0.005	0.07	0.064	470.2638	0.152
Off-Highway Trucks	2024	176	250	0.240426	0.202	1.35543	1.25915	0.005	0.054	0.05	469.1126	0.152
Off-Highway Trucks	2024	251	500	0.219543	0.184	1.23518	1.20637	0.005	0.044	0.041	475.2203	0.154
Off-Highway Trucks	2024	501	750	0.308071	0.259	2.08486	1.64986	0.005	0.079	0.073	473.8394	0.153
Off-Highway Trucks	2024	751	1000	0.248432	0.209	3.43925	1.19994	0.005	0.069	0.064	473.0969	0.153
Off-Highway Trucks	2025	121	175	0.254265	0.214	1.3354	3.32765	0.005	0.065	0.06	470.0035	0.152
Off-Highway Trucks	2025	176	250	0.220008	0.185	1.12886	1.21268	0.005	0.043	0.04	469.1258	0.152
Off-Highway Trucks	2025	251	500	0.210955	0.177	1.06379	1.18233	0.005	0.038	0.035	474.9697	0.154
Off-Highway Trucks	2025	501	750	0.280009	0.235	1.75055	1.57807	0.005	0.066	0.061	476.314	0.154
Off-Highway Trucks	2025	751	1000	0.222695	0.187	3.13521	1.14565	0.005	0.057	0.052	473.3693	0.153
Off-Highway Trucks	2030	121	175	0.739	0.229	0.563	3.425	0.006	0.025	0.025	568.299	0.02
Off-Highway Trucks	2030	176	250	0.932	0.217	0.481	1.166	0.006	0.017	0.017	568.3	0.019
Off-Highway Trucks	2030	251	500	1.52	0.216	0.458	1.104	0.005	0.017	0.017	568.299	0.019
Off-Highway Trucks	2030	501	750	2.467	0.217	0.463	1.104	0.005	0.017	0.017	568.299	0.019
Off-Highway Trucks	2030	751	1000	3.55	0.22	2.651	1.107	0.005	0.033	0.033	568.3	0.019
Off-Highway Trucks	2035	121	175	0.68	0.211	0.38	3.425	0.006	0.016	0.016	568.299	0.019
Off-Highway Trucks	2035	176	250	0.894	0.208	0.353	1.167	0.006	0.013	0.013	568.299	0.018
Off-Highway Trucks	2035	251	500	1.461	0.208	0.348	1.105	0.005	0.013	0.013	568.299	0.018
Off-Highway Trucks	2035	501	750	2.371	0.208	0.348	1.105	0.005	0.013	0.013	568.299	0.018
Off-Highway Trucks	2035	751	1000	3.368	0.209	2.565	1.105	0.005	0.028	0.028	568.299	0.018
Off-Highway Trucks	2040	121	175	0.662	0.205	0.318	3.426	0.006	0.013	0.013	568.299	0.018
Off-Highway Trucks	2040	176	250	0.877								

Off-Highway Trucks	2040	251	500	1.434	0.204	0.305	1.105	0.005	0.012	0.012	568.299	0.018
Off-Highway Trucks	2040	501	750	2.327	0.204	0.305	1.105	0.005	0.012	0.012	568.299	0.018
Off-Highway Trucks	2040	751	1000	3.296	0.205	2.532	1.105	0.005	0.026	0.026	568.299	0.018
Other Construction Equipn	1990	6	15	5.348	1.804	9.999	4.999	1.049	0.975	0.975	568.3	0.162
Other Construction Equipn	1990	16	25	8.578	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Other Construction Equipn	1990	26	50	39.33	4.791	7.947	9.693	0.871	1.267	1.267	568.299	0.432
Other Construction Equipn	1990	51	120	56.637	2.388	15.176	5.782	0.791	1.343	1.343	568.299	0.215
Other Construction Equipn	1990	121	175	60.86	1.948	15.112	5.191	0.758	1.085	1.085	568.299	0.175
Other Construction Equipn	1990	251	500	128.26	1.72	14.332	11.412	0.662	0.927	0.927	568.299	0.155
Other Construction Equipn	2000	6	15	4.374	1.475	8.242	4.49	0.079	0.676	0.676	568.299	0.133
Other Construction Equipn	2000	16	25	7.591	1.958	6.358	4.53	0.065	0.563	0.563	568.3	0.176
Other Construction Equipn	2000	26	50	30.619	3.73	6.784	7.85	0.066	0.816	0.816	568.299	0.336
Other Construction Equipn	2000	51	120	38.817	1.636	9.507	4.283	0.06	0.786	0.786	568.3	0.147
Other Construction Equipn	2000	121	175	34.573	1.106	8.749	3.417	0.057	0.453	0.453	568.299	0.099
Other Construction Equipn	2000	251	500	61.92	0.83	8.069	3.67	0.05	0.321	0.321	568.299	0.074
Other Construction Equipn	2005	6	15	2.271	0.766	5.228	3.469	0.079	0.361	0.361	568.299	0.069
Other Construction Equipn	2005	16	25	3.564	0.919	5.412	2.642	0.065	0.347	0.347	568.3	0.082
Other Construction Equipn	2005	26	50	26.204	3.192	6.226	7.102	0.066	0.739	0.739	568.299	0.288
Other Construction Equipn	2005	51	120	33.145	1.397	8.067	4.043	0.06	0.725	0.725	568.299	0.126
Other Construction Equipn	2005	121	175	28.235	0.903	7.379	3.208	0.057	0.392	0.392	568.299	0.081
Other Construction Equipn	2005	251	500	41.035	0.55	6.334	2.051	0.05	0.22	0.22	568.299	0.049
Other Construction Equipn	2010	6	15	1.52864	1.284	5.55407	5.29076	0.005	0.497	0.457	587.5495	0.171
Other Construction Equipn	2010	16	25	1.52864	1.284	5.55407	5.29076	0.005	0.497	0.457	587.5495	0.171
Other Construction Equipn	2010	26	50	1.52864	1.284	5.55407	5.29076	0.005	0.497	0.457	587.5495	0.171
Other Construction Equipn	2010	51	120	0.92739	0.779	7.11752	3.89903	0.005	0.549	0.505	523.1661	0.152
Other Construction Equipn	2010	121	175	0.769602	0.647	7.30949	3.47406	0.005	0.38	0.349	522.1244	0.152
Other Construction Equipn	2010	251	500	0.480247	0.404	5.78616	3.20434	0.005	0.219	0.201	530.8514	0.155
Other Construction Equipn	2011	6	15	1.531741	1.287	5.5686	5.36962	0.005	0.499	0.459	586.0703	0.171
Other Construction Equipn	2011	16	25	1.531741	1.287	5.5686	5.36962	0.005	0.499	0.459	586.0703	0.171
Other Construction Equipn	2011	26	50	1.531741	1.287	5.5686	5.36962	0.005	0.499	0.459	586.0703	0.171
Other Construction Equipn	2011	51	120	0.909764	0.764	6.98332	3.89723	0.005	0.542	0.498	521.5282	0.152
Other Construction Equipn	2011	121	175	0.725704	0.61	6.92098	3.41832	0.005	0.361	0.332	520.664	0.152
Other Construction Equipn	2011	251	500	0.449646	0.378	5.42766	2.91483	0.005	0.204	0.188	529.9639	0.155
Other Construction Equipn	2012	6	15	1.548775	1.301	5.58169	5.47004	0.005	0.503	0.463	584.6639	0.171
Other Construction Equipn	2012	16	25	1.548775	1.301	5.58169	5.47004	0.005	0.503	0.463	584.6639	0.171
Other Construction Equipn	2012	26	50	1.548775	1.301	5.58169	5.47004	0.005	0.503	0.463	584.6639	0.171
Other Construction Equipn	2012	51	120	0.910724	0.765	6.95644	3.91674	0.005	0.543	0.5	519.9075	0.152
Other Construction Equipn	2012	121	175	0.730754	0.614	6.91612	3.4429	0.005	0.363	0.334	519.3479	0.152
Other Construction Equipn	2012	251	500	0.458869	0.386	5.42334	2.95715	0.005	0.206	0.189	528.6246	0.155
Other Construction Equipn	2013	6	15	1.571874	1.321	5.60361	5.57699	0.005	0.509	0.468	581.8471	0.171
Other Construction Equipn	2013	16	25	1.571874	1.321	5.60361	5.57699	0.005	0.509	0.468	581.8471	0.171
Other Construction Equipn	2013	26	50	1.571874	1.321	5.60361	5.57699	0.005	0.509	0.468	581.8471	0.171
Other Construction Equipn	2013	51	120	0.892781	0.75	6.82868	3.91866	0.005	0.532	0.489	517.5939	0.152
Other Construction Equipn	2013	121	175	0.708053	0.595	6.69102	3.41257	0.005	0.351	0.323	516.9857	0.152
Other Construction Equipn	2013	251	500	0.440093	0.37	5.14317	2.79519	0.005	0.194	0.179	525.1086	0.154
Other Construction Equipn	2014	6	15	1.547867	1.301	5.56546	5.60223	0.005	0.502	0.462	578.9591	0.171
Other Construction Equipn	2014	16	25	1.547867	1.301	5.56546	5.60223	0.005	0.502	0.462	578.9591	0.171
Other Construction Equipn	2014	26	50	1.547867	1.301	5.56546	5.60223	0.005	0.502	0.462	578.9591	0.171
Other Construction Equipn	2014	51	120	0.866935	0.728	6.63282	3.90558	0.005	0.518	0.476	515.2847	0.152
Other Construction Equipn	2014	121	175	0.674237	0.567	6.37185	3.38516	0.005	0.333	0.307	514.5518	0.152
Other Construction Equipn	2014	251	500	0.392211	0.33	4.5608	2.47571	0.005	0.168	0.155	520.9444	0.154
Other Construction Equipn	2015	6	15	1.557753	1.309	5.56397	5.68113	0.005	0.503	0.463	573.0198	0.171
Other Construction Equipn	2015	16	25	1.557753	1.309	5.56397	5.68113	0.005	0.503	0.463	573.0198	0.171
Other Construction Equipn	2015	26	50	1.557753	1.309	5.56397	5.68113	0.005	0.503	0.463	573.0198	0.171
Other Construction Equipn	2015	51	120	0.860334	0.723	6.53649	3.9159	0.005	0.512	0.471	510.1706	0.152
Other Construction Equipn	2015	121	175	0.66302	0.557	6.2305	3.38183	0.005	0.326	0.3	509.3069	0.152
Other Construction Equipn	2015	251	500	0.386006	0.324	4.41519	2.40724	0.005	0.163	0.15	515.1953	0.154
Other Construction Equipn	2016	6	15	1.524032	1.281	5.49921	5.67687	0.005	0.492	0.453	566.9782	0.171
Other Construction Equipn	2016	16	25	1.524032	1.281	5.49921	5.67687	0.005	0.492	0.453	566.9782	0.171
Other Construction Equipn	2016	26	50	1.524032	1.281	5.49921	5.67687	0.005	0.492	0.453	566.9782	0.171
Other Construction Equipn	2016	51	120	0.837049	0.703	6.32533	3.90894	0.005	0.496	0.456	505.349	0.152
Other Construction Equipn	2016	121	175	0.62413	0.524	5.81763	3.35672	0.005	0.306	0.281	503.9641	0.152
Other Construction Equipn	2016	251	500	0.366005	0.308	4.08972	2.28488	0.005	0.151	0.139	509.7062	0.154
Other Construction Equipn	2017	6	15	1.480652	1.244	5.42066	5.65509	0.005	0.477	0.439	558.0007	0.171
Other Construction Equipn	2017	16	25	1.480652	1.244	5.42066	5.65509	0.005	0.477	0.439	558.0007	0.171
Other Construction Equipn	2017	26	50	1.480652	1.244	5.42066	5.65509	0.005	0.477	0.439	558.0007	0.171
Other Construction Equipn	2017	51	120	0.804436	0.676	6.06955	3.88542	0.005	0.475	0.437	497.3832	0.152
Other Construction Equipn	2017	121	175	0.595557	0.5	5.49424	3.33767	0.005	0.29	0.267	495.9311	0.152
Other Construction Equipn	2017	251	500	0.3449	0.29	3.77706	2.12114	0.005	0.138	0.127	501.1295	0.154
Other Construction Equipn	2018	6	15	1.39068	1.169	5.27161	5.54108	0.005	0.449	0.413	548.9388	0.171
Other Construction Equipn	2018	16	25	1.39068	1.169	5.27161	5.54108	0.005	0.449	0.413	548.9388	0.171
Other Construction Equipn	2018	26	50	1.39068	1.169	5.27161	5.54108	0.005	0.449	0.413	548.9388	0.171
Other Construction Equipn	2018	51	120	0.711314	0.598	5.44123	3.79863	0.005	0.417	0.383	490.018	0.153
Other Construction Equipn	2018	121	175	0.519398	0.436	4.75499	3.26346	0.005	0.25	0.23	487.9859	0.152
Other Construction Equipn	2018	251	500	0.298599	0.251	3.16693	1.81261	0.005	0.115	0.105	493.36	0.154
Other Construction Equipn	2019	6	15	1.370834	1.152	5.20338	5.54123	0.005	0.437	0.402	539.7349	0.171
Other Construction Equipn	2019	16	25	1.370834	1.152	5.20338	5.54123	0.005	0.437	0.402	539.7349	0.171
Other Construction Equipn	2019	26	50	1.370834	1.152	5.20338	5.54123	0.005	0.437	0.402	539.7349	0.171
Other Construction Equipn	2019	51	120	0.655004	0.55	5.04831	3.7535	0.005	0.379	0.349	482.2177	0.153
Other Construction Equipn	2019	121	175	0.490382	0.412	4.4331	3.25619	0.005	0.233	0.215	480.4518	0.152
Other Construction Equipn	2019	251	500	0.277883	0.233	2.85547	1.66739	0.005	0.103	0.094	485.4127	0.154
Other Construction Equipn	2020	6	15	1.276029	1.072	5.03626	5.40446	0.005	0.405	0.373	527.9656	0.171
Other Construction Equipn	2020	16	25	1.276029	1.072	5.03626	5.40446	0.005	0.405	0.373	527.9656	0.171
Other Construction Equipn	2020	26	50	1.276029	1.072	5.03626	5.40446	0.005	0.405	0.373	527.9656	0.171
Other Construction Equipn	2020	51	120	0.617777	0.519	4.7712	3.73189	0.005	0.354	0.325	472.2162	0.153
Other Construction Equipn	2020	121	175	0.461441	0.388	4.11203	3.23528	0.005	0.217	0.2	469.9837	0.152
Other Construction Equipn	2020	251	500	0.266788	0.224	2.63672	1.6338	0.005	0.096	0.088	475.2326	0.154
Other Construction Equipn	2021	6	15	1.201423	1.01	4.90234	5.30749	0.005	0.382	0.351	527.7834	0.171
Other Construction Equipn	2021	16	25	1.201423	1.01	4.90234	5.30749	0.005	0.382	0.351	527.7834	0.171

Other Construction Equipn	2021	26	50	1.201423	1.01	4.90234	5.30749	0.005	0.382	0.351	527.7834	0.171
Other Construction Equipn	2021	51	120	0.573212	0.482	4.4558	3.70304	0.005	0.323	0.298	472.275	0.153
Other Construction Equipn	2021	121	175	0.392185	0.33	3.43847	3.18275	0.005	0.18	0.165	469.7642	0.152
Other Construction Equipn	2021	251	500	0.256006	0.215	2.42822	1.59874	0.005	0.09	0.082	475.2124	0.154
Other Construction Equipn	2022	6	15	1.094466	0.92	4.74117	5.16732	0.005	0.348	0.32	529.1825	0.171
Other Construction Equipn	2022	16	25	1.094466	0.92	4.74117	5.16732	0.005	0.348	0.32	529.1825	0.171
Other Construction Equipn	2022	26	50	1.094466	0.92	4.74117	5.16732	0.005	0.348	0.32	529.1825	0.171
Other Construction Equipn	2022	51	120	0.523663	0.44	4.09846	3.66623	0.005	0.288	0.265	472.3178	0.153
Other Construction Equipn	2022	121	175	0.351187	0.295	2.99437	3.15539	0.005	0.156	0.144	469.6126	0.152
Other Construction Equipn	2022	251	500	0.223796	0.188	1.97544	1.43828	0.005	0.074	0.068	475.9983	0.154
Other Construction Equipn	2023	6	15	1.030598	0.866	4.59446	5.07368	0.005	0.322	0.296	529.3389	0.171
Other Construction Equipn	2023	16	25	1.030598	0.866	4.59446	5.07368	0.005	0.322	0.296	529.3389	0.171
Other Construction Equipn	2023	26	50	1.030598	0.866	4.59446	5.07368	0.005	0.322	0.296	529.3389	0.171
Other Construction Equipn	2023	51	120	0.482844	0.406	3.79013	3.63188	0.005	0.259	0.238	471.9899	0.153
Other Construction Equipn	2023	121	175	0.325455	0.273	2.69821	3.14152	0.005	0.14	0.129	469.5579	0.152
Other Construction Equipn	2023	251	500	0.214667	0.18	1.81226	1.39596	0.005	0.069	0.063	476.1847	0.154
Other Construction Equipn	2024	6	15	0.984979	0.828	4.51017	5.03181	0.005	0.305	0.28	529.2094	0.171
Other Construction Equipn	2024	16	25	0.984979	0.828	4.51017	5.03181	0.005	0.305	0.28	529.2094	0.171
Other Construction Equipn	2024	26	50	0.984979	0.828	4.51017	5.03181	0.005	0.305	0.28	529.2094	0.171
Other Construction Equipn	2024	51	120	0.454266	0.382	3.58173	3.61958	0.005	0.237	0.218	472.1254	0.153
Other Construction Equipn	2024	121	175	0.310043	0.261	2.52019	3.14951	0.005	0.13	0.12	469.5445	0.152
Other Construction Equipn	2024	251	500	0.208244	0.175	1.67692	1.38248	0.005	0.064	0.059	476.4838	0.154
Other Construction Equipn	2025	6	15	0.901061	0.757	4.30575	4.87388	0.005	0.268	0.246	528.9535	0.171
Other Construction Equipn	2025	16	25	0.901061	0.757	4.30575	4.87388	0.005	0.268	0.246	528.9535	0.171
Other Construction Equipn	2025	26	50	0.901061	0.757	4.30575	4.87388	0.005	0.268	0.246	528.9535	0.171
Other Construction Equipn	2025	51	120	0.40612	0.341	3.25221	3.58397	0.005	0.203	0.187	472.7482	0.153
Other Construction Equipn	2025	121	175	0.279358	0.235	2.16742	3.13647	0.005	0.112	0.103	469.843	0.152
Other Construction Equipn	2025	251	500	0.200431	0.168	1.55241	1.3582	0.005	0.059	0.055	476.2959	0.154
Other Construction Equipn	2030	6	15	1.96	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Other Construction Equipn	2030	16	25	2.657	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Other Construction Equipn	2030	26	50	3.526	0.429	3.19	4.39	0.007	0.03	0.03	568.299	0.038
Other Construction Equipn	2030	51	120	5.348	0.225	1.576	3.538	0.006	0.027	0.027	568.3	0.02
Other Construction Equipn	2030	121	175	5.057	0.161	0.459	3.127	0.006	0.019	0.019	568.299	0.014
Other Construction Equipn	2030	251	500	11.523	0.154	0.391	1.028	0.005	0.014	0.014	568.3	0.013
Other Construction Equipn	2035	6	15	1.96	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Other Construction Equipn	2035	16	25	2.657	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Other Construction Equipn	2035	26	50	3.367	0.41	3.124	4.377	0.007	0.018	0.018	568.299	0.037
Other Construction Equipn	2035	51	120	5.057	0.213	1.474	3.536	0.006	0.017	0.017	568.299	0.019
Other Construction Equipn	2035	121	175	4.686	0.15	0.334	3.128	0.006	0.013	0.013	568.299	0.013
Other Construction Equipn	2035	251	500	11.034	0.147	0.311	1.029	0.005	0.011	0.011	568.299	0.013
Other Construction Equipn	2040	6	15	1.96	0.661	4.142	3.47	0.008	0.161	0.161	568.3	0.059
Other Construction Equipn	2040	16	25	2.657	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Other Construction Equipn	2040	26	50	3.359	0.409	3.096	4.377	0.007	0.015	0.015	568.3	0.036
Other Construction Equipn	2040	51	120	4.992	0.21	1.441	3.536	0.006	0.014	0.014	568.299	0.018
Other Construction Equipn	2040	121	175	4.556	0.145	0.29	3.128	0.006	0.011	0.011	568.299	0.013
Other Construction Equipn	2040	251	500	10.825	0.145	0.282	1.029	0.005	0.01	0.01	568.299	0.013
Other General Industrial Ec	1990	6	15	4.264	1.804	9.999	4.999	0.833	0.968	0.968	568.299	0.162
Other General Industrial Ec	1990	16	25	12.555	2.213	6.919	4.999	0.679	0.735	0.735	568.299	0.199
Other General Industrial Ec	1990	26	50	38.808	4.828	7.957	9.768	0.692	1.266	1.266	568.299	0.435
Other General Industrial Ec	1990	51	120	54.2	2.363	14.962	5.72	0.628	1.331	1.331	568.299	0.213
Other General Industrial Ec	1990	121	175	57.106	1.61	13.434	5.066	0.602	0.88	0.88	568.299	0.145
Other General Industrial Ec	1990	176	250	80.71	1.61	13.434	5.066	0.602	0.88	0.88	568.299	0.145
Other General Industrial Ec	1990	251	500	139.861	1.425	12.743	11.207	0.525	0.756	0.756	568.299	0.128
Other General Industrial Ec	1990	501	750	230.516	1.425	12.743	11.207	0.538	0.756	0.756	568.299	0.128
Other General Industrial Ec	1990	751	1000	293.256	1.417	12.743	11.207	0.538	0.746	0.746	568.299	0.127
Other General Industrial Ec	2000	6	15	2.475	1.047	7.362	4.258	0.079	0.428	0.428	568.299	0.094
Other General Industrial Ec	2000	16	25	5.83	1.027	6.284	4.322	0.064	0.431	0.431	568.299	0.092
Other General Industrial Ec	2000	26	50	36.086	4.49	7.09	9.236	0.065	0.935	0.935	568.299	0.405
Other General Industrial Ec	2000	51	120	43.196	1.883	10.664	4.733	0.059	0.91	0.91	568.299	0.169
Other General Industrial Ec	2000	121	175	44.74	1.261	9.686	3.852	0.057	0.536	0.536	568.299	0.113
Other General Industrial Ec	2000	176	250	53	1.057	9.325	3.072	0.057	0.438	0.438	568.299	0.095
Other General Industrial Ec	2000	251	500	93.834	0.956	8.862	5.179	0.049	0.385	0.385	568.299	0.086
Other General Industrial Ec	2000	501	750	154.656	0.956	8.862	5.179	0.051	0.385	0.385	568.3	0.086
Other General Industrial Ec	2000	751	1000	214.063	1.034	9.479	5.791	0.051	0.385	0.385	568.299	0.093
Other General Industrial Ec	2005	6	15	1.674	0.708	4.985	3.469	0.079	0.35	0.35	568.299	0.063
Other General Industrial Ec	2005	16	25	4.288	0.755	5.226	2.4	0.064	0.315	0.315	568.299	0.068
Other General Industrial Ec	2005	26	50	33.133	4.122	6.676	8.765	0.065	0.888	0.888	568.299	0.371
Other General Industrial Ec	2005	51	120	37.812	1.649	9.041	4.418	0.059	0.867	0.867	568.299	0.148
Other General Industrial Ec	2005	121	175	38.439	1.084	8.273	3.513	0.057	0.479	0.479	568.299	0.097
Other General Industrial Ec	2005	176	250	38.228	0.762	7.795	2.065	0.057	0.301	0.301	568.299	0.068
Other General Industrial Ec	2005	251	500	66.246	0.675	7.094	2.681	0.049	0.269	0.269	568.299	0.06
Other General Industrial Ec	2005	501	750	110.94	0.686	7.252	2.681	0.051	0.272	0.272	568.3	0.061
Other General Industrial Ec	2005	751	1000	166.893	0.806	8.322	3.276	0.051	0.28	0.28	568.299	0.072
Other General Industrial Ec	2010	6	15	1.873274	1.574	5.68505	6.00712	0.005	0.563	0.518	584.6401	0.17
Other General Industrial Ec	2010	16	25	1.873274	1.574	5.68505	6.00712	0.005	0.563	0.518	584.6401	0.17
Other General Industrial Ec	2010	26	50	1.873274	1.574	5.68505	6.00712	0.005	0.563	0.518	584.6401	0.17
Other General Industrial Ec	2010	51	120	1.01726	0.855	7.36447	4.0773	0.005	0.611	0.562	522.222	0.152
Other General Industrial Ec	2010	121	175	0.746027	0.627	7.0202	3.51505	0.005	0.379	0.349	524.278	0.153
Other General Industrial Ec	2010	176	250	0.769173	0.646	8.04899	2.61803	0.005	0.359	0.33	525.8035	0.153
Other General Industrial Ec	2010	251	500	0.489206	0.411	5.68219	2.96412	0.005	0.219	0.202	525.4767	0.153
Other General Industrial Ec	2010	501	750	0.368598	0.31	4.78207	1.62081	0.005	0.168	0.154	526.0709	0.153
Other General Industrial Ec	2010	751	1000	0.368913	0.31	6.10226	1.02418	0.005	0.148	0.136	524.505	0.153
Other General Industrial Ec	2011	6	15	1.86071	1.564	5.69446	6.08575	0.005	0.562	0.517	583.1785	0.17
Other General Industrial Ec	2011	16	25	1.86071	1.564	5.69446	6.08575	0.005	0.562	0.517	583.1785	0.17
Other General Industrial Ec	2011	26	50	1.86071	1.564	5.69446	6.08575	0.005	0.562	0.517	583.1785	0.17
Other General Industrial Ec	2011	51	120	1.006419	0.846	7.24885	4.08854	0.005	0.609	0.56	520.9164	0.152
Other General Industrial Ec	2011	121	175	0.688559	0.579	6.5273	3.47165	0.005	0.352	0.324	522.9673	0.153
Other General Industrial Ec	2011	176	250	0.679053	0.571	7.30022	2.33422	0.005	0.313	0.288	524.489	0.153
Other General Industrial Ec	2011	251	500	0.467324	0.393	5.42881	2.74249	0.005	0.207	0.19	524.163	0.153

Other General Industrial Ec	2011	501	750	0.373245	0.314	4.72869	1.62791	0.005	0.163	0.15	524.7557	0.153
Other General Industrial Ec	2011	751	1000	0.37971	0.319	6.1714	1.03813	0.005	0.153	0.141	523.1938	0.153
Other General Industrial Ec	2012	6	15	1.895405	1.593	5.71254	6.24676	0.005	0.569	0.524	581.7169	0.17
Other General Industrial Ec	2012	16	25	1.895405	1.593	5.71254	6.24676	0.005	0.569	0.524	581.7169	0.17
Other General Industrial Ec	2012	26	50	1.895405	1.593	5.71254	6.24676	0.005	0.569	0.524	581.7169	0.17
Other General Industrial Ec	2012	51	120	1.008569	0.847	7.21493	4.12133	0.005	0.612	0.563	519.6109	0.152
Other General Industrial Ec	2012	121	175	0.685664	0.576	6.44491	3.49618	0.005	0.349	0.321	521.6566	0.153
Other General Industrial Ec	2012	176	250	0.675065	0.567	7.14362	2.33594	0.005	0.308	0.284	523.1745	0.153
Other General Industrial Ec	2012	251	500	0.47625	0.4	5.39821	2.75094	0.005	0.207	0.19	522.8493	0.153
Other General Industrial Ec	2012	501	750	0.379047	0.319	4.69855	1.63473	0.005	0.161	0.148	523.4405	0.153
Other General Industrial Ec	2012	751	1000	0.390508	0.328	6.24054	1.05208	0.005	0.158	0.145	521.8825	0.153
Other General Industrial Ec	2013	6	15	1.848739	1.553	5.64536	6.26146	0.005	0.556	0.511	578.7937	0.17
Other General Industrial Ec	2013	16	25	1.848739	1.553	5.64536	6.26146	0.005	0.556	0.511	578.7937	0.17
Other General Industrial Ec	2013	26	50	1.848739	1.553	5.64536	6.26146	0.005	0.556	0.511	578.7937	0.17
Other General Industrial Ec	2013	51	120	0.982208	0.825	7.03299	4.11871	0.005	0.597	0.549	516.9998	0.152
Other General Industrial Ec	2013	121	175	0.6403	0.538	6.02319	3.4592	0.005	0.324	0.298	519.0352	0.153
Other General Industrial Ec	2013	176	250	0.609561	0.512	6.51958	2.15134	0.005	0.273	0.251	520.5455	0.153
Other General Industrial Ec	2013	251	500	0.434695	0.365	4.82071	2.62159	0.005	0.183	0.168	520.2219	0.153
Other General Industrial Ec	2013	501	750	0.344704	0.29	4.12057	1.58393	0.005	0.139	0.128	520.8102	0.153
Other General Industrial Ec	2013	751	1000	0.401306	0.337	6.30968	1.06602	0.005	0.162	0.149	519.26	0.153
Other General Industrial Ec	2014	6	15	1.810128	1.521	5.58361	6.28785	0.005	0.544	0.5	575.8705	0.17
Other General Industrial Ec	2014	16	25	1.810128	1.521	5.58361	6.28785	0.005	0.544	0.5	575.8705	0.17
Other General Industrial Ec	2014	26	50	1.810128	1.521	5.58361	6.28785	0.005	0.544	0.5	575.8705	0.17
Other General Industrial Ec	2014	51	120	0.938561	0.789	6.72277	4.09005	0.005	0.574	0.528	514.3886	0.152
Other General Industrial Ec	2014	121	175	0.621882	0.523	5.79166	3.46929	0.005	0.312	0.287	516.4138	0.153
Other General Industrial Ec	2014	176	250	0.580321	0.488	6.15263	2.05376	0.005	0.255	0.234	517.9164	0.153
Other General Industrial Ec	2014	251	500	0.422239	0.355	4.56494	2.49943	0.005	0.172	0.159	517.5945	0.153
Other General Industrial Ec	2014	501	750	0.304364	0.256	3.62195	1.48882	0.005	0.115	0.106	518.1798	0.153
Other General Industrial Ec	2014	751	1000	0.412103	0.346	6.37883	1.07997	0.005	0.167	0.153	516.6375	0.153
Other General Industrial Ec	2015	6	15	1.779268	1.495	5.52435	6.32452	0.005	0.532	0.49	570.0241	0.17
Other General Industrial Ec	2015	16	25	1.779268	1.495	5.52435	6.32452	0.005	0.532	0.49	570.0241	0.17
Other General Industrial Ec	2015	26	50	1.779268	1.495	5.52435	6.32452	0.005	0.532	0.49	570.0241	0.17
Other General Industrial Ec	2015	51	120	0.905303	0.761	6.50163	4.0811	0.005	0.553	0.509	509.1664	0.152
Other General Industrial Ec	2015	121	175	0.589015	0.495	5.3974	3.45434	0.005	0.294	0.27	511.171	0.153
Other General Industrial Ec	2015	176	250	0.538134	0.452	5.64293	1.9257	0.005	0.23	0.211	512.6584	0.153
Other General Industrial Ec	2015	251	500	0.420225	0.353	4.42481	2.43603	0.005	0.167	0.154	512.3397	0.153
Other General Industrial Ec	2015	501	750	0.298831	0.251	3.36512	1.49062	0.005	0.109	0.1	512.9191	0.153
Other General Industrial Ec	2015	751	1000	0.422901	0.355	6.44797	1.09391	0.005	0.171	0.158	511.3924	0.153
Other General Industrial Ec	2016	6	15	1.690474	1.42	5.40705	6.25866	0.005	0.506	0.466	564.1777	0.17
Other General Industrial Ec	2016	16	25	1.690474	1.42	5.40705	6.25866	0.005	0.506	0.466	564.1777	0.17
Other General Industrial Ec	2016	26	50	1.690474	1.42	5.40705	6.25866	0.005	0.506	0.466	564.1777	0.17
Other General Industrial Ec	2016	51	120	0.851445	0.715	6.14411	4.04541	0.005	0.518	0.476	503.9442	0.152
Other General Industrial Ec	2016	121	175	0.559455	0.47	5.05466	3.43665	0.005	0.276	0.254	505.9282	0.153
Other General Industrial Ec	2016	176	250	0.519923	0.437	5.40733	1.8667	0.005	0.217	0.2	507.4004	0.153
Other General Industrial Ec	2016	251	500	0.407021	0.342	4.14966	2.36652	0.005	0.159	0.146	507.085	0.153
Other General Industrial Ec	2016	501	750	0.289084	0.243	3.10202	1.49061	0.005	0.1	0.092	507.6584	0.153
Other General Industrial Ec	2016	751	1000	0.288345	0.242	4.7462	1.04483	0.005	0.112	0.103	506.1474	0.153
Other General Industrial Ec	2017	6	15	1.605819	1.349	5.27694	6.17923	0.005	0.479	0.441	555.4081	0.17
Other General Industrial Ec	2017	16	25	1.605819	1.349	5.27694	6.17923	0.005	0.479	0.441	555.4081	0.17
Other General Industrial Ec	2017	26	50	1.605819	1.349	5.27694	6.17923	0.005	0.479	0.441	555.4081	0.17
Other General Industrial Ec	2017	51	120	0.785454	0.66	5.72138	3.99811	0.005	0.47	0.433	496.1109	0.152
Other General Industrial Ec	2017	121	175	0.520155	0.437	4.53359	3.39928	0.005	0.25	0.23	498.0641	0.153
Other General Industrial Ec	2017	176	250	0.489435	0.411	5.02246	1.78	0.005	0.199	0.183	499.5133	0.153
Other General Industrial Ec	2017	251	500	0.397215	0.334	3.9491	2.36453	0.005	0.152	0.14	499.2028	0.153
Other General Industrial Ec	2017	501	750	0.260833	0.219	2.59187	1.48016	0.005	0.086	0.079	499.7673	0.153
Other General Industrial Ec	2017	751	1000	0.29828	0.251	4.7865	1.05719	0.005	0.114	0.105	498.2798	0.153
Other General Industrial Ec	2018	6	15	1.373834	1.154	4.97857	5.82717	0.005	0.414	0.381	546.6385	0.17
Other General Industrial Ec	2018	16	25	1.373834	1.154	4.97857	5.82717	0.005	0.414	0.381	546.6385	0.17
Other General Industrial Ec	2018	26	50	1.373834	1.154	4.97857	5.82717	0.005	0.414	0.381	546.6385	0.17
Other General Industrial Ec	2018	51	120	0.663253	0.557	4.95455	3.87633	0.005	0.392	0.36	488.2775	0.152
Other General Industrial Ec	2018	121	175	0.377931	0.318	3.23673	3.23662	0.005	0.172	0.158	490.1999	0.153
Other General Industrial Ec	2018	176	250	0.360768	0.303	3.64819	1.45525	0.005	0.135	0.124	491.6263	0.153
Other General Industrial Ec	2018	251	500	0.301755	0.254	2.90735	1.58301	0.005	0.104	0.095	491.3207	0.153
Other General Industrial Ec	2018	501	750	0.257602	0.216	2.41933	1.48303	0.005	0.083	0.076	491.8763	0.153
Other General Industrial Ec	2018	751	1000	0.306245	0.257	4.81007	1.06646	0.005	0.116	0.107	490.4122	0.153
Other General Industrial Ec	2019	6	15	1.240314	1.042	4.80683	5.66186	0.005	0.374	0.344	537.8689	0.17
Other General Industrial Ec	2019	16	25	1.240314	1.042	4.80683	5.66186	0.005	0.374	0.344	537.8689	0.17
Other General Industrial Ec	2019	26	50	1.240314	1.042	4.80683	5.66186	0.005	0.374	0.344	537.8689	0.17
Other General Industrial Ec	2019	51	120	0.594634	0.5	4.49674	3.82128	0.005	0.343	0.315	480.4442	0.152
Other General Industrial Ec	2019	121	175	0.359068	0.302	2.99891	3.24129	0.005	0.156	0.144	482.3357	0.153
Other General Industrial Ec	2019	176	250	0.307665	0.259	3.01996	1.29893	0.005	0.106	0.097	483.7392	0.153
Other General Industrial Ec	2019	251	500	0.283854	0.239	2.57531	1.56115	0.005	0.092	0.085	483.4385	0.153
Other General Industrial Ec	2019	501	750	0.236758	0.199	2.11518	1.47441	0.005	0.076	0.07	483.9852	0.153
Other General Industrial Ec	2019	751	1000	0.31421	0.264	4.83364	1.07573	0.005	0.117	0.108	482.5446	0.153
Other General Industrial Ec	2020	6	15	1.125869	0.946	4.62219	5.50397	0.005	0.334	0.307	526.1761	0.17
Other General Industrial Ec	2020	16	25	1.125869	0.946	4.62219	5.50397	0.005	0.334	0.307	526.1761	0.17
Other General Industrial Ec	2020	26	50	1.125869	0.946	4.62219	5.50397	0.005	0.334	0.307	526.1761	0.17
Other General Industrial Ec	2020	51	120	0.53075	0.446	4.06079	3.77073	0.005	0.296	0.272	469.9998	0.152
Other General Industrial Ec	2020	121	175	0.319281	0.268	2.57503	3.22922	0.005	0.135	0.124	471.8502	0.153
Other General Industrial Ec	2020	176	250	0.281815	0.237	2.66782	1.23914	0.005	0.09	0.083	473.2231	0.153
Other General Industrial Ec	2020	251	500	0.247036	0.208	2.06187	1.34424	0.005	0.072	0.067	472.929	0.153
Other General Industrial Ec	2020	501	750	0.207847	0.175	1.67591	1.46184	0.005	0.062	0.057	473.4638	0.153
Other General Industrial Ec	2020	751	1000	0.322174	0.271	4.85721	1.085	0.005	0.119	0.109	472.0545	0.153
Other General Industrial Ec	2021	6	15	0.989462	0.831	4.42532	5.31354	0.005	0.289	0.266	526.1761	0.17
Other General Industrial Ec	2021	16	25	0.989462	0.831	4.42532	5.31354	0.005	0.289	0.266	526.1761	0.17
Other General Industrial Ec	2021	26	50	0.989462	0.831	4.42532	5.31354	0.005	0.289	0.266	526.1761	0.17
Other General Industrial Ec	2021	51	120	0.480398	0.404	3.7177	3.74029	0.005	0.256	0.235	469.9998	0.152
Other General Industrial Ec	2021	121	175	0.302394	0.254	2.34745	3.23421	0.005	0.121	0.111	471.8502	0.153
Other General Industrial Ec	2021	176	250	0.242448	0.204	2.0939	1.17138	0.005	0.07	0.064	473.2231	0.153

Other General Industrial Ec	2021	251	500	0.232592	0.195	1.79624	1.32956	0.005	0.064	0.059	472.929	0.153
Other General Industrial Ec	2021	501	750	0.197551	0.166	1.38672	1.46305	0.005	0.054	0.05	473.4638	0.153
Other General Industrial Ec	2021	751	1000	0.328625	0.276	4.87557	1.09291	0.005	0.12	0.11	472.0545	0.153
Other General Industrial Ec	2022	6	15	0.835231	0.702	4.19687	5.07591	0.005	0.238	0.219	526.1761	0.17
Other General Industrial Ec	2022	16	25	0.835231	0.702	4.19687	5.07591	0.005	0.238	0.219	526.1761	0.17
Other General Industrial Ec	2022	26	50	0.835231	0.702	4.19687	5.07591	0.005	0.238	0.219	526.1761	0.17
Other General Industrial Ec	2022	51	120	0.403101	0.339	3.19968	3.66821	0.005	0.199	0.183	469.9998	0.152
Other General Industrial Ec	2022	121	175	0.289798	0.244	2.14959	3.23346	0.005	0.111	0.102	471.8502	0.153
Other General Industrial Ec	2022	176	250	0.222216	0.187	1.75874	1.13752	0.005	0.057	0.052	473.2231	0.153
Other General Industrial Ec	2022	251	500	0.208015	0.175	1.43348	1.17139	0.005	0.05	0.046	472.929	0.153
Other General Industrial Ec	2022	501	750	0.177285	0.149	1.06247	1.45658	0.005	0.046	0.042	473.4638	0.153
Other General Industrial Ec	2022	751	1000	0.223076	0.187	3.942	1.03925	0.005	0.079	0.073	472.0545	0.153
Other General Industrial Ec	2023	6	15	0.717857	0.603	3.99304	4.88317	0.005	0.194	0.178	526.1761	0.17
Other General Industrial Ec	2023	16	25	0.717857	0.603	3.99304	4.88317	0.005	0.194	0.178	526.1761	0.17
Other General Industrial Ec	2023	26	50	0.717857	0.603	3.99304	4.88317	0.005	0.194	0.178	526.1761	0.17
Other General Industrial Ec	2023	51	120	0.366077	0.308	2.92394	3.64703	0.005	0.168	0.155	469.9998	0.152
Other General Industrial Ec	2023	121	175	0.238568	0.2	1.60937	3.17453	0.005	0.08	0.074	471.8502	0.153
Other General Industrial Ec	2023	176	250	0.214876	0.181	1.53043	1.14024	0.005	0.051	0.047	473.2231	0.153
Other General Industrial Ec	2023	251	500	0.195172	0.164	1.25618	1.12057	0.005	0.043	0.04	472.929	0.153
Other General Industrial Ec	2023	501	750	0.131565	0.111	0.62571	1.10458	0.005	0.023	0.021	473.4638	0.153
Other General Industrial Ec	2023	751	1000	0.229255	0.193	3.95649	1.04852	0.005	0.08	0.073	472.0545	0.153
Other General Industrial Ec	2024	6	15	0.649743	0.546	3.85892	4.78022	0.005	0.165	0.152	526.1761	0.17
Other General Industrial Ec	2024	16	25	0.649743	0.546	3.85892	4.78022	0.005	0.165	0.152	526.1761	0.17
Other General Industrial Ec	2024	26	50	0.649743	0.546	3.85892	4.78022	0.005	0.165	0.152	526.1761	0.17
Other General Industrial Ec	2024	51	120	0.341745	0.287	2.70778	3.63929	0.005	0.146	0.134	469.9998	0.152
Other General Industrial Ec	2024	121	175	0.226791	0.191	1.44774	3.18534	0.005	0.073	0.067	471.8502	0.153
Other General Industrial Ec	2024	176	250	0.205547	0.173	1.31888	1.14124	0.005	0.046	0.042	473.2231	0.153
Other General Industrial Ec	2024	251	500	0.187509	0.158	1.15288	1.1102	0.005	0.04	0.036	472.929	0.153
Other General Industrial Ec	2024	501	750	0.137014	0.115	0.62782	1.11228	0.005	0.023	0.021	473.4638	0.153
Other General Industrial Ec	2024	751	1000	0.235434	0.198	3.97098	1.05779	0.005	0.08	0.074	472.0545	0.153
Other General Industrial Ec	2025	6	15	0.585572	0.492	3.71721	4.67981	0.005	0.136	0.125	526.1761	0.17
Other General Industrial Ec	2025	16	25	0.585572	0.492	3.71721	4.67981	0.005	0.136	0.125	526.1761	0.17
Other General Industrial Ec	2025	26	50	0.585572	0.492	3.71721	4.67981	0.005	0.136	0.125	526.1761	0.17
Other General Industrial Ec	2025	51	120	0.306396	0.257	2.43889	3.61204	0.005	0.118	0.109	469.9998	0.152
Other General Industrial Ec	2025	121	175	0.224974	0.189	1.36379	3.20434	0.005	0.07	0.065	471.8502	0.153
Other General Industrial Ec	2025	176	250	0.184121	0.155	1.02801	1.13176	0.005	0.036	0.033	473.2231	0.153
Other General Industrial Ec	2025	251	500	0.180295	0.151	1.05334	1.10932	0.005	0.035	0.032	472.929	0.153
Other General Industrial Ec	2025	501	750	0.139282	0.117	0.629	1.1152	0.005	0.023	0.021	473.4638	0.153
Other General Industrial Ec	2025	751	1000	0.241613	0.203	3.98546	1.06706	0.005	0.081	0.074	472.0545	0.153
Other General Industrial Ec	2030	6	15	1.393	0.589	4.142	3.469	0.008	0.161	0.161	568.299	0.053
Other General Industrial Ec	2030	16	25	3.889	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Other General Industrial Ec	2030	26	50	4.896	0.609	3.46	5.299	0.007	0.048	0.048	568.299	0.054
Other General Industrial Ec	2030	51	120	7.091	0.309	1.766	3.802	0.006	0.043	0.043	568.299	0.027
Other General Industrial Ec	2030	121	175	7.93	0.223	0.641	3.357	0.006	0.028	0.028	568.299	0.02
Other General Industrial Ec	2030	176	250	10.485	0.209	0.536	1.143	0.006	0.018	0.018	568.299	0.018
Other General Industrial Ec	2030	251	500	20.447	0.208	0.506	1.087	0.005	0.018	0.018	568.299	0.018
Other General Industrial Ec	2030	501	750	33.725	0.208	0.512	1.087	0.005	0.018	0.018	568.299	0.018
Other General Industrial Ec	2030	751	1000	44.002	0.212	2.66	1.088	0.005	0.035	0.035	568.299	0.019
Other General Industrial Ec	2035	6	15	1.393	0.589	4.142	3.469	0.008	0.161	0.161	568.299	0.053
Other General Industrial Ec	2035	16	25	3.889	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Other General Industrial Ec	2035	26	50	4.535	0.564	3.334	5.255	0.007	0.025	0.025	568.299	0.05
Other General Industrial Ec	2035	51	120	6.486	0.282	1.567	3.794	0.006	0.022	0.022	568.3	0.025
Other General Industrial Ec	2035	121	175	7.079	0.199	0.399	3.355	0.006	0.016	0.016	568.3	0.018
Other General Industrial Ec	2035	176	250	9.803	0.195	0.355	1.143	0.006	0.013	0.013	568.299	0.017
Other General Industrial Ec	2035	251	500	19.187	0.195	0.351	1.087	0.005	0.013	0.013	568.299	0.017
Other General Industrial Ec	2035	501	750	31.624	0.195	0.351	1.087	0.005	0.013	0.013	568.299	0.017
Other General Industrial Ec	2035	751	1000	40.723	0.196	2.532	1.087	0.005	0.028	0.028	568.299	0.017
Other General Industrial Ec	2040	6	15	1.393	0.589	4.142	3.47	0.008	0.161	0.161	568.299	0.053
Other General Industrial Ec	2040	16	25	3.889	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Other General Industrial Ec	2040	26	50	4.521	0.562	3.283	5.257	0.007	0.019	0.019	568.299	0.05
Other General Industrial Ec	2040	51	120	6.373	0.277	1.506	3.794	0.006	0.017	0.017	568.299	0.025
Other General Industrial Ec	2040	121	175	6.806	0.191	0.315	3.356	0.006	0.012	0.012	568.299	0.017
Other General Industrial Ec	2040	176	250	9.551	0.19	0.299	1.143	0.006	0.011	0.011	568.299	0.017
Other General Industrial Ec	2040	251	500	18.696	0.19	0.299	1.087	0.005	0.011	0.011	568.299	0.017
Other General Industrial Ec	2040	501	750	30.815	0.19	0.299	1.087	0.005	0.011	0.011	568.299	0.017
Other General Industrial Ec	2040	751	1000	39.521	0.191	2.5	1.087	0.005	0.025	0.025	568.299	0.017
Other Material Handling Ec	1990	26	50	12.278	4.763	7.932	9.649	0.692	1.252	1.252	568.3	0.429
Other Material Handling Ec	1990	51	120	12.096	2.346	14.896	5.692	0.628	1.317	1.317	568.299	0.211
Other Material Handling Ec	1990	121	175	16.59	1.599	13.377	5.041	0.602	0.872	0.872	568.299	0.144
Other Material Handling Ec	1990	176	250	19.708	1.599	13.377	5.041	0.602	0.872	0.872	568.3	0.144
Other Material Handling Ec	1990	251	500	23.083	1.417	12.702	11.046	0.525	0.75	0.75	568.299	0.127
Other Material Handling Ec	1990	1001	9999	88.844	1.41	12.702	11.046	0.525	0.741	0.741	568.3	0.127
Other Material Handling Ec	2000	26	50	11.414	4.428	7.068	9.121	0.065	0.925	0.925	568.299	0.399
Other Material Handling Ec	2000	51	120	9.647	1.871	10.623	4.712	0.059	0.901	0.901	568.299	0.168
Other Material Handling Ec	2000	121	175	13	1.253	9.648	3.836	0.057	0.531	0.531	568.299	0.113
Other Material Handling Ec	2000	176	250	12.957	1.051	9.289	3.061	0.057	0.435	0.435	568.3	0.094
Other Material Handling Ec	2000	251	500	15.5	0.951	8.836	5.171	0.049	0.383	0.383	568.299	0.085
Other Material Handling Ec	2000	1001	9999	65.006	1.031	9.45	5.779	0.049	0.384	0.384	568.299	0.093
Other Material Handling Ec	2005	26	50	10.467	4.06	6.65	8.646	0.065	0.878	0.878	568.299	0.366
Other Material Handling Ec	2005	51	120	8.426	1.634	9.001	4.393	0.059	0.857	0.857	568.3	0.147
Other Material Handling Ec	2005	121	175	11.141	1.073	8.235	3.493	0.057	0.473	0.473	568.299	0.096
Other Material Handling Ec	2005	176	250	9.335	0.757	7.76	2.058	0.057	0.299	0.299	568.299	0.068
Other Material Handling Ec	2005	251	500	10.914	0.67	7.071	2.676	0.049	0.268	0.268	568.299	0.06
Other Material Handling Ec	2005	1001	9999	50.601	0.803	8.291	3.267	0.049	0.278	0.278	568.299	0.072
Other Material Handling Ec	2010	26	50	2.513226	2.112	6.11921	7.14242	0.005	0.673	0.619	581.8987	0.169
Other Material Handling Ec	2010	51	120	0.880333	0.74	6.86036	3.91836	0.005	0.55	0.506	526.2094	0.153
Other Material Handling Ec	2010	121	175	0.703937	0.592	6.62945	3.45939	0.005	0.364	0.335	524.6881	0.153
Other Material Handling Ec	2010	176	250	0.639111	0.537	7.05748	2.2178	0.005	0.292	0.269	523.8689	0.152
Other Material Handling Ec	2010	251	500	0.474577	0.399	5.53948	2.89546	0.005	0.225	0.207	522.5525	0.152

Other Material Handling Ec	2010	1001	9999	0.19342	0.163	4.31467	0.96514	0.005	0.1	0.092	524.505	0.153
Other Material Handling Ec	2011	26	50	2.357707	1.981	6.0264	6.95209	0.005	0.644	0.593	580.4439	0.169
Other Material Handling Ec	2011	51	120	0.835489	0.702	6.54765	3.89742	0.005	0.527	0.485	524.8938	0.153
Other Material Handling Ec	2011	121	175	0.695125	0.584	6.48588	3.45599	0.005	0.36	0.331	523.3764	0.153
Other Material Handling Ec	2011	176	250	0.63663	0.535	6.98965	2.18416	0.005	0.288	0.265	522.5592	0.152
Other Material Handling Ec	2011	251	500	0.474482	0.399	5.43165	2.78574	0.005	0.221	0.203	521.2461	0.152
Other Material Handling Ec	2011	1001	9999	0.210247	0.177	4.35542	0.97804	0.005	0.103	0.095	523.1938	0.153
Other Material Handling Ec	2012	26	50	2.238738	1.881	5.92499	6.81597	0.005	0.62	0.57	578.9892	0.169
Other Material Handling Ec	2012	51	120	0.817068	0.687	6.36758	3.90414	0.005	0.516	0.475	523.5783	0.153
Other Material Handling Ec	2012	121	175	0.692769	0.582	6.40913	3.47827	0.005	0.357	0.328	522.0647	0.153
Other Material Handling Ec	2012	176	250	0.646463	0.543	7.02565	2.19514	0.005	0.29	0.267	521.2496	0.152
Other Material Handling Ec	2012	251	500	0.470349	0.395	5.30246	2.61135	0.005	0.214	0.197	519.9397	0.152
Other Material Handling Ec	2012	1001	9999	0.227073	0.191	4.39617	0.99094	0.005	0.106	0.098	521.8825	0.153
Other Material Handling Ec	2013	26	50	2.105942	1.77	5.85572	6.66457	0.005	0.596	0.548	576.0797	0.169
Other Material Handling Ec	2013	51	120	0.724086	0.608	5.76277	3.82317	0.005	0.447	0.411	520.9473	0.153
Other Material Handling Ec	2013	121	175	0.665996	0.56	6.15356	3.43613	0.005	0.333	0.306	519.4412	0.153
Other Material Handling Ec	2013	176	250	0.634565	0.533	6.82184	2.16882	0.005	0.281	0.259	518.6302	0.152
Other Material Handling Ec	2013	251	500	0.438071	0.368	4.87099	2.33558	0.005	0.195	0.179	517.327	0.152
Other Material Handling Ec	2013	1001	9999	0.2439	0.205	4.43692	1.00384	0.005	0.11	0.101	519.26	0.153
Other Material Handling Ec	2014	26	50	2.017454	1.695	5.75119	6.58988	0.005	0.575	0.529	573.1702	0.169
Other Material Handling Ec	2014	51	120	0.66398	0.558	5.37202	3.77914	0.005	0.412	0.379	518.3162	0.153
Other Material Handling Ec	2014	121	175	0.628738	0.528	5.79759	3.43064	0.005	0.313	0.288	516.8178	0.153
Other Material Handling Ec	2014	176	250	0.565441	0.475	6.17254	1.93605	0.005	0.242	0.223	516.0109	0.152
Other Material Handling Ec	2014	251	500	0.394393	0.331	4.35658	1.92674	0.005	0.169	0.155	514.7142	0.152
Other Material Handling Ec	2014	1001	9999	0.168044	0.141	3.4363	0.97804	0.005	0.066	0.061	516.6375	0.153
Other Material Handling Ec	2015	26	50	2.062891	1.733	5.7994	6.75642	0.005	0.586	0.539	567.3512	0.169
Other Material Handling Ec	2015	51	120	0.628094	0.528	4.98312	3.75787	0.005	0.383	0.352	513.0541	0.153
Other Material Handling Ec	2015	121	175	0.624881	0.525	5.6445	3.43301	0.005	0.306	0.282	511.5709	0.153
Other Material Handling Ec	2015	176	250	0.503855	0.423	5.5323	1.74236	0.005	0.207	0.191	510.7722	0.152
Other Material Handling Ec	2015	251	500	0.396328	0.333	4.27243	1.91761	0.005	0.166	0.152	509.4887	0.152
Other Material Handling Ec	2015	1001	9999	0.1762	0.148	3.45753	0.98449	0.005	0.068	0.063	511.3924	0.153
Other Material Handling Ec	2016	26	50	2.100647	1.765	5.80157	6.89161	0.005	0.593	0.546	561.5322	0.169
Other Material Handling Ec	2016	51	120	0.611519	0.514	4.79843	3.76606	0.005	0.367	0.338	507.792	0.153
Other Material Handling Ec	2016	121	175	0.581687	0.489	5.21152	3.41823	0.005	0.279	0.257	506.324	0.153
Other Material Handling Ec	2016	176	250	0.474176	0.398	5.19629	1.64277	0.005	0.189	0.174	505.5335	0.152
Other Material Handling Ec	2016	251	500	0.384009	0.323	4.05322	1.87077	0.005	0.156	0.143	504.2631	0.152
Other Material Handling Ec	2016	1001	9999	0.188654	0.159	3.48884	0.99739	0.005	0.07	0.065	506.1474	0.153
Other Material Handling Ec	2017	26	50	1.922269	1.615	5.57447	6.63527	0.005	0.546	0.502	552.8037	0.169
Other Material Handling Ec	2017	51	120	0.580499	0.488	4.56113	3.75788	0.005	0.341	0.314	499.8989	0.153
Other Material Handling Ec	2017	121	175	0.508007	0.427	4.48809	3.35117	0.005	0.238	0.219	498.4537	0.153
Other Material Handling Ec	2017	176	250	0.42771	0.359	4.70454	1.51249	0.005	0.163	0.15	497.6755	0.152
Other Material Handling Ec	2017	251	500	0.386945	0.325	3.9709	1.86256	0.005	0.154	0.141	496.4249	0.152
Other Material Handling Ec	2017	1001	9999	0.201109	0.169	3.52015	1.01029	0.005	0.072	0.066	498.2798	0.153
Other Material Handling Ec	2018	26	50	1.534491	1.289	5.18225	6.06083	0.005	0.457	0.42	544.0753	0.169
Other Material Handling Ec	2018	51	120	0.484553	0.407	3.9436	3.67482	0.005	0.271	0.249	492.0058	0.153
Other Material Handling Ec	2018	121	175	0.38852	0.326	3.33231	3.21803	0.005	0.173	0.159	490.5834	0.153
Other Material Handling Ec	2018	176	250	0.376195	0.316	4.09187	1.3884	0.005	0.135	0.124	489.8174	0.152
Other Material Handling Ec	2018	251	500	0.352182	0.296	3.52439	1.63271	0.005	0.133	0.123	488.5866	0.152
Other Material Handling Ec	2018	1001	9999	0.213564	0.179	3.55146	1.02319	0.005	0.074	0.068	490.4122	0.153
Other Material Handling Ec	2019	26	50	1.5177	1.275	5.17904	6.13945	0.005	0.452	0.416	535.3468	0.169
Other Material Handling Ec	2019	51	120	0.428699	0.36	3.56573	3.63634	0.005	0.231	0.212	484.1126	0.153
Other Material Handling Ec	2019	121	175	0.332757	0.28	2.77369	3.1852	0.005	0.139	0.128	482.7131	0.153
Other Material Handling Ec	2019	176	250	0.357063	0.3	3.81716	1.34052	0.005	0.123	0.113	481.9594	0.152
Other Material Handling Ec	2019	251	500	0.346245	0.291	3.37078	1.61951	0.005	0.128	0.118	480.7483	0.152
Other Material Handling Ec	2019	1001	9999	0.226018	0.19	3.58277	1.03609	0.005	0.076	0.07	482.5446	0.153
Other Material Handling Ec	2020	26	50	1.481858	1.245	5.13925	6.1671	0.005	0.439	0.404	523.7088	0.169
Other Material Handling Ec	2020	51	120	0.36479	0.307	3.10396	3.58938	0.005	0.182	0.168	473.5884	0.153
Other Material Handling Ec	2020	121	175	0.299922	0.252	2.36653	3.17089	0.005	0.118	0.109	472.2193	0.153
Other Material Handling Ec	2020	176	250	0.346024	0.291	3.59889	1.31882	0.005	0.115	0.106	471.482	0.152
Other Material Handling Ec	2020	251	500	0.336187	0.282	3.20974	1.52346	0.005	0.12	0.11	470.2972	0.152
Other Material Handling Ec	2020	1001	9999	0.238473	0.2	3.61407	1.04898	0.005	0.078	0.072	472.0545	0.153
Other Material Handling Ec	2021	26	50	1.318509	1.108	4.96638	5.95956	0.005	0.396	0.364	523.7088	0.169
Other Material Handling Ec	2021	51	120	0.349969	0.294	2.95622	3.60203	0.005	0.166	0.152	473.5884	0.153
Other Material Handling Ec	2021	121	175	0.296084	0.249	2.24633	3.19638	0.005	0.114	0.105	472.2193	0.153
Other Material Handling Ec	2021	176	250	0.32063	0.269	3.08193	1.30911	0.005	0.102	0.094	471.482	0.152
Other Material Handling Ec	2021	251	500	0.302407	0.254	2.60166	1.44188	0.005	0.101	0.093	470.2972	0.152
Other Material Handling Ec	2021	1001	9999	0.086228	0.072	2.3179	0.97159	0.005	0.019	0.018	472.0545	0.153
Other Material Handling Ec	2022	26	50	1.313129	1.103	4.92048	5.98386	0.005	0.385	0.354	523.7088	0.169
Other Material Handling Ec	2022	51	120	0.294157	0.247	2.56673	3.55673	0.005	0.121	0.111	473.5884	0.153
Other Material Handling Ec	2022	121	175	0.268495	0.226	1.89383	3.17607	0.005	0.103	0.095	472.2193	0.153
Other Material Handling Ec	2022	176	250	0.272302	0.229	2.42542	1.23917	0.005	0.083	0.076	471.482	0.152
Other Material Handling Ec	2022	251	500	0.269417	0.226	2.06254	1.34592	0.005	0.083	0.077	470.2972	0.152
Other Material Handling Ec	2022	1001	9999	0.090526	0.076	2.32798	0.97804	0.005	0.02	0.018	472.0545	0.153
Other Material Handling Ec	2023	26	50	1.203044	1.011	4.68435	5.75727	0.005	0.34	0.313	523.7088	0.169
Other Material Handling Ec	2023	51	120	0.267491	0.225	2.29768	3.51535	0.005	0.104	0.095	473.5884	0.153
Other Material Handling Ec	2023	121	175	0.25813	0.217	1.76898	3.17066	0.005	0.096	0.088	472.2193	0.153
Other Material Handling Ec	2023	176	250	0.246291	0.207	2.00366	1.20917	0.005	0.069	0.064	471.482	0.152
Other Material Handling Ec	2023	251	500	0.258837	0.217	1.87023	1.34382	0.005	0.078	0.072	470.2972	0.152
Other Material Handling Ec	2023	1001	9999	0.064735	0.054	2.26751	0.93935	0.005	0.018	0.017	472.0545	0.153
Other Material Handling Ec	2024	26	50	1.121754	0.943	4.5789	5.6693	0.005	0.314	0.289	523.7088	0.169
Other Material Handling Ec	2024	51	120	0.262084	0.22	2.22162	3.51036	0.005	0.096	0.089	473.5884	0.153
Other Material Handling Ec	2024	121	175	0.247908	0.208	1.63864	3.18111	0.005	0.088	0.081	472.2193	0.153
Other Material Handling Ec	2024	176	250	0.250036	0.21	1.98559	1.21822	0.005	0.068	0.063	471.482	0.152
Other Material Handling Ec	2024	251	500	0.252116	0.212	1.75588	1.26223	0.005	0.072	0.066	470.2972	0.152
Other Material Handling Ec	2024	1001	9999	0.069034	0.058	2.27759	0.9458	0.005	0.018	0.017	472.0545	0.153
Other Material Handling Ec	2025	26	50	0.88573	0.744	4.23278	5.24797	0.005	0.239	0.219	523.7088	0.169
Other Material Handling Ec	2025	51	120	0.241784	0.203	2.05524	3.49652	0.005	0.081	0.074	473.5884	0.153
Other Material Handling Ec	2025	121	175	0.225132	0.189	1.39583	3.1679	0.005	0.072	0.067	472.2193	0.153
Other Material Handling Ec	2025	176	250	0.237677	0.2	1.77352	1.19728	0.005	0.			



Other Material Handling Ec	2025	251	500	0.242568	0.204	1.60116	1.25988	0.005	0.067	0.061	470.2972	0.152
Other Material Handling Ec	2025	1001	9999	0.077631	0.065	2.29775	0.9587	0.005	0.019	0.017	472.0545	0.153
Other Material Handling Ec	2030	26	50	1.542	0.598	3.447	5.237	0.007	0.048	0.048	568.299	0.053
Other Material Handling Ec	2030	51	120	1.57	0.304	1.762	3.784	0.006	0.043	0.043	568.299	0.027
Other Material Handling Ec	2030	121	175	2.287	0.22	0.64	3.341	0.006	0.028	0.028	568.299	0.019
Other Material Handling Ec	2030	176	250	2.539	0.206	0.535	1.138	0.006	0.018	0.018	568.299	0.018
Other Material Handling Ec	2030	251	500	3.342	0.205	0.505	1.083	0.005	0.018	0.018	568.299	0.018
Other Material Handling Ec	2030	1001	9999	13.763	0.218	2.653	1.084	0.005	0.035	0.035	568.299	0.019
Other Material Handling Ec	2035	26	50	1.425	0.552	3.321	5.189	0.007	0.025	0.025	568.299	0.049
Other Material Handling Ec	2035	51	120	1.432	0.277	1.563	3.774	0.006	0.022	0.022	568.299	0.025
Other Material Handling Ec	2035	121	175	2.036	0.196	0.398	3.338	0.006	0.016	0.016	568.299	0.017
Other Material Handling Ec	2035	176	250	2.369	0.192	0.354	1.137	0.006	0.013	0.013	568.299	0.017
Other Material Handling Ec	2035	251	500	3.13	0.192	0.35	1.082	0.005	0.013	0.013	568.299	0.017
Other Material Handling Ec	2035	1001	9999	12.454	0.197	2.525	1.082	0.005	0.027	0.027	568.299	0.017
Other Material Handling Ec	2040	26	50	1.42	0.551	3.269	5.191	0.007	0.018	0.018	568.299	0.049
Other Material Handling Ec	2040	51	120	1.407	0.272	1.502	3.775	0.006	0.017	0.017	568.3	0.024
Other Material Handling Ec	2040	121	175	1.956	0.188	0.314	3.339	0.006	0.012	0.012	568.299	0.017
Other Material Handling Ec	2040	176	250	2.307	0.187	0.298	1.137	0.006	0.011	0.011	568.299	0.016
Other Material Handling Ec	2040	251	500	3.048	0.187	0.298	1.082	0.005	0.011	0.011	568.299	0.016
Other Material Handling Ec	2040	1001	9999	11.917	0.189	2.493	1.082	0.005	0.025	0.025	568.3	0.017
Pavers	1990	16	25	5.971	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Pavers	1990	26	50	19.405	4.794	7.946	9.701	0.871	1.268	1.268	568.299	0.432
Pavers	1990	51	120	23.749	2.373	15.062	5.748	0.791	1.339	1.339	568.299	0.214
Pavers	1990	121	175	33.808	1.822	14.503	5.135	0.758	1.01	1.01	568.3	0.164
Pavers	1990	176	250	51.225	1.822	14.503	5.135	0.758	1.01	1.01	568.299	0.164
Pavers	1990	251	500	54.32	1.61	13.755	11.305	0.662	0.864	0.864	568.3	0.145
Pavers	2000	16	25	5.517	2.044	6.391	4.689	0.065	0.569	0.569	568.299	0.184
Pavers	2000	26	50	18.072	4.464	7.116	9.175	0.066	0.93	0.93	568.299	0.402
Pavers	2000	51	120	19.415	1.94	11.121	4.853	0.06	0.916	0.916	568.299	0.175
Pavers	2000	121	175	24.566	1.324	10.172	4.022	0.057	0.558	0.558	568.299	0.119
Pavers	2000	176	250	33.03	1.175	9.909	3.443	0.057	0.488	0.488	568.299	0.106
Pavers	2000	251	500	35.713	1.058	9.422	6.242	0.05	0.426	0.426	568.299	0.095
Pavers	2005	16	25	3.746	1.388	5.819	3.497	0.065	0.444	0.444	568.299	0.125
Pavers	2005	26	50	16.699	4.125	6.746	8.722	0.066	0.883	0.883	568.299	0.372
Pavers	2005	51	120	17.345	1.733	9.797	4.584	0.06	0.869	0.869	568.299	0.156
Pavers	2005	121	175	21.287	1.147	8.921	3.731	0.057	0.5	0.5	568.299	0.103
Pavers	2005	176	250	26.087	0.928	8.591	2.661	0.057	0.382	0.382	568.299	0.083
Pavers	2005	251	500	27.622	0.818	7.91	4.283	0.05	0.335	0.335	568.299	0.073
Pavers	2010	16	25	2.244446	1.886	5.97127	6.22261	0.005	0.619	0.569	585.4019	0.17
Pavers	2010	26	50	2.244446	1.886	5.97127	6.22261	0.005	0.619	0.569	585.4019	0.17
Pavers	2010	51	120	0.922393	0.775	7.01944	3.82417	0.005	0.54	0.497	521.2606	0.152
Pavers	2010	121	175	0.693583	0.583	6.66867	3.10662	0.005	0.337	0.31	525.3233	0.153
Pavers	2010	176	250	0.236627	0.199	4.38018	1.01703	0.005	0.111	0.102	526.8527	0.153
Pavers	2010	251	500	0.240458	0.202	3.56944	1.1256	0.005	0.123	0.113	517.8758	0.151
Pavers	2011	16	25	2.255759	1.895	5.97418	6.28822	0.005	0.621	0.571	583.8947	0.17
Pavers	2011	26	50	2.255759	1.895	5.97418	6.28822	0.005	0.621	0.571	583.8947	0.17
Pavers	2011	51	120	0.882284	0.741	6.70468	3.7912	0.005	0.521	0.479	519.7431	0.152
Pavers	2011	121	175	0.67473	0.567	6.45159	3.11177	0.005	0.327	0.301	524.0864	0.153
Pavers	2011	176	250	0.244703	0.206	4.38871	1.02596	0.005	0.112	0.103	525.5251	0.153
Pavers	2011	251	500	0.249329	0.21	3.58498	1.13249	0.005	0.125	0.115	516.5811	0.151
Pavers	2012	16	25	2.286702	1.921	5.86068	6.36408	0.005	0.609	0.56	582.5825	0.17
Pavers	2012	26	50	2.286702	1.921	5.86068	6.36408	0.005	0.609	0.56	582.5825	0.17
Pavers	2012	51	120	0.886577	0.745	6.67323	3.81157	0.005	0.523	0.481	518.3581	0.152
Pavers	2012	121	175	0.677654	0.569	6.44162	3.13178	0.005	0.329	0.303	522.8325	0.153
Pavers	2012	176	250	0.2532	0.213	4.41317	1.035	0.005	0.114	0.105	524.2222	0.153
Pavers	2012	251	500	0.257974	0.217	3.59993	1.13914	0.005	0.127	0.117	515.2863	0.151
Pavers	2013	16	25	2.27571	1.912	5.84153	6.39148	0.005	0.605	0.557	580.2093	0.171
Pavers	2013	26	50	2.27571	1.912	5.84153	6.39148	0.005	0.605	0.557	580.2093	0.171
Pavers	2013	51	120	0.845721	0.711	6.43604	3.79289	0.005	0.501	0.461	516.6013	0.152
Pavers	2013	121	175	0.630117	0.529	6.05919	3.11657	0.005	0.304	0.28	519.6823	0.153
Pavers	2013	176	250	0.245733	0.206	4.23038	1.01743	0.005	0.106	0.098	521.5314	0.153
Pavers	2013	251	500	0.242925	0.204	3.39449	1.08604	0.005	0.118	0.108	514.2313	0.151
Pavers	2014	16	25	2.258865	1.898	5.71682	6.3806	0.005	0.595	0.547	577.016	0.171
Pavers	2014	26	50	2.258865	1.898	5.71682	6.3806	0.005	0.595	0.547	577.016	0.171
Pavers	2014	51	120	0.81298	0.683	6.19872	3.77256	0.005	0.483	0.444	514.3769	0.152
Pavers	2014	121	175	0.597911	0.502	5.73631	3.1146	0.005	0.287	0.264	516.745	0.153
Pavers	2014	176	250	0.247393	0.208	4.14032	1.02279	0.005	0.105	0.097	518.7225	0.153
Pavers	2014	251	500	0.214341	0.18	3.04734	1.00469	0.005	0.101	0.093	512.1908	0.151
Pavers	2015	16	25	2.205076	1.853	5.63731	6.34019	0.005	0.579	0.533	571.0859	0.17
Pavers	2015	26	50	2.205076	1.853	5.63731	6.34019	0.005	0.579	0.533	571.0859	0.17
Pavers	2015	51	120	0.809163	0.68	6.14096	3.78832	0.005	0.479	0.441	509.3767	0.152
Pavers	2015	121	175	0.582419	0.489	5.53669	3.11546	0.005	0.277	0.255	511.6457	0.153
Pavers	2015	176	250	0.254974	0.214	4.16051	1.03121	0.005	0.107	0.098	513.4682	0.153
Pavers	2015	251	500	0.209561	0.176	2.91741	0.97787	0.005	0.097	0.089	506.0973	0.151
Pavers	2016	16	25	2.174792	1.827	5.57882	6.33993	0.005	0.569	0.523	565.2336	0.17
Pavers	2016	26	50	2.174792	1.827	5.57882	6.33993	0.005	0.569	0.523	565.2336	0.17
Pavers	2016	51	120	0.773362	0.65	5.88646	3.76854	0.005	0.457	0.42	503.7795	0.152
Pavers	2016	121	175	0.515586	0.433	4.87397	3.08023	0.005	0.242	0.223	506.5401	0.153
Pavers	2016	176	250	0.254126	0.214	4.02384	1.03591	0.005	0.104	0.096	508.0698	0.153
Pavers	2016	251	500	0.214564	0.18	2.88492	0.9829	0.005	0.096	0.089	500.9364	0.151
Pavers	2017	16	25	2.059621	1.731	5.43675	6.19932	0.005	0.54	0.496	556.4528	0.17
Pavers	2017	26	50	2.059621	1.731	5.43675	6.19932	0.005	0.54	0.496	556.4528	0.17
Pavers	2017	51	120	0.744072	0.625	5.69243	3.75882	0.005	0.437	0.402	495.9253	0.152
Pavers	2017	121	175	0.462819	0.389	4.35312	3.06282	0.005	0.214	0.197	498.967	0.153
Pavers	2017	176	250	0.247933	0.208	3.80866	1.03652	0.005	0.1	0.092	499.5617	0.153
Pavers	2017	251	500	0.199578	0.168	2.48674	0.97942	0.005	0.087	0.08	491.7843	0.151
Pavers	2018	16	25	1.831035	1.539	5.12103	5.8493	0.005	0.478	0.44	547.0785	0.17
Pavers	2018	26	50	1.831035	1.539	5.12103	5.8493	0.005	0.478	0.44	547.0785	0.17
Pavers	2018	51	120	0.637446	0.536	5.01936	3.66032	0.005	0.375	0.345	488.1812	0.152

Pavers	2018	121	175	0.403099	0.339	3.7472	3.03913	0.005	0.183	0.168	491.322	0.153
Pavers	2018	176	250	0.235833	0.198	3.47438	1.03446	0.005	0.092	0.085	491.543	0.153
Pavers	2018	251	500	0.195547	0.164	2.32002	0.98125	0.005	0.083	0.076	484.2774	0.151
Pavers	2019	16	25	1.687019	1.418	4.91634	5.65687	0.005	0.436	0.401	538.3246	0.17
Pavers	2019	26	50	1.687019	1.418	4.91634	5.65687	0.005	0.436	0.401	538.3246	0.17
Pavers	2019	51	120	0.589904	0.496	4.67048	3.62215	0.005	0.345	0.318	480.2509	0.152
Pavers	2019	121	175	0.355588	0.299	3.24473	3.01323	0.005	0.159	0.146	483.3938	0.153
Pavers	2019	176	250	0.222293	0.187	3.11084	1.03181	0.005	0.084	0.077	483.5743	0.153
Pavers	2019	251	500	0.198123	0.166	2.26992	0.98586	0.005	0.081	0.075	476.9707	0.151
Pavers	2020	16	25	1.568718	1.318	4.76401	5.52345	0.005	0.402	0.37	526.2098	0.17
Pavers	2020	26	50	1.568718	1.318	4.76401	5.52345	0.005	0.402	0.37	526.2098	0.17
Pavers	2020	51	120	0.558949	0.47	4.42718	3.60405	0.005	0.325	0.299	469.8815	0.152
Pavers	2020	121	175	0.324615	0.273	2.91833	3.0097	0.005	0.142	0.131	472.7746	0.153
Pavers	2020	176	250	0.209036	0.176	2.77699	1.02834	0.005	0.076	0.07	472.8337	0.153
Pavers	2020	251	500	0.195949	0.165	2.13394	0.98677	0.005	0.077	0.071	466.2059	0.151
Pavers	2021	16	25	1.43708	1.208	4.60183	5.30162	0.005	0.37	0.34	526.5153	0.17
Pavers	2021	26	50	1.43708	1.208	4.60183	5.30162	0.005	0.37	0.34	526.5153	0.17
Pavers	2021	51	120	0.499355	0.42	4.02622	3.56251	0.005	0.285	0.262	469.7736	0.152
Pavers	2021	121	175	0.304315	0.256	2.6948	3.01647	0.005	0.13	0.12	472.5552	0.153
Pavers	2021	176	250	0.196899	0.165	2.4844	1.02422	0.005	0.07	0.064	472.4765	0.153
Pavers	2021	251	500	0.195105	0.164	2.05298	0.9877	0.005	0.074	0.068	465.5908	0.151
Pavers	2022	16	25	1.299052	1.092	4.42092	5.11433	0.005	0.33	0.303	526.8963	0.17
Pavers	2022	26	50	1.299052	1.092	4.42092	5.11433	0.005	0.33	0.303	526.8963	0.17
Pavers	2022	51	120	0.443951	0.373	3.65932	3.52511	0.005	0.248	0.228	470.1854	0.152
Pavers	2022	121	175	0.255688	0.215	2.17958	2.99478	0.005	0.104	0.095	472.7599	0.153
Pavers	2022	176	250	0.167123	0.14	1.89985	1.01231	0.005	0.055	0.05	472.3718	0.153
Pavers	2022	251	500	0.178545	0.15	1.81028	0.98238	0.005	0.063	0.058	466.0042	0.151
Pavers	2023	16	25	1.198318	1.007	4.28484	5.00667	0.005	0.299	0.275	526.8595	0.17
Pavers	2023	26	50	1.198318	1.007	4.28484	5.00667	0.005	0.299	0.275	526.8595	0.17
Pavers	2023	51	120	0.415607	0.349	3.42661	3.50733	0.005	0.226	0.208	470.0839	0.152
Pavers	2023	121	175	0.237199	0.199	1.95517	2.99398	0.005	0.092	0.085	472.7178	0.153
Pavers	2023	176	250	0.154288	0.13	1.6106	1.01018	0.005	0.047	0.043	472.6051	0.153
Pavers	2023	251	500	0.18061	0.152	1.77101	0.98653	0.005	0.062	0.057	466.0038	0.151
Pavers	2024	16	25	1.130978	0.95	4.20308	4.95625	0.005	0.279	0.257	526.8565	0.17
Pavers	2024	26	50	1.130978	0.95	4.20308	4.95625	0.005	0.279	0.257	526.8565	0.17
Pavers	2024	51	120	0.40131	0.337	3.2771	3.50784	0.005	0.213	0.196	470.2262	0.152
Pavers	2024	121	175	0.226916	0.191	1.80882	3.0042	0.005	0.084	0.078	472.6605	0.153
Pavers	2024	176	250	0.141914	0.119	1.34323	1.00872	0.005	0.041	0.038	473.2362	0.153
Pavers	2024	251	500	0.169789	0.143	1.54798	0.98624	0.005	0.054	0.049	467.1711	0.151
Pavers	2025	16	25	1.092933	0.918	4.13112	4.94451	0.005	0.265	0.243	526.8533	0.17
Pavers	2025	26	50	1.092933	0.918	4.13112	4.94451	0.005	0.265	0.243	526.8533	0.17
Pavers	2025	51	120	0.373474	0.314	3.06788	3.49286	0.005	0.19	0.175	469.8988	0.152
Pavers	2025	121	175	0.214799	0.18	1.64396	3.0071	0.005	0.077	0.071	472.485	0.153
Pavers	2025	176	250	0.127304	0.107	1.03493	1.00414	0.005	0.034	0.031	473.4832	0.153
Pavers	2025	251	500	0.136633	0.115	1.13351	0.96892	0.005	0.039	0.036	465.8824	0.151
Pavers	2030	16	25	1.849	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Pavers	2030	26	50	3.42	0.845	3.841	5.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	51	120	4.084	0.408	2.468	3.8	0.006	0.121	0.121	568.3	0.036
Pavers	2030	121	175	5.577	0.3	1.425	3.326	0.006	0.074	0.074	568.299	0.027
Pavers	2030	176	250	7.306	0.259	1.246	1.192	0.006	0.045	0.045	568.299	0.023
Pavers	2030	251	500	8.558	0.253	1.141	1.181	0.005	0.043	0.043	568.299	0.022
Pavers	2035	16	25	1.849	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Pavers	2035	26	50	2.812	0.694	3.555	5.26	0.007	0.076	0.076	568.299	0.062
Pavers	2035	51	120	3.386	0.338	1.986	3.774	0.006	0.069	0.069	568.299	0.03
Pavers	2035	121	175	4.543	0.244	0.889	3.319	0.006	0.043	0.043	568.299	0.022
Pavers	2035	176	250	6.219	0.221	0.772	1.157	0.006	0.027	0.027	568.3	0.019
Pavers	2035	251	500	7.364	0.218	0.722	1.111	0.005	0.026	0.026	568.299	0.019
Pavers	2040	16	25	1.849	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Pavers	2040	26	50	2.504	0.618	3.393	5.189	0.007	0.047	0.047	568.299	0.055
Pavers	2040	51	120	3.03	0.302	1.731	3.763	0.006	0.043	0.043	568.299	0.027
Pavers	2040	121	175	3.958	0.213	0.583	3.319	0.006	0.027	0.027	568.299	0.019
Pavers	2040	176	250	5.625	0.2	0.525	1.138	0.006	0.018	0.018	568.299	0.018
Pavers	2040	251	500	6.703	0.198	0.498	1.085	0.005	0.018	0.018	568.299	0.017
Paving Equipment	1990	16	25	5.257	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Paving Equipment	1990	26	50	21.788	4.84	7.965	9.783	0.871	1.277	1.277	568.299	0.436
Paving Equipment	1990	51	120	24.593	2.398	15.202	5.796	0.791	1.352	1.352	568.299	0.216
Paving Equipment	1990	121	175	35.738	1.88	14.821	5.196	0.758	1.044	1.044	568.3	0.169
Paving Equipment	1990	176	250	43.262	1.88	14.821	5.196	0.758	1.044	1.044	568.299	0.169
Paving Equipment	2000	16	25	4.652	1.958	6.358	4.53	0.065	0.563	0.563	568.299	0.176
Paving Equipment	2000	26	50	19.86	4.412	7.101	9.076	0.066	0.921	0.921	568.299	0.398
Paving Equipment	2000	51	120	19.826	1.933	11.122	4.844	0.06	0.909	0.909	568.299	0.174
Paving Equipment	2000	121	175	25.015	1.316	10.15	4.018	0.057	0.553	0.553	568.299	0.118
Paving Equipment	2000	176	250	26.974	1.172	9.895	3.458	0.057	0.486	0.486	568.299	0.105
Paving Equipment	2005	16	25	2.184	0.919	5.412	2.642	0.065	0.347	0.347	568.299	0.082
Paving Equipment	2005	26	50	18.352	4.077	6.73	8.626	0.066	0.875	0.875	568.299	0.367
Paving Equipment	2005	51	120	17.633	1.719	9.754	4.557	0.06	0.86	0.86	568.299	0.155
Paving Equipment	2005	121	175	21.589	1.135	8.873	3.705	0.057	0.494	0.494	568.299	0.102
Paving Equipment	2005	176	250	21.201	0.921	8.548	2.655	0.057	0.38	0.38	568.299	0.083
Paving Equipment	2010	16	25	1.378997	1.159	5.35696	4.92203	0.005	0.47	0.433	578.6236	0.168
Paving Equipment	2010	26	50	1.378997	1.159	5.35696	4.92203	0.005	0.47	0.433	578.6236	0.168
Paving Equipment	2010	51	120	0.934999	0.786	7.23593	3.90118	0.005	0.553	0.508	526.5834	0.153
Paving Equipment	2010	121	175	0.573407	0.482	6.09511	3.13688	0.005	0.295	0.271	523.4127	0.152
Paving Equipment	2010	176	250	0.486641	0.409	6.03614	1.69744	0.005	0.224	0.206	524.3728	0.153
Paving Equipment	2011	16	25	1.380687	1.16	5.36974	4.99687	0.005	0.472	0.434	577.1303	0.168
Paving Equipment	2011	26	50	1.380687	1.16	5.36974	4.99687	0.005	0.472	0.434	577.1303	0.168
Paving Equipment	2011	51	120	0.895349	0.752	6.99544	3.87125	0.005	0.536	0.493	524.9269	0.153
Paving Equipment	2011	121	175	0.56507	0.475	5.97526	3.14337	0.005	0.29	0.267	522.1549	0.152
Paving Equipment	2011	176	250	0.466258	0.392	5.77978	1.64572	0.005	0.213	0.196	523.0323	0.153
Paving Equipment	2012	16	25	1.384947	1.164	5.34363	5.06516	0.005	0.47	0.432	575.687	0.168

Paving Equipment	2012	26	50	1.384947	1.164	5.34363	5.06516	0.005	0.47	0.432	575.687	0.168
Paving Equipment	2012	51	120	0.910401	0.765	7.04165	3.90635	0.005	0.546	0.503	523.5886	0.153
Paving Equipment	2012	121	175	0.56544	0.475	5.9326	3.15801	0.005	0.29	0.267	520.7286	0.152
Paving Equipment	2012	176	250	0.474854	0.399	5.81292	1.657	0.005	0.215	0.198	521.7154	0.153
Paving Equipment	2013	16	25	1.327494	1.115	5.2986	5.02677	0.005	0.459	0.422	572.4644	0.168
Paving Equipment	2013	26	50	1.327494	1.115	5.2986	5.02677	0.005	0.459	0.422	572.4644	0.168
Paving Equipment	2013	51	120	0.845445	0.71	6.6576	3.86369	0.005	0.507	0.467	520.6724	0.153
Paving Equipment	2013	121	175	0.532035	0.447	5.60344	3.1205	0.005	0.271	0.249	517.6606	0.152
Paving Equipment	2013	176	250	0.40741	0.342	5.25206	1.48037	0.005	0.18	0.166	519.5215	0.153
Paving Equipment	2014	16	25	1.253528	1.053	5.18385	4.95215	0.005	0.437	0.402	569.4822	0.168
Paving Equipment	2014	26	50	1.253528	1.053	5.18385	4.95215	0.005	0.437	0.402	569.4822	0.168
Paving Equipment	2014	51	120	0.805438	0.677	6.36952	3.83664	0.005	0.486	0.447	518.0756	0.153
Paving Equipment	2014	121	175	0.494038	0.415	5.21567	3.09686	0.005	0.249	0.229	515.0343	0.152
Paving Equipment	2014	176	250	0.369032	0.31	4.78232	1.37011	0.005	0.158	0.146	516.8998	0.153
Paving Equipment	2015	16	25	1.166929	0.981	5.02757	4.86895	0.005	0.407	0.374	563.5534	0.168
Paving Equipment	2015	26	50	1.166929	0.981	5.02757	4.86895	0.005	0.407	0.374	563.5534	0.168
Paving Equipment	2015	51	120	0.786628	0.661	6.14454	3.83329	0.005	0.471	0.433	513.1672	0.153
Paving Equipment	2015	121	175	0.48887	0.411	4.96561	3.10403	0.005	0.242	0.223	509.8942	0.152
Paving Equipment	2015	176	250	0.374849	0.315	4.77176	1.37947	0.005	0.159	0.146	511.6544	0.153
Paving Equipment	2016	16	25	1.178909	0.991	4.98487	4.93662	0.005	0.403	0.371	557.7058	0.168
Paving Equipment	2016	26	50	1.178909	0.991	4.98487	4.93662	0.005	0.403	0.371	557.7058	0.168
Paving Equipment	2016	51	120	0.741701	0.623	5.7333	3.79639	0.005	0.438	0.403	507.9102	0.153
Paving Equipment	2016	121	175	0.442497	0.372	4.3217	3.08114	0.005	0.214	0.197	504.8201	0.152
Paving Equipment	2016	176	250	0.353542	0.297	4.42821	1.33145	0.005	0.148	0.136	506.1965	0.153
Paving Equipment	2017	16	25	1.102141	0.926	4.72756	4.80403	0.005	0.359	0.33	548.6481	0.168
Paving Equipment	2017	26	50	1.102141	0.926	4.72756	4.80403	0.005	0.359	0.33	548.6481	0.168
Paving Equipment	2017	51	120	0.670017	0.563	5.20745	3.74146	0.005	0.391	0.359	500.1649	0.153
Paving Equipment	2017	121	175	0.407568	0.342	3.89633	3.07321	0.005	0.195	0.179	497.148	0.152
Paving Equipment	2017	176	250	0.342633	0.288	4.12109	1.333	0.005	0.141	0.13	498.7323	0.153
Paving Equipment	2018	16	25	0.877571	0.737	4.31244	4.41578	0.005	0.286	0.263	540.6115	0.168
Paving Equipment	2018	26	50	0.877571	0.737	4.31244	4.41578	0.005	0.286	0.263	540.6115	0.168
Paving Equipment	2018	51	120	0.534861	0.449	4.27034	3.60743	0.005	0.302	0.278	492.1184	0.153
Paving Equipment	2018	121	175	0.337615	0.284	3.17208	3.02602	0.005	0.155	0.143	489.2024	0.152
Paving Equipment	2018	176	250	0.307374	0.258	3.58656	1.28117	0.005	0.123	0.113	490.6833	0.153
Paving Equipment	2019	16	25	0.838543	0.705	4.23779	4.40798	0.005	0.27	0.248	531.8612	0.168
Paving Equipment	2019	26	50	0.838543	0.705	4.23779	4.40798	0.005	0.27	0.248	531.8612	0.168
Paving Equipment	2019	51	120	0.50594	0.425	4.04152	3.59849	0.005	0.281	0.258	484.387	0.153
Paving Equipment	2019	121	175	0.302373	0.254	2.6924	3.0109	0.005	0.134	0.123	481.2251	0.152
Paving Equipment	2019	176	250	0.286526	0.241	3.25106	1.24449	0.005	0.112	0.103	482.6441	0.153
Paving Equipment	2020	16	25	0.73951	0.621	3.9519	4.22322	0.005	0.217	0.2	520.1235	0.168
Paving Equipment	2020	26	50	0.73951	0.621	3.9519	4.22322	0.005	0.217	0.2	520.1235	0.168
Paving Equipment	2020	51	120	0.472907	0.397	3.78064	3.58172	0.005	0.256	0.235	473.3249	0.153
Paving Equipment	2020	121	175	0.294586	0.248	2.55498	3.02393	0.005	0.128	0.118	470.7359	0.152
Paving Equipment	2020	176	250	0.289784	0.243	3.2202	1.25215	0.005	0.111	0.102	472.1514	0.153
Paving Equipment	2021	16	25	0.698022	0.587	3.88226	4.21072	0.005	0.2	0.184	520.3965	0.168
Paving Equipment	2021	26	50	0.698022	0.587	3.88226	4.21072	0.005	0.2	0.184	520.3965	0.168
Paving Equipment	2021	51	120	0.422572	0.355	3.45065	3.5537	0.005	0.219	0.201	473.2205	0.153
Paving Equipment	2021	121	175	0.272687	0.229	2.31505	3.03229	0.005	0.114	0.105	470.6495	0.152
Paving Equipment	2021	176	250	0.250607	0.211	2.58202	1.20904	0.005	0.092	0.085	472.151	0.153
Paving Equipment	2022	16	25	0.68013	0.571	3.83611	4.24448	0.005	0.188	0.173	520.6594	0.168
Paving Equipment	2022	26	50	0.68013	0.571	3.83611	4.24448	0.005	0.188	0.173	520.6594	0.168
Paving Equipment	2022	51	120	0.351718	0.296	2.99968	3.50075	0.005	0.171	0.157	473.4475	0.153
Paving Equipment	2022	121	175	0.253077	0.213	2.07331	3.03777	0.005	0.101	0.093	470.6646	0.152
Paving Equipment	2022	176	250	0.232653	0.195	2.22813	1.20363	0.005	0.083	0.076	472.169	0.153
Paving Equipment	2023	16	25	0.644074	0.541	3.77446	4.24108	0.005	0.173	0.159	521.1138	0.169
Paving Equipment	2023	26	50	0.644074	0.541	3.77446	4.24108	0.005	0.173	0.159	521.1138	0.169
Paving Equipment	2023	51	120	0.331302	0.278	2.83717	3.50331	0.005	0.152	0.14	473.427	0.153
Paving Equipment	2023	121	175	0.242414	0.204	1.91255	3.05059	0.005	0.093	0.086	470.663	0.152
Paving Equipment	2023	176	250	0.208228	0.175	1.88495	1.16523	0.005	0.07	0.065	472.169	0.153
Paving Equipment	2024	16	25	0.622364	0.523	3.74329	4.27468	0.005	0.164	0.151	521.0575	0.169
Paving Equipment	2024	26	50	0.622364	0.523	3.74329	4.27468	0.005	0.164	0.151	521.0575	0.169
Paving Equipment	2024	51	120	0.311995	0.262	2.67309	3.50288	0.005	0.135	0.125	473.1748	0.153
Paving Equipment	2024	121	175	0.233948	0.197	1.78512	3.06623	0.005	0.086	0.079	470.6614	0.152
Paving Equipment	2024	176	250	0.164733	0.138	1.29567	1.11417	0.005	0.048	0.044	472.2124	0.153
Paving Equipment	2025	16	25	0.566694	0.476	3.62672	4.20347	0.005	0.141	0.13	520.9975	0.169
Paving Equipment	2025	26	50	0.566694	0.476	3.62672	4.20347	0.005	0.141	0.13	520.9975	0.169
Paving Equipment	2025	51	120	0.287394	0.241	2.49628	3.48256	0.005	0.118	0.108	473.4239	0.153
Paving Equipment	2025	121	175	0.208465	0.175	1.509	3.03837	0.005	0.075	0.069	470.4844	0.152
Paving Equipment	2025	176	250	0.158556	0.133	1.10952	1.11653	0.005	0.043	0.04	472.2341	0.153
Paving Equipment	2030	16	25	1.628	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Paving Equipment	2030	26	50	3.613	0.802	3.809	5.309	0.007	0.126	0.126	568.299	0.072
Paving Equipment	2030	51	120	4.007	0.39	2.393	3.774	0.006	0.114	0.114	568.3	0.035
Paving Equipment	2030	121	175	5.525	0.29	1.363	3.306	0.006	0.07	0.07	568.299	0.026
Paving Equipment	2030	176	250	5.771	0.25	1.176	1.171	0.006	0.042	0.042	568.299	0.022
Paving Equipment	2035	16	25	1.628	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Paving Equipment	2035	26	50	2.991	0.664	3.511	5.181	0.007	0.07	0.07	568.3	0.059
Paving Equipment	2035	51	120	3.343	0.326	1.928	3.753	0.006	0.064	0.064	568.299	0.029
Paving Equipment	2035	121	175	4.485	0.235	0.832	3.303	0.006	0.04	0.04	568.299	0.021
Paving Equipment	2035	176	250	4.886	0.212	0.714	1.14	0.006	0.024	0.024	568.299	0.019
Paving Equipment	2040	16	25	1.628	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Paving Equipment	2040	26	50	2.651	0.589	3.361	5.111	0.007	0.042	0.042	568.3	0.053
Paving Equipment	2040	51	120	2.989	0.291	1.687	3.744	0.006	0.039	0.039	568.299	0.026
Paving Equipment	2040	121	175	3.901	0.205	0.536	3.304	0.006	0.025	0.025	568.299	0.018
Paving Equipment	2040	176	250	4.452	0.193	0.485	1.127	0.006	0.017	0.017	568.299	0.017
Plate Compactors	1990	6	15	2.156	1.804	9.999	4.999	1.049	0.975	0.975	568.299	0.162
Plate Compactors	2000	6	15	1.852	1.55	8.519	4.606	0.079	0.708	0.708	568.299	0.139
Plate Compactors	2005	6	15	0.955	0.799	5.435	3.503	0.079	0.377	0.377	568.299	0.072
Plate Compactors	2010	6	15	0.794	0.664	4.178	3.469	0.008	0.198	0.198	568.299	0.059
Plate Compactors	2011	6	15	0.791	0.662	4.15	3.469	0.008	0.172	0.172	568.299	0.059

Plate Compactors	2012	6	15	0.79	0.661	4.142	3.469	0.008	0.165	0.165	568.3	0.059
Plate Compactors	2013	6	15	0.79	0.661	4.142	3.469	0.008	0.162	0.162	568.3	0.059
Plate Compactors	2014	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2015	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2016	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2017	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2018	6	15	0.79	0.661	4.142	3.47	0.008	0.161	0.161	568.3	0.059
Plate Compactors	2019	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2020	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2021	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2022	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2023	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2024	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2025	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2030	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2035	6	15	0.79	0.661	4.142	3.47	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2040	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Pressure Washers	1990	6	15	4.972	1.804	9.999	4.999	1.018	0.974	0.974	568.299	0.162
Pressure Washers	1990	16	25	8.915	2.213	6.92	5	0.83	0.74	0.74	568.3	0.199
Pressure Washers	1990	26	50	20.959	2.601	7.129	5.721	0.846	0.821	0.821	568.299	0.234
Pressure Washers	1990	51	120	23.659	1.743	12.634	4.735	0.768	0.874	0.874	568.299	0.157
Pressure Washers	1990	121	175	82.001	1.272	11.763	4.353	1.123	0.649	0.649	568.299	0.114
Pressure Washers	1990	176	250	77.237	0.953	9.035	3.084	1.077	0.476	0.476	568.299	0.086
Pressure Washers	2000	6	15	4.186	1.518	8.846	4.875	0.079	0.613	0.613	568.299	0.137
Pressure Washers	2000	16	25	6.717	1.667	6.405	4.783	0.065	0.51	0.51	568.299	0.15
Pressure Washers	2000	26	50	19.934	2.474	6.381	5.524	0.066	0.615	0.615	568.3	0.223
Pressure Washers	2000	51	120	19.23	1.417	9.062	3.967	0.06	0.613	0.613	568.3	0.127
Pressure Washers	2000	121	175	66.055	1.024	8.685	3.38	0.059	0.399	0.399	568.299	0.092
Pressure Washers	2000	176	250	35.508	0.438	6.315	1.005	0.058	0.143	0.143	568.299	0.039
Pressure Washers	2005	6	15	3.341	1.212	7.615	4.38	0.079	0.505	0.505	568.3	0.109
Pressure Washers	2005	16	25	5.048	1.253	6.014	3.922	0.065	0.432	0.432	568.299	0.113
Pressure Washers	2005	26	50	17.362	2.154	5.932	5.075	0.066	0.566	0.566	568.299	0.194
Pressure Washers	2005	51	120	16.424	1.21	7.651	3.682	0.06	0.566	0.566	568.299	0.109
Pressure Washers	2005	121	175	55.65	0.863	7.441	3.072	0.059	0.349	0.349	568.299	0.077
Pressure Washers	2005	176	250	21.871	0.27	4.822	0.986	0.058	0.111	0.111	568.299	0.024
Pressure Washers	2010	6	15	2.628	0.953	6.387	4.027	0.008	0.38	0.38	568.299	0.086
Pressure Washers	2010	16	25	3.872	0.961	5.477	3.309	0.007	0.342	0.342	568.299	0.086
Pressure Washers	2010	26	50	13.073	1.622	5.501	4.517	0.007	0.453	0.453	568.299	0.146
Pressure Washers	2010	51	120	12.296	0.906	6.273	3.503	0.006	0.451	0.451	568.299	0.081
Pressure Washers	2010	121	175	41.062	0.637	5.773	2.967	0.006	0.275	0.275	568.299	0.057
Pressure Washers	2010	176	250	16.502	0.203	2.5	0.986	0.006	0.1	0.1	568.299	0.018
Pressure Washers	2011	6	15	2.504	0.908	6.134	3.952	0.008	0.358	0.358	568.299	0.081
Pressure Washers	2011	16	25	3.706	0.92	5.36	3.179	0.007	0.325	0.325	568.299	0.083
Pressure Washers	2011	26	50	12.056	1.496	5.405	4.382	0.007	0.428	0.428	568.299	0.135
Pressure Washers	2011	51	120	11.392	0.839	5.939	3.468	0.006	0.43	0.43	568.299	0.075
Pressure Washers	2011	121	175	38.303	0.594	5.441	2.953	0.006	0.263	0.263	568.299	0.053
Pressure Washers	2011	176	250	15.247	0.188	2.086	0.986	0.006	0.072	0.072	568.299	0.016
Pressure Washers	2012	6	15	2.385	0.865	5.874	3.874	0.008	0.338	0.338	568.299	0.078
Pressure Washers	2012	16	25	3.564	0.884	5.239	3.043	0.007	0.307	0.307	568.299	0.079
Pressure Washers	2012	26	50	10.983	1.363	5.306	4.238	0.007	0.402	0.402	568.299	0.123
Pressure Washers	2012	51	120	10.457	0.77	5.578	3.433	0.006	0.4	0.4	568.299	0.069
Pressure Washers	2012	121	175	35.56	0.551	5.109	2.941	0.006	0.244	0.244	568.299	0.049
Pressure Washers	2012	176	250	13.887	0.171	1.749	0.986	0.006	0.046	0.046	568.299	0.015
Pressure Washers	2013	6	15	2.27	0.823	5.616	3.796	0.008	0.318	0.318	568.299	0.074
Pressure Washers	2013	16	25	3.431	0.851	5.117	2.907	0.007	0.289	0.289	568.299	0.076
Pressure Washers	2013	26	50	9.897	1.228	5.086	4.092	0.007	0.367	0.367	568.299	0.11
Pressure Washers	2013	51	120	9.523	0.701	5.226	3.399	0.006	0.366	0.366	568.299	0.063
Pressure Washers	2013	121	175	32.885	0.51	4.803	2.931	0.006	0.225	0.225	568.299	0.046
Pressure Washers	2013	176	250	12.508	0.154	1.468	0.986	0.006	0.021	0.021	568.299	0.013
Pressure Washers	2014	6	15	2.16	0.783	5.369	3.723	0.008	0.298	0.298	568.299	0.07
Pressure Washers	2014	16	25	3.308	0.821	5	2.78	0.007	0.272	0.272	568.299	0.074
Pressure Washers	2014	26	50	8.833	1.096	4.873	3.951	0.007	0.332	0.332	568.299	0.098
Pressure Washers	2014	51	120	8.608	0.634	4.912	3.367	0.006	0.332	0.332	568.299	0.057
Pressure Washers	2014	121	175	30.292	0.469	4.513	2.923	0.006	0.206	0.206	568.299	0.042
Pressure Washers	2014	176	250	11.167	0.137	1.047	0.986	0.006	0.014	0.014	568.299	0.012
Pressure Washers	2015	6	15	2.059	0.747	5.141	3.657	0.008	0.28	0.28	568.299	0.067
Pressure Washers	2015	16	25	3.196	0.793	4.89	2.666	0.007	0.256	0.256	568.299	0.071
Pressure Washers	2015	26	50	7.868	0.976	4.685	3.833	0.007	0.3	0.3	568.299	0.088
Pressure Washers	2015	51	120	7.703	0.567	4.551	3.336	0.006	0.297	0.297	568.299	0.051
Pressure Washers	2015	121	175	27.567	0.427	4.115	2.917	0.006	0.187	0.187	568.299	0.038
Pressure Washers	2015	176	250	9.864	0.121	0.69	0.986	0.006	0.01	0.01	568.299	0.01
Pressure Washers	2016	6	15	1.986	0.72	4.978	3.622	0.008	0.264	0.264	568.299	0.065
Pressure Washers	2016	16	25	3.116	0.773	4.803	2.604	0.007	0.244	0.244	568.299	0.069
Pressure Washers	2016	26	50	6.97	0.865	4.515	3.729	0.007	0.269	0.269	568.299	0.078
Pressure Washers	2016	51	120	6.839	0.504	4.209	3.308	0.006	0.264	0.264	568.299	0.045
Pressure Washers	2016	121	175	24.906	0.386	3.726	2.913	0.006	0.168	0.168	568.299	0.034
Pressure Washers	2016	176	250	8.667	0.107	0.399	0.986	0.006	0.009	0.009	568.299	0.009
Pressure Washers	2017	6	15	1.927	0.699	4.847	3.599	0.008	0.25	0.25	568.299	0.063
Pressure Washers	2017	16	25	3.053	0.757	4.729	2.564	0.007	0.233	0.233	568.299	0.068
Pressure Washers	2017	26	50	6.126	0.76	4.355	3.632	0.007	0.24	0.24	568.299	0.068
Pressure Washers	2017	51	120	6.031	0.444	3.888	3.283	0.006	0.233	0.233	568.3	0.04
Pressure Washers	2017	121	175	22.349	0.346	3.349	2.91	0.006	0.149	0.149	568.299	0.031
Pressure Washers	2017	176	250	8.288	0.102	0.317	0.986	0.006	0.009	0.009	568.299	0.009
Pressure Washers	2018	6	15	1.874	0.679	4.728	3.58	0.008	0.237	0.237	568.299	0.061
Pressure Washers	2018	16	25	2.997	0.744	4.661	2.531	0.007	0.224	0.224	568.299	0.067
Pressure Washers	2018	26	50	5.332	0.661	4.202	3.542	0.007	0.212	0.212	568.299	0.059
Pressure Washers	2018	51	120	5.276	0.388	3.584	3.26	0.006	0.203	0.203	568.299	0.035
Pressure Washers	2018	121	175	19.96	0.309	2.989	2.908	0.006	0.132	0.132	568.299	0.027
Pressure Washers	2018	176	250	8.072	0.099	0.277	0.986	0.006	0.009	0.009	568.299	0.008

Pressure Washers	2019	6	15	1.824	0.662	4.617	3.562	0.008	0.224	0.224	568.299	0.059
Pressure Washers	2019	16	25	2.947	0.731	4.596	2.501	0.007	0.214	0.214	568.299	0.066
Pressure Washers	2019	26	50	4.585	0.569	4.053	3.457	0.007	0.184	0.184	568.299	0.051
Pressure Washers	2019	51	120	4.575	0.337	3.295	3.24	0.006	0.174	0.174	568.299	0.03
Pressure Washers	2019	121	175	18.102	0.28	2.67	2.907	0.006	0.117	0.117	568.299	0.025
Pressure Washers	2019	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2020	6	15	1.78	0.646	4.516	3.546	0.008	0.212	0.212	568.299	0.058
Pressure Washers	2020	16	25	2.904	0.721	4.538	2.473	0.007	0.205	0.205	568.299	0.065
Pressure Washers	2020	26	50	4.025	0.499	3.917	3.393	0.007	0.161	0.161	568.299	0.045
Pressure Washers	2020	51	120	4.048	0.298	3.036	3.225	0.006	0.151	0.151	568.299	0.026
Pressure Washers	2020	121	175	16.638	0.258	2.383	2.907	0.006	0.104	0.104	568.299	0.023
Pressure Washers	2020	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2021	6	15	1.747	0.634	4.441	3.531	0.008	0.201	0.201	568.299	0.057
Pressure Washers	2021	16	25	2.87	0.712	4.497	2.446	0.007	0.196	0.196	568.299	0.064
Pressure Washers	2021	26	50	3.542	0.439	3.765	3.329	0.007	0.136	0.136	568.299	0.039
Pressure Washers	2021	51	120	3.592	0.264	2.766	3.21	0.006	0.129	0.129	568.299	0.023
Pressure Washers	2021	121	175	15.389	0.238	2.118	2.907	0.006	0.093	0.093	568.299	0.021
Pressure Washers	2021	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2022	6	15	1.725	0.626	4.39	3.519	0.008	0.193	0.193	568.299	0.056
Pressure Washers	2022	16	25	2.847	0.706	4.47	2.426	0.007	0.188	0.188	568.299	0.063
Pressure Washers	2022	26	50	3.213	0.398	3.649	3.291	0.007	0.117	0.117	568.3	0.035
Pressure Washers	2022	51	120	3.281	0.241	2.56	3.202	0.006	0.112	0.112	568.299	0.021
Pressure Washers	2022	121	175	14.252	0.221	1.871	2.907	0.006	0.082	0.082	568.299	0.019
Pressure Washers	2022	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2023	6	15	1.706	0.618	4.345	3.508	0.008	0.186	0.186	568.299	0.055
Pressure Washers	2023	16	25	2.827	0.701	4.447	2.407	0.007	0.182	0.182	568.299	0.063
Pressure Washers	2023	26	50	2.928	0.363	3.541	3.26	0.007	0.101	0.101	568.299	0.032
Pressure Washers	2023	51	120	3.012	0.222	2.377	3.196	0.006	0.097	0.097	568.299	0.02
Pressure Washers	2023	121	175	13.244	0.205	1.665	2.907	0.006	0.072	0.072	568.299	0.018
Pressure Washers	2023	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2024	6	15	1.689	0.612	4.305	3.499	0.008	0.181	0.181	568.299	0.055
Pressure Washers	2024	16	25	2.811	0.697	4.426	2.39	0.007	0.178	0.178	568.299	0.062
Pressure Washers	2024	26	50	2.685	0.333	3.441	3.233	0.007	0.087	0.087	568.299	0.03
Pressure Washers	2024	51	120	2.78	0.204	2.229	3.191	0.006	0.084	0.084	568.299	0.018
Pressure Washers	2024	121	175	12.332	0.191	1.482	2.907	0.006	0.062	0.062	568.299	0.017
Pressure Washers	2024	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2025	6	15	1.674	0.607	4.269	3.491	0.008	0.178	0.178	568.299	0.054
Pressure Washers	2025	16	25	2.797	0.694	4.407	2.376	0.007	0.175	0.175	568.299	0.062
Pressure Washers	2025	26	50	2.472	0.306	3.344	3.21	0.007	0.075	0.075	568.299	0.027
Pressure Washers	2025	51	120	2.575	0.189	2.1	3.186	0.006	0.072	0.072	568.299	0.017
Pressure Washers	2025	121	175	11.476	0.178	1.31	2.907	0.006	0.053	0.053	568.299	0.016
Pressure Washers	2025	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2030	6	15	1.632	0.592	4.164	3.47	0.008	0.166	0.166	568.3	0.053
Pressure Washers	2030	16	25	2.766	0.686	4.347	2.34	0.007	0.165	0.165	568.299	0.061
Pressure Washers	2030	26	50	1.735	0.215	2.989	3.124	0.007	0.03	0.03	568.299	0.019
Pressure Washers	2030	51	120	1.821	0.134	1.594	3.167	0.006	0.028	0.028	568.3	0.012
Pressure Washers	2030	121	175	8.178	0.126	0.619	2.907	0.006	0.024	0.024	568.299	0.011
Pressure Washers	2030	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2035	6	15	1.624	0.589	4.143	3.47	0.008	0.162	0.162	568.3	0.053
Pressure Washers	2035	16	25	2.761	0.685	4.332	2.34	0.007	0.162	0.162	568.299	0.061
Pressure Washers	2035	26	50	1.515	0.188	2.882	3.101	0.007	0.015	0.015	568.299	0.016
Pressure Washers	2035	51	120	1.58	0.116	1.421	3.161	0.006	0.014	0.014	568.299	0.01
Pressure Washers	2035	121	175	7.052	0.109	0.382	2.907	0.006	0.013	0.013	568.299	0.009
Pressure Washers	2035	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2040	6	15	1.624	0.589	4.142	3.469	0.008	0.161	0.161	568.299	0.053
Pressure Washers	2040	16	25	2.761	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Pressure Washers	2040	26	50	1.5	0.186	2.836	3.098	0.007	0.01	0.01	568.299	0.016
Pressure Washers	2040	51	120	1.54	0.113	1.365	3.16	0.006	0.01	0.01	568.299	0.01
Pressure Washers	2040	121	175	6.649	0.103	0.293	2.907	0.006	0.01	0.01	568.299	0.009
Pressure Washers	2040	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pumps	1990	6	15	3.929	1.804	10	4.999	1.018	0.974	0.974	568.299	0.162
Pumps	1990	16	25	12.652	2.213	6.92	4.999	0.83	0.74	0.74	568.299	0.199
Pumps	1990	26	50	33.318	3.307	7.391	7.004	0.846	0.964	0.964	568.299	0.298
Pumps	1990	51	120	44.398	1.941	13.378	5.049	0.768	1.022	1.022	568.299	0.175
Pumps	1990	121	175	54.599	1.328	12.036	4.466	0.736	0.678	0.678	568.299	0.119
Pumps	1990	176	250	78.462	1.328	12.036	4.466	0.736	0.678	0.678	568.299	0.119
Pumps	1990	251	500	123.784	1.222	11.736	7.034	0.642	0.614	0.614	568.3	0.11
Pumps	1990	501	750	204.643	1.222	11.736	7.034	0.658	0.614	0.614	568.299	0.11
Pumps	1990	1001	9999	484.933	1.22	11.736	7.034	0.658	0.612	0.612	568.299	0.11
Pumps	2000	6	15	3.754	1.723	9.08	4.875	0.079	0.747	0.747	568.299	0.155
Pumps	2000	16	25	11.979	2.095	6.405	4.783	0.065	0.569	0.569	568.299	0.189
Pumps	2000	26	50	31.461	3.123	6.608	6.715	0.066	0.718	0.718	568.299	0.281
Pumps	2000	51	120	36.02	1.575	9.604	4.223	0.06	0.711	0.711	568.3	0.142
Pumps	2000	121	175	43.406	1.055	8.734	3.435	0.057	0.419	0.419	568.299	0.095
Pumps	2000	176	250	51.67	0.874	8.397	2.707	0.057	0.339	0.339	568.299	0.078
Pumps	2000	251	500	83.09	0.82	8.188	3.956	0.05	0.311	0.311	568.299	0.074
Pumps	2000	501	750	137.368	0.82	8.188	3.956	0.051	0.311	0.311	568.299	0.074
Pumps	2000	1001	9999	372.377	0.936	8.775	4.533	0.051	0.351	0.351	568.299	0.084
Pumps	2005	6	15	3.036	1.394	7.817	4.38	0.079	0.621	0.621	568.299	0.125
Pumps	2005	16	25	9.278	1.622	6.014	3.922	0.065	0.483	0.483	568.299	0.146
Pumps	2005	26	50	27.809	2.76	6.155	6.203	0.066	0.664	0.664	568.299	0.249
Pumps	2005	51	120	30.825	1.348	8.1	3.91	0.06	0.657	0.657	568.3	0.121
Pumps	2005	121	175	36.106	0.878	7.408	3.114	0.057	0.363	0.363	568.299	0.079
Pumps	2005	176	250	36.853	0.623	6.99	1.836	0.057	0.239	0.239	568.299	0.056
Pumps	2005	251	500	56.766	0.56	6.535	2.32	0.05	0.219	0.219	568.299	0.05
Pumps	2005	501	750	96.43	0.575	6.679	2.32	0.051	0.221	0.221	568.299	0.051
Pumps	2005	1001	9999	289.357	0.728	7.658	2.838	0.051	0.258	0.258	568.299	0.065
Pumps	2010	6	15	2.449	1.124	6.554	4.027	0.008	0.473	0.473	568.299	0.101
Pumps	2010	16	25	7.245	1.267	5.477	3.309	0.007	0.384	0.384	568.299	0.114

Pumps	2010	26	50	22.041	2.188	5.74	5.634	0.007	0.545	0.545	568.3	0.197
Pumps	2010	51	120	23.77	1.039	6.675	3.735	0.006	0.538	0.538	568.299	0.093
Pumps	2010	121	175	28.171	0.685	5.961	3.033	0.006	0.298	0.298	568.299	0.061
Pumps	2010	176	250	26.273	0.444	5.586	1.359	0.006	0.17	0.17	568.299	0.04
Pumps	2010	251	500	40.384	0.398	5.074	1.536	0.005	0.158	0.158	568.299	0.035
Pumps	2010	501	750	68.724	0.41	5.207	1.536	0.005	0.161	0.161	568.299	0.037
Pumps	2010	1001	9999	218.911	0.55	6.617	1.991	0.005	0.196	0.196	568.299	0.049
Pumps	2011	6	15	2.324	1.067	6.283	3.952	0.008	0.441	0.441	568.299	0.096
Pumps	2011	16	25	6.815	1.192	5.36	3.179	0.007	0.361	0.361	568.299	0.107
Pumps	2011	26	50	20.53	2.038	5.645	5.474	0.007	0.518	0.518	568.299	0.183
Pumps	2011	51	120	22.177	0.969	6.322	3.698	0.006	0.514	0.514	568.299	0.087
Pumps	2011	121	175	26.426	0.642	5.63	3.02	0.006	0.286	0.286	568.299	0.058
Pumps	2011	176	250	24.051	0.407	5.206	1.272	0.006	0.153	0.153	568.299	0.036
Pumps	2011	251	500	36.969	0.365	4.71	1.405	0.005	0.143	0.143	568.299	0.032
Pumps	2011	501	750	62.964	0.376	4.841	1.405	0.005	0.145	0.145	568.299	0.033
Pumps	2011	1001	9999	203.755	0.512	6.273	1.835	0.005	0.183	0.183	568.299	0.046
Pumps	2012	6	15	2.194	1.007	5.999	3.874	0.008	0.407	0.407	568.299	0.09
Pumps	2012	16	25	6.363	1.113	5.239	3.043	0.007	0.337	0.337	568.299	0.1
Pumps	2012	26	50	18.887	1.875	5.545	5.296	0.007	0.488	0.488	568.299	0.169
Pumps	2012	51	120	20.51	0.896	5.939	3.66	0.006	0.481	0.481	568.299	0.08
Pumps	2012	121	175	24.576	0.597	5.28	3.009	0.006	0.265	0.265	568.299	0.053
Pumps	2012	176	250	22.301	0.377	4.846	1.218	0.006	0.139	0.139	568.299	0.034
Pumps	2012	251	500	34.322	0.338	4.367	1.311	0.005	0.13	0.13	568.299	0.03
Pumps	2012	501	750	58.469	0.349	4.495	1.311	0.005	0.132	0.132	568.299	0.031
Pumps	2012	1001	9999	188.287	0.473	5.916	1.682	0.005	0.168	0.168	568.299	0.042
Pumps	2013	6	15	2.065	0.948	5.716	3.796	0.008	0.373	0.373	568.299	0.085
Pumps	2013	16	25	5.914	1.034	5.117	2.907	0.007	0.314	0.314	568.3	0.093
Pumps	2013	26	50	17.185	1.706	5.323	5.11	0.007	0.448	0.448	568.299	0.153
Pumps	2013	51	120	18.831	0.823	5.563	3.623	0.006	0.443	0.443	568.299	0.074
Pumps	2013	121	175	22.712	0.552	4.949	2.998	0.006	0.244	0.244	568.299	0.049
Pumps	2013	176	250	20.801	0.352	4.498	1.181	0.006	0.127	0.127	568.3	0.031
Pumps	2013	251	500	32.081	0.316	4.037	1.241	0.005	0.119	0.119	568.299	0.028
Pumps	2013	501	750	54.658	0.326	4.163	1.241	0.005	0.121	0.121	568.299	0.029
Pumps	2013	1001	9999	173.151	0.435	5.558	1.538	0.005	0.154	0.154	568.299	0.039
Pumps	2014	6	15	1.942	0.891	5.445	3.723	0.008	0.341	0.341	568.299	0.08
Pumps	2014	16	25	5.492	0.96	5	2.78	0.007	0.291	0.291	568.299	0.086
Pumps	2014	26	50	15.493	1.538	5.107	4.929	0.007	0.409	0.409	568.299	0.138
Pumps	2014	51	120	17.179	0.751	5.226	3.587	0.006	0.403	0.403	568.299	0.067
Pumps	2014	121	175	20.895	0.508	4.635	2.989	0.006	0.222	0.222	568.299	0.045
Pumps	2014	176	250	19.3	0.326	4.09	1.149	0.006	0.115	0.115	568.299	0.029
Pumps	2014	251	500	29.829	0.294	3.648	1.181	0.005	0.108	0.108	568.299	0.026
Pumps	2014	501	750	50.824	0.303	3.77	1.181	0.005	0.11	0.11	568.299	0.027
Pumps	2014	1001	9999	158.959	0.399	5.21	1.406	0.005	0.141	0.141	568.299	0.036
Pumps	2015	6	15	1.831	0.84	5.196	3.658	0.008	0.311	0.311	568.299	0.075
Pumps	2015	16	25	5.112	0.894	4.89	2.666	0.007	0.27	0.27	568.299	0.08
Pumps	2015	26	50	13.946	1.384	4.916	4.775	0.007	0.371	0.371	568.3	0.124
Pumps	2015	51	120	15.537	0.679	4.842	3.554	0.006	0.364	0.364	568.3	0.061
Pumps	2015	121	175	18.983	0.461	4.202	2.983	0.006	0.2	0.2	568.299	0.041
Pumps	2015	176	250	17.881	0.302	3.693	1.122	0.006	0.104	0.104	568.299	0.027
Pumps	2015	251	500	27.722	0.273	3.272	1.134	0.005	0.097	0.097	568.299	0.024
Pumps	2015	501	750	47.213	0.281	3.389	1.134	0.005	0.099	0.099	568.299	0.025
Pumps	2015	1001	9999	144.304	0.363	4.878	1.293	0.005	0.127	0.127	568.299	0.032
Pumps	2016	6	15	1.762	0.809	5.023	3.622	0.008	0.289	0.289	568.299	0.073
Pumps	2016	16	25	4.893	0.855	4.803	2.604	0.007	0.255	0.255	568.299	0.077
Pumps	2016	26	50	12.497	1.24	4.742	4.64	0.007	0.335	0.335	568.299	0.111
Pumps	2016	51	120	13.964	0.61	4.478	3.523	0.006	0.325	0.325	568.299	0.055
Pumps	2016	121	175	17.155	0.417	3.789	2.978	0.006	0.179	0.179	568.299	0.037
Pumps	2016	176	250	16.558	0.28	3.313	1.099	0.006	0.094	0.094	568.299	0.025
Pumps	2016	251	500	25.804	0.254	2.919	1.093	0.005	0.088	0.088	568.299	0.022
Pumps	2016	501	750	43.884	0.262	3.028	1.093	0.005	0.089	0.089	568.299	0.023
Pumps	2016	1001	9999	133.448	0.335	4.596	1.223	0.005	0.116	0.116	568.3	0.03
Pumps	2017	6	15	1.713	0.786	4.887	3.599	0.008	0.272	0.272	568.299	0.07
Pumps	2017	16	25	4.745	0.83	4.729	2.564	0.007	0.243	0.243	568.299	0.074
Pumps	2017	26	50	11.12	1.104	4.578	4.514	0.007	0.301	0.301	568.299	0.099
Pumps	2017	51	120	12.49	0.546	4.134	3.495	0.006	0.287	0.287	568.299	0.049
Pumps	2017	121	175	15.466	0.376	3.4	2.975	0.006	0.159	0.159	568.299	0.033
Pumps	2017	176	250	15.375	0.26	2.958	1.08	0.006	0.084	0.084	568.299	0.023
Pumps	2017	251	500	24.243	0.239	2.613	1.062	0.005	0.079	0.079	568.299	0.021
Pumps	2017	501	750	40.958	0.244	2.695	1.062	0.005	0.08	0.08	568.299	0.022
Pumps	2017	1001	9999	124.604	0.313	4.343	1.177	0.005	0.106	0.106	568.299	0.028
Pumps	2018	6	15	1.669	0.766	4.762	3.58	0.008	0.256	0.256	568.299	0.069
Pumps	2018	16	25	4.618	0.807	4.661	2.531	0.007	0.232	0.232	568.299	0.072
Pumps	2018	26	50	9.809	0.973	4.422	4.397	0.007	0.267	0.267	568.299	0.087
Pumps	2018	51	120	11.107	0.485	3.808	3.471	0.006	0.252	0.252	568.299	0.043
Pumps	2018	121	175	13.918	0.338	3.035	2.974	0.006	0.14	0.14	568.299	0.03
Pumps	2018	176	250	14.304	0.242	2.624	1.065	0.006	0.075	0.075	568.299	0.021
Pumps	2018	251	500	22.927	0.226	2.34	1.041	0.005	0.071	0.071	568.299	0.02
Pumps	2018	501	750	38.511	0.23	2.401	1.041	0.005	0.072	0.072	568.299	0.02
Pumps	2018	1001	9999	116.529	0.293	4.105	1.144	0.005	0.098	0.098	568.299	0.026
Pumps	2019	6	15	1.63	0.748	4.647	3.562	0.008	0.241	0.241	568.3	0.067
Pumps	2019	16	25	4.503	0.787	4.596	2.501	0.007	0.222	0.222	568.3	0.071
Pumps	2019	26	50	8.56	0.849	4.269	4.284	0.007	0.235	0.235	568.299	0.076
Pumps	2019	51	120	9.812	0.429	3.497	3.449	0.006	0.217	0.217	568.299	0.038
Pumps	2019	121	175	12.706	0.309	2.711	2.974	0.006	0.124	0.124	568.299	0.027
Pumps	2019	176	250	13.378	0.226	2.323	1.052	0.006	0.067	0.067	568.299	0.02
Pumps	2019	251	500	21.711	0.214	2.084	1.027	0.005	0.064	0.064	568.3	0.019
Pumps	2019	501	750	36.35	0.217	2.133	1.027	0.005	0.065	0.065	568.299	0.019
Pumps	2019	1001	9999	108.825	0.273	3.873	1.118	0.005	0.089	0.089	568.299	0.024
Pumps	2020	6	15	1.593	0.731	4.542	3.546	0.008	0.227	0.227	568.299	0.066

Pumps	2020	16	25	4.396	0.769	4.538	2.473	0.007	0.212	0.212	568.299	0.069
Pumps	2020	26	50	7.613	0.755	4.128	4.197	0.007	0.206	0.206	568.299	0.068
Pumps	2020	51	120	8.832	0.386	3.219	3.432	0.006	0.189	0.189	568.299	0.034
Pumps	2020	121	175	11.744	0.285	2.418	2.974	0.006	0.111	0.111	568.299	0.025
Pumps	2020	176	250	12.575	0.212	2.05	1.042	0.006	0.06	0.06	568.299	0.019
Pumps	2020	251	500	20.565	0.203	1.841	1.017	0.005	0.057	0.057	568.3	0.018
Pumps	2020	501	750	34.373	0.205	1.884	1.017	0.005	0.058	0.058	568.299	0.018
Pumps	2020	1001	9999	101.462	0.255	3.649	1.096	0.005	0.081	0.081	568.3	0.023
Pumps	2021	6	15	1.563	0.717	4.462	3.531	0.008	0.214	0.214	568.299	0.064
Pumps	2021	16	25	4.302	0.752	4.497	2.446	0.007	0.201	0.201	568.299	0.067
Pumps	2021	26	50	6.761	0.671	3.966	4.099	0.007	0.175	0.175	568.299	0.06
Pumps	2021	51	120	7.94	0.347	2.928	3.412	0.006	0.162	0.162	568.3	0.031
Pumps	2021	121	175	10.713	0.26	2.101	2.968	0.006	0.096	0.096	568.299	0.023
Pumps	2021	176	250	11.658	0.197	1.759	1.031	0.006	0.052	0.052	568.299	0.017
Pumps	2021	251	500	19.186	0.189	1.584	1.007	0.005	0.05	0.05	568.299	0.017
Pumps	2021	501	750	32.005	0.191	1.618	1.007	0.005	0.05	0.05	568.299	0.017
Pumps	2021	1001	9999	92.954	0.233	3.409	1.074	0.005	0.072	0.072	568.3	0.021
Pumps	2022	6	15	1.54	0.707	4.408	3.519	0.008	0.203	0.203	568.299	0.063
Pumps	2022	16	25	4.229	0.739	4.47	2.426	0.007	0.193	0.193	568.299	0.066
Pumps	2022	26	50	6.194	0.614	3.846	4.048	0.007	0.152	0.152	568.299	0.055
Pumps	2022	51	120	7.351	0.321	2.708	3.404	0.006	0.142	0.142	568.299	0.029
Pumps	2022	121	175	9.985	0.242	1.86	2.969	0.006	0.085	0.085	568.299	0.021
Pumps	2022	176	250	11.025	0.186	1.534	1.025	0.006	0.045	0.045	568.299	0.016
Pumps	2022	251	500	18.249	0.18	1.404	1.001	0.005	0.044	0.044	568.3	0.016
Pumps	2022	501	750	30.396	0.181	1.432	1.001	0.005	0.044	0.044	568.3	0.016
Pumps	2022	1001	9999	87.313	0.219	3.236	1.058	0.005	0.065	0.065	568.299	0.019
Pumps	2023	6	15	1.521	0.698	4.359	3.508	0.008	0.194	0.194	568.299	0.063
Pumps	2023	16	25	4.165	0.728	4.447	2.407	0.007	0.186	0.186	568.299	0.065
Pumps	2023	26	50	5.699	0.565	3.734	4.007	0.007	0.131	0.131	568.299	0.051
Pumps	2023	51	120	6.838	0.299	2.511	3.398	0.006	0.123	0.123	568.299	0.026
Pumps	2023	121	175	9.349	0.227	1.662	2.971	0.006	0.075	0.075	568.299	0.02
Pumps	2023	176	250	10.47	0.177	1.351	1.021	0.006	0.04	0.04	568.299	0.015
Pumps	2023	251	500	17.411	0.171	1.246	0.998	0.005	0.038	0.038	568.3	0.015
Pumps	2023	501	750	28.971	0.173	1.271	0.998	0.005	0.039	0.039	568.299	0.015
Pumps	2023	1001	9999	82.523	0.207	3.09	1.043	0.005	0.059	0.059	568.299	0.018
Pumps	2024	6	15	1.503	0.69	4.316	3.499	0.008	0.188	0.188	568.299	0.062
Pumps	2024	16	25	4.107	0.718	4.426	2.39	0.007	0.181	0.181	568.299	0.064
Pumps	2024	26	50	5.272	0.523	3.63	3.974	0.007	0.114	0.114	568.299	0.047
Pumps	2024	51	120	6.391	0.279	2.352	3.393	0.006	0.107	0.107	568.299	0.025
Pumps	2024	121	175	8.769	0.213	1.486	2.973	0.006	0.065	0.065	568.299	0.019
Pumps	2024	176	250	9.948	0.168	1.189	1.018	0.006	0.034	0.034	568.3	0.015
Pumps	2024	251	500	16.61	0.164	1.098	0.994	0.005	0.033	0.033	568.299	0.014
Pumps	2024	501	750	27.614	0.164	1.12	0.994	0.005	0.034	0.034	568.299	0.014
Pumps	2024	1001	9999	78.184	0.196	2.96	1.031	0.005	0.054	0.054	568.299	0.017
Pumps	2025	6	15	1.488	0.683	4.278	3.491	0.008	0.183	0.183	568.299	0.061
Pumps	2025	16	25	4.058	0.709	4.407	2.376	0.007	0.177	0.177	568.299	0.064
Pumps	2025	26	50	4.891	0.485	3.528	3.943	0.007	0.099	0.099	568.299	0.043
Pumps	2025	51	120	5.988	0.261	2.213	3.389	0.006	0.092	0.092	568.299	0.023
Pumps	2025	121	175	8.209	0.199	1.318	2.974	0.006	0.056	0.056	568.3	0.018
Pumps	2025	176	250	9.449	0.159	1.038	1.016	0.006	0.029	0.029	568.299	0.014
Pumps	2025	251	500	15.837	0.156	0.958	0.992	0.005	0.028	0.028	568.3	0.014
Pumps	2025	501	750	26.308	0.157	0.977	0.992	0.005	0.029	0.029	568.3	0.014
Pumps	2025	1001	9999	74.054	0.186	2.84	1.02	0.005	0.049	0.049	568.299	0.016
Pumps	2030	6	15	1.445	0.663	4.164	3.47	0.008	0.166	0.166	568.299	0.059
Pumps	2030	16	25	3.928	0.687	4.347	2.34	0.007	0.165	0.165	568.3	0.061
Pumps	2030	26	50	3.513	0.348	3.146	3.814	0.007	0.04	0.04	568.299	0.031
Pumps	2030	51	120	4.416	0.193	1.662	3.367	0.006	0.036	0.036	568.299	0.017
Pumps	2030	121	175	5.842	0.142	0.61	2.973	0.006	0.024	0.024	568.299	0.012
Pumps	2030	176	250	7.699	0.13	0.511	1.013	0.006	0.016	0.016	568.299	0.011
Pumps	2030	251	500	13.115	0.129	0.482	0.989	0.005	0.016	0.016	568.299	0.011
Pumps	2030	501	750	21.709	0.129	0.488	0.989	0.005	0.016	0.016	568.299	0.011
Pumps	2030	1001	9999	55.475	0.139	2.504	0.99	0.005	0.03	0.03	568.299	0.012
Pumps	2035	6	15	1.44	0.661	4.143	3.469	0.008	0.162	0.162	568.299	0.059
Pumps	2035	16	25	3.919	0.685	4.332	2.34	0.007	0.162	0.162	568.299	0.061
Pumps	2035	26	50	3.089	0.306	3.028	3.778	0.007	0.019	0.019	568.299	0.027
Pumps	2035	51	120	3.891	0.17	1.47	3.36	0.006	0.017	0.017	568.299	0.015
Pumps	2035	121	175	5.059	0.123	0.377	2.973	0.006	0.014	0.014	568.299	0.011
Pumps	2035	176	250	7.07	0.119	0.335	1.012	0.006	0.011	0.011	568.299	0.01
Pumps	2035	251	500	12.118	0.119	0.331	0.989	0.005	0.011	0.011	568.299	0.01
Pumps	2035	501	750	20.034	0.119	0.331	0.989	0.005	0.011	0.011	568.299	0.01
Pumps	2035	1001	9999	49.373	0.124	2.38	0.989	0.005	0.023	0.023	568.299	0.011
Pumps	2040	6	15	1.44	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Pumps	2040	16	25	3.919	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Pumps	2040	26	50	3.056	0.303	2.976	3.77	0.007	0.013	0.013	568.299	0.027
Pumps	2040	51	120	3.777	0.165	1.41	3.358	0.006	0.012	0.012	568.299	0.014
Pumps	2040	121	175	4.771	0.116	0.295	2.971	0.006	0.01	0.01	568.299	0.01
Pumps	2040	176	250	6.779	0.114	0.279	1.012	0.006	0.009	0.009	568.299	0.01
Pumps	2040	251	500	11.622	0.114	0.279	0.989	0.005	0.009	0.009	568.299	0.01
Pumps	2040	501	750	19.214	0.114	0.279	0.989	0.005	0.009	0.009	568.299	0.01
Pumps	2040	1001	9999	46.343	0.116	2.347	0.989	0.005	0.02	0.02	568.299	0.01
Rollers	1990	6	15	4.21	1.804	9.999	4.999	1.049	0.975	0.975	568.299	0.162
Rollers	1990	16	25	10.903	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Rollers	1990	26	50	45.466	4.738	7.927	9.598	0.871	1.256	1.256	568.299	0.427
Rollers	1990	51	120	51.677	2.372	15.111	5.756	0.791	1.332	1.332	568.3	0.214
Rollers	1990	121	175	75.451	1.889	14.858	5.165	0.758	1.046	1.046	568.299	0.17
Rollers	1990	176	250	106.808	1.889	14.858	5.165	0.758	1.046	1.046	568.299	0.17
Rollers	1990	251	500	135.093	1.669	14.103	11.266	0.662	0.896	0.896	568.299	0.15
Rollers	2000	6	15	3.444	1.475	8.242	4.49	0.079	0.676	0.676	568.3	0.133
Rollers	2000	16	25	9.648	1.958	6.358	4.53	0.065	0.563	0.563	568.299	0.176

Rollers	2000	26	50	38.643	4.027	6.941	8.379	0.066	0.861	0.861	568.299	0.363
Rollers	2000	51	120	39.062	1.793	10.425	4.585	0.06	0.844	0.844	568.299	0.161
Rollers	2000	121	175	48.357	1.21	9.501	3.749	0.057	0.503	0.503	568.299	0.109
Rollers	2000	176	250	59.24	1.047	9.211	3.108	0.057	0.427	0.427	568.299	0.094
Rollers	2000	251	500	77.413	0.956	8.821	5.254	0.05	0.379	0.379	568.299	0.086
Rollers	2005	6	15	1.788	0.766	5.228	3.469	0.079	0.361	0.361	568.299	0.069
Rollers	2005	16	25	4.53	0.919	5.412	2.642	0.065	0.347	0.347	568.299	0.082
Rollers	2005	26	50	34.997	3.647	6.51	7.864	0.066	0.808	0.808	568.299	0.329
Rollers	2005	51	120	34.046	1.563	8.963	4.289	0.06	0.79	0.79	568.299	0.141
Rollers	2005	121	175	40.854	1.023	8.18	3.44	0.057	0.441	0.441	568.299	0.092
Rollers	2005	176	250	44.594	0.788	7.822	2.262	0.057	0.319	0.319	568.299	0.071
Rollers	2005	251	500	56.466	0.697	7.196	3.183	0.05	0.282	0.282	568.299	0.062
Rollers	2010	6	15	1.637529	1.376	5.58863	5.19619	0.005	0.516	0.475	584.6125	0.17
Rollers	2010	16	25	1.637529	1.376	5.58863	5.19619	0.005	0.516	0.475	584.6125	0.17
Rollers	2010	26	50	1.637529	1.376	5.58863	5.19619	0.005	0.516	0.475	584.6125	0.17
Rollers	2010	51	120	0.983879	0.827	7.50147	3.91429	0.005	0.56	0.516	527.6279	0.154
Rollers	2010	121	175	0.511697	0.43	5.60543	3.00505	0.005	0.264	0.243	524.1952	0.153
Rollers	2010	176	250	0.616159	0.518	7.34127	2.19572	0.005	0.268	0.247	526.2539	0.153
Rollers	2010	251	500	0.682816	0.574	7.52047	4.92169	0.005	0.313	0.288	533.878	0.155
Rollers	2011	6	15	1.599963	1.344	5.5647	5.18315	0.005	0.508	0.467	583.1085	0.17
Rollers	2011	16	25	1.599963	1.344	5.5647	5.18315	0.005	0.508	0.467	583.1085	0.17
Rollers	2011	26	50	1.599963	1.344	5.5647	5.18315	0.005	0.508	0.467	583.1085	0.17
Rollers	2011	51	120	0.924436	0.777	7.13388	3.86451	0.005	0.533	0.491	525.9391	0.153
Rollers	2011	121	175	0.498798	0.419	5.44712	3.00845	0.005	0.257	0.237	522.9396	0.153
Rollers	2011	176	250	0.556319	0.467	6.69107	2.03431	0.005	0.242	0.222	524.8924	0.153
Rollers	2011	251	500	0.597293	0.502	6.64358	4.46947	0.005	0.275	0.253	529.5965	0.155
Rollers	2012	6	15	1.624226	1.365	5.568	5.26844	0.005	0.511	0.471	581.6678	0.17
Rollers	2012	16	25	1.624226	1.365	5.568	5.26844	0.005	0.511	0.471	581.6678	0.17
Rollers	2012	26	50	1.624226	1.365	5.568	5.26844	0.005	0.511	0.471	581.6678	0.17
Rollers	2012	51	120	0.924087	0.776	7.08604	3.87893	0.005	0.534	0.491	524.5269	0.153
Rollers	2012	121	175	0.497788	0.418	5.38313	3.02294	0.005	0.255	0.235	521.5511	0.153
Rollers	2012	176	250	0.555818	0.467	6.64215	2.02691	0.005	0.241	0.222	523.5608	0.153
Rollers	2012	251	500	0.604557	0.508	6.66671	4.53336	0.005	0.278	0.256	528.1357	0.155
Rollers	2013	6	15	1.5981	1.343	5.50162	5.27142	0.005	0.5	0.46	578.8662	0.17
Rollers	2013	16	25	1.5981	1.343	5.50162	5.27142	0.005	0.5	0.46	578.8662	0.17
Rollers	2013	26	50	1.5981	1.343	5.50162	5.27142	0.005	0.5	0.46	578.8662	0.17
Rollers	2013	51	120	0.873627	0.734	6.74964	3.84356	0.005	0.504	0.464	521.8163	0.153
Rollers	2013	121	175	0.468308	0.394	5.11335	3.00794	0.005	0.238	0.219	519.0689	0.153
Rollers	2013	176	250	0.495332	0.416	5.94235	1.86858	0.005	0.213	0.196	520.4083	0.153
Rollers	2013	251	500	0.470274	0.395	5.43748	3.53436	0.005	0.213	0.196	524.7654	0.154
Rollers	2014	6	15	1.556684	1.308	5.39309	5.24275	0.005	0.484	0.445	575.7953	0.17
Rollers	2014	16	25	1.556684	1.308	5.39309	5.24275	0.005	0.484	0.445	575.7953	0.17
Rollers	2014	26	50	1.556684	1.308	5.39309	5.24275	0.005	0.484	0.445	575.7953	0.17
Rollers	2014	51	120	0.827072	0.695	6.39036	3.80915	0.005	0.476	0.438	518.7866	0.153
Rollers	2014	121	175	0.43778	0.368	4.72375	2.99804	0.005	0.219	0.202	516.591	0.153
Rollers	2014	176	250	0.453642	0.381	5.40344	1.75988	0.005	0.191	0.176	517.8111	0.153
Rollers	2014	251	500	0.449616	0.378	5.18322	3.3182	0.005	0.202	0.185	522.0518	0.154
Rollers	2015	6	15	1.559602	1.31	5.36547	5.29043	0.005	0.481	0.443	569.9207	0.17
Rollers	2015	16	25	1.559602	1.31	5.36547	5.29043	0.005	0.481	0.443	569.9207	0.17
Rollers	2015	26	50	1.559602	1.31	5.36547	5.29043	0.005	0.481	0.443	569.9207	0.17
Rollers	2015	51	120	0.813228	0.683	6.27158	3.80891	0.005	0.467	0.43	513.5052	0.153
Rollers	2015	121	175	0.433087	0.364	4.63035	3.00605	0.005	0.215	0.198	511.3935	0.153
Rollers	2015	176	250	0.41293	0.347	4.93191	1.65049	0.005	0.171	0.157	512.8234	0.153
Rollers	2015	251	500	0.441373	0.371	5.03147	3.24549	0.005	0.195	0.179	517.2848	0.154
Rollers	2016	6	15	1.498736	1.259	5.2356	5.23066	0.005	0.459	0.423	563.9722	0.17
Rollers	2016	16	25	1.498736	1.259	5.2356	5.23066	0.005	0.459	0.423	563.9722	0.17
Rollers	2016	26	50	1.498736	1.259	5.2356	5.23066	0.005	0.459	0.423	563.9722	0.17
Rollers	2016	51	120	0.747631	0.628	5.80563	3.75537	0.005	0.428	0.393	508.1987	0.153
Rollers	2016	121	175	0.402004	0.338	4.23872	2.99334	0.005	0.197	0.181	505.9041	0.153
Rollers	2016	176	250	0.366563	0.308	4.39492	1.50673	0.005	0.15	0.138	507.6939	0.153
Rollers	2016	251	500	0.397483	0.334	4.45617	2.95647	0.005	0.173	0.159	513.4154	0.155
Rollers	2017	6	15	1.425352	1.198	5.09771	5.14727	0.005	0.436	0.401	555.0199	0.17
Rollers	2017	16	25	1.425352	1.198	5.09771	5.14727	0.005	0.436	0.401	555.0199	0.17
Rollers	2017	26	50	1.425352	1.198	5.09771	5.14727	0.005	0.436	0.401	555.0199	0.17
Rollers	2017	51	120	0.690109	0.58	5.4114	3.71315	0.005	0.392	0.361	500.1525	0.153
Rollers	2017	121	175	0.373471	0.314	3.87384	2.98069	0.005	0.18	0.166	497.9088	0.153
Rollers	2017	176	250	0.326364	0.274	3.92097	1.40849	0.005	0.129	0.119	499.7021	0.153
Rollers	2017	251	500	0.353236	0.297	3.84047	2.68487	0.005	0.15	0.138	505.8318	0.155
Rollers	2018	6	15	1.26668	1.064	4.8416	4.92335	0.005	0.387	0.356	546.2905	0.17
Rollers	2018	16	25	1.26668	1.064	4.8416	4.92335	0.005	0.387	0.356	546.2905	0.17
Rollers	2018	26	50	1.26668	1.064	4.8416	4.92335	0.005	0.387	0.356	546.2905	0.17
Rollers	2018	51	120	0.572467	0.481	4.65049	3.60981	0.005	0.32	0.294	492.2118	0.153
Rollers	2018	121	175	0.315632	0.265	3.18126	2.94895	0.005	0.147	0.135	490.1805	0.153
Rollers	2018	176	250	0.251419	0.211	2.99492	1.24341	0.005	0.094	0.086	491.6643	0.153
Rollers	2018	251	500	0.291314	0.245	3.09814	2.23145	0.005	0.119	0.11	497.9962	0.155
Rollers	2019	6	15	1.156606	0.972	4.64491	4.77841	0.005	0.349	0.321	537.546	0.17
Rollers	2019	16	25	1.156606	0.972	4.64491	4.77841	0.005	0.349	0.321	537.546	0.17
Rollers	2019	26	50	1.156606	0.972	4.64491	4.77841	0.005	0.349	0.321	537.546	0.17
Rollers	2019	51	120	0.502836	0.423	4.17949	3.55726	0.005	0.275	0.253	484.3362	0.153
Rollers	2019	121	175	0.27475	0.231	2.69941	2.93251	0.005	0.124	0.114	482.4531	0.153
Rollers	2019	176	250	0.250477	0.21	2.88327	1.24854	0.005	0.092	0.084	483.7769	0.153
Rollers	2019	251	500	0.278634	0.234	2.90839	2.10142	0.005	0.111	0.102	489.9774	0.155
Rollers	2020	6	15	1.102095	0.926	4.53426	4.72504	0.005	0.329	0.303	525.8798	0.17
Rollers	2020	16	25	1.102095	0.926	4.53426	4.72504	0.005	0.329	0.303	525.8798	0.17
Rollers	2020	26	50	1.102095	0.926	4.53426	4.72504	0.005	0.329	0.303	525.8798	0.17
Rollers	2020	51	120	0.462004	0.388	3.88153	3.53135	0.005	0.247	0.228	473.8594	0.153
Rollers	2020	121	175	0.256128	0.215	2.45176	2.93333	0.005	0.113	0.104	471.9177	0.153
Rollers	2020	176	250	0.248138	0.209	2.75095	1.25343	0.005	0.089	0.082	473.3669	0.153
Rollers	2020	251	500	0.279691	0.235	2.82823	2.11346	0.005	0.109	0.101	479.3254	0.155



Rollers	2021	6	15	1.008559	0.847	4.35097	4.59681	0.005	0.294	0.27	525.7908	0.17
Rollers	2021	16	25	1.008559	0.847	4.35097	4.59681	0.005	0.294	0.27	525.7908	0.17
Rollers	2021	26	50	1.008559	0.847	4.35097	4.59681	0.005	0.294	0.27	525.7908	0.17
Rollers	2021	51	120	0.42061	0.353	3.5889	3.50719	0.005	0.219	0.202	473.9012	0.153
Rollers	2021	121	175	0.229571	0.193	2.11691	2.9256	0.005	0.097	0.09	471.9799	0.153
Rollers	2021	176	250	0.23384	0.196	2.49332	1.22849	0.005	0.081	0.075	473.4704	0.153
Rollers	2021	251	500	0.26246	0.221	2.58936	1.94995	0.005	0.1	0.092	479.3294	0.155
Rollers	2022	6	15	0.878567	0.738	4.12773	4.40241	0.005	0.25	0.23	525.691	0.17
Rollers	2022	16	25	0.878567	0.738	4.12773	4.40241	0.005	0.25	0.23	525.691	0.17
Rollers	2022	26	50	0.878567	0.738	4.12773	4.40241	0.005	0.25	0.23	525.691	0.17
Rollers	2022	51	120	0.369089	0.31	3.21896	3.46973	0.005	0.186	0.171	473.9291	0.153
Rollers	2022	121	175	0.195547	0.164	1.71408	2.91331	0.005	0.079	0.072	471.9475	0.153
Rollers	2022	176	250	0.221959	0.187	2.2116	1.22821	0.005	0.077	0.071	473.5135	0.153
Rollers	2022	251	500	0.259221	0.218	2.46341	1.95495	0.005	0.097	0.089	478.9817	0.155
Rollers	2023	6	15	0.786211	0.661	3.9211	4.25236	0.005	0.212	0.195	525.8616	0.17
Rollers	2023	16	25	0.786211	0.661	3.9211	4.25236	0.005	0.212	0.195	525.8616	0.17
Rollers	2023	26	50	0.786211	0.661	3.9211	4.25236	0.005	0.212	0.195	525.8616	0.17
Rollers	2023	51	120	0.341189	0.287	3.00302	3.45461	0.005	0.165	0.152	473.9363	0.153
Rollers	2023	121	175	0.1784	0.15	1.4833	2.90949	0.005	0.068	0.062	471.9351	0.153
Rollers	2023	176	250	0.223864	0.188	2.17272	1.23448	0.005	0.076	0.07	473.5164	0.153
Rollers	2023	251	500	0.25159	0.211	2.29003	1.95626	0.005	0.093	0.085	478.3028	0.155
Rollers	2024	6	15	0.738433	0.62	3.82449	4.20667	0.005	0.192	0.177	525.9565	0.17
Rollers	2024	16	25	0.738433	0.62	3.82449	4.20667	0.005	0.192	0.177	525.9565	0.17
Rollers	2024	26	50	0.738433	0.62	3.82449	4.20667	0.005	0.192	0.177	525.9565	0.17
Rollers	2024	51	120	0.323417	0.272	2.843	3.45055	0.005	0.15	0.138	474.0072	0.153
Rollers	2024	121	175	0.168235	0.141	1.32428	2.91426	0.005	0.061	0.056	472.012	0.153
Rollers	2024	176	250	0.213553	0.179	1.97675	1.21417	0.005	0.07	0.064	473.512	0.153
Rollers	2024	251	500	0.24978	0.21	2.21612	1.96121	0.005	0.09	0.083	477.9001	0.155
Rollers	2025	6	15	0.677074	0.569	3.68893	4.12543	0.005	0.167	0.154	526.1406	0.17
Rollers	2025	16	25	0.677074	0.569	3.68893	4.12543	0.005	0.167	0.154	526.1406	0.17
Rollers	2025	26	50	0.677074	0.569	3.68893	4.12543	0.005	0.167	0.154	526.1406	0.17
Rollers	2025	51	120	0.303987	0.255	2.69137	3.44432	0.005	0.135	0.125	473.851	0.153
Rollers	2025	121	175	0.150791	0.127	1.10088	2.90859	0.005	0.049	0.045	471.9696	0.153
Rollers	2025	176	250	0.205768	0.173	1.78252	1.21477	0.005	0.066	0.06	473.6813	0.153
Rollers	2025	251	500	0.251787	0.212	2.19998	1.96754	0.005	0.09	0.083	477.5732	0.154
Rollers	2030	6	15	1.543	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Rollers	2030	16	25	3.377	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Rollers	2030	26	50	5.638	0.587	3.48	4.784	0.007	0.073	0.073	568.299	0.053
Rollers	2030	51	120	6.528	0.299	1.95	3.639	0.006	0.066	0.066	568.299	0.027
Rollers	2030	121	175	8.923	0.223	0.907	3.203	0.006	0.042	0.042	568.299	0.02
Rollers	2030	176	250	11.047	0.195	0.745	1.099	0.006	0.024	0.024	568.299	0.017
Rollers	2030	251	500	15.637	0.193	0.697	1.056	0.005	0.023	0.023	568.299	0.017
Rollers	2035	6	15	1.543	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Rollers	2035	16	25	3.377	0.685	4.332	2.34	0.007	0.161	0.161	568.3	0.061
Rollers	2035	26	50	4.867	0.507	3.28	4.711	0.007	0.038	0.038	568.299	0.045
Rollers	2035	51	120	5.632	0.258	1.65	3.629	0.006	0.035	0.035	568.299	0.023
Rollers	2035	121	175	7.351	0.184	0.523	3.204	0.006	0.023	0.023	568.299	0.016
Rollers	2035	176	250	9.79	0.173	0.465	1.091	0.006	0.016	0.016	568.299	0.015
Rollers	2035	251	500	13.949	0.172	0.442	1.048	0.005	0.016	0.016	568.3	0.015
Rollers	2040	6	15	1.543	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Rollers	2040	16	25	3.377	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Rollers	2040	26	50	4.508	0.469	3.207	4.682	0.007	0.024	0.024	568.299	0.042
Rollers	2040	51	120	5.228	0.24	1.525	3.625	0.006	0.021	0.021	568.299	0.021
Rollers	2040	121	175	6.731	0.168	0.373	3.205	0.006	0.015	0.015	568.299	0.015
Rollers	2040	176	250	9.355	0.165	0.348	1.092	0.006	0.012	0.012	568.299	0.014
Rollers	2040	251	500	13.378	0.165	0.341	1.048	0.005	0.012	0.012	568.299	0.014
Rough Terrain Forklifts	1990	26	50	13.299	5.191	8.098	10.416	0.871	1.348	1.348	568.299	0.468
Rough Terrain Forklifts	1990	51	120	11.91	2.52	15.753	6.008	0.791	1.432	1.432	568.299	0.227
Rough Terrain Forklifts	1990	121	175	19.775	2.092	15.888	5.422	0.758	1.178	1.178	568.299	0.188
Rough Terrain Forklifts	1990	176	250	27.042	2.092	15.888	5.422	0.758	1.178	1.178	568.299	0.188
Rough Terrain Forklifts	1990	251	500	35.607	1.834	14.986	12.637	0.662	0.998	0.998	568.299	0.165
Rough Terrain Forklifts	2000	26	50	11.216	4.378	7.041	9.045	0.066	0.919	0.919	568.3	0.395
Rough Terrain Forklifts	2000	51	120	8.517	1.802	10.225	4.574	0.06	0.881	0.881	568.299	0.162
Rough Terrain Forklifts	2000	121	175	11.484	1.215	9.36	3.676	0.057	0.511	0.511	568.3	0.109
Rough Terrain Forklifts	2000	176	250	13.186	1.02	9.021	2.927	0.057	0.418	0.418	568.299	0.092
Rough Terrain Forklifts	2000	251	500	18.049	0.929	8.59	4.415	0.05	0.37	0.37	568.299	0.083
Rough Terrain Forklifts	2005	26	50	9.835	3.839	6.528	8.285	0.066	0.844	0.844	568.299	0.346
Rough Terrain Forklifts	2005	51	120	7.351	1.555	8.677	4.289	0.06	0.82	0.82	568.299	0.14
Rough Terrain Forklifts	2005	121	175	9.61	1.016	7.941	3.403	0.057	0.447	0.447	568.3	0.091
Rough Terrain Forklifts	2005	176	250	9.418	0.728	7.52	1.995	0.057	0.289	0.289	568.299	0.065
Rough Terrain Forklifts	2005	251	500	12.496	0.643	6.82	2.406	0.05	0.258	0.258	568.299	0.058
Rough Terrain Forklifts	2010	26	50	1.514602	1.273	5.57504	4.9076	0.005	0.495	0.455	583.8316	0.17
Rough Terrain Forklifts	2010	51	120	0.607871	0.511	5.81073	3.47103	0.005	0.386	0.355	525.5318	0.153
Rough Terrain Forklifts	2010	121	175	0.37661	0.316	4.78775	2.9137	0.005	0.212	0.195	524.1127	0.153
Rough Terrain Forklifts	2010	176	250	0.759196	0.638	7.87723	2.86785	0.005	0.351	0.323	527.6921	0.154
Rough Terrain Forklifts	2010	251	500	0.386691	0.325	5.79984	1.82955	0.005	0.168	0.155	518.8116	0.151
Rough Terrain Forklifts	2011	26	50	1.444446	1.214	5.52279	4.83823	0.005	0.48	0.442	582.3751	0.17
Rough Terrain Forklifts	2011	51	120	0.549079	0.461	5.4371	3.4365	0.005	0.352	0.324	524.0504	0.153
Rough Terrain Forklifts	2011	121	175	0.339518	0.285	4.45534	2.87624	0.005	0.193	0.177	522.735	0.153
Rough Terrain Forklifts	2011	176	250	0.686556	0.577	7.1588	2.63351	0.005	0.317	0.292	525.8441	0.153
Rough Terrain Forklifts	2011	251	500	0.390538	0.328	5.81691	1.84589	0.005	0.17	0.156	517.5182	0.151
Rough Terrain Forklifts	2012	26	50	1.441034	1.211	5.49331	4.88018	0.005	0.476	0.438	580.9231	0.17
Rough Terrain Forklifts	2012	51	120	0.530399	0.446	5.29115	3.43501	0.005	0.34	0.312	522.6299	0.153
Rough Terrain Forklifts	2012	121	175	0.336361	0.283	4.38447	2.88643	0.005	0.189	0.174	521.4414	0.153
Rough Terrain Forklifts	2012	176	250	0.693119	0.582	7.11155	2.65596	0.005	0.319	0.293	524.4406	0.153
Rough Terrain Forklifts	2012	251	500	0.394706	0.332	5.83389	1.86253	0.005	0.171	0.157	516.2249	0.151
Rough Terrain Forklifts	2013	26	50	1.427232	1.199	5.34043	4.88715	0.005	0.454	0.417	578.2559	0.17
Rough Terrain Forklifts	2013	51	120	0.469882	0.395	4.92337	3.39906	0.005	0.299	0.275	519.906	0.153
Rough Terrain Forklifts	2013	121	175	0.283862	0.239	3.90677	2.86094	0.005	0.153	0.141	518.7027	0.153

Rough Terrain Forklifts	2013	176	250	0.418518	0.352	4.79966	1.88921	0.005	0.184	0.169	521.6392	0.153
Rough Terrain Forklifts	2013	251	500	0.334838	0.281	4.62017	1.86541	0.005	0.141	0.129	514.2815	0.151
Rough Terrain Forklifts	2014	26	50	1.40671	1.182	5.22634	4.88713	0.005	0.436	0.401	575.3526	0.17
Rough Terrain Forklifts	2014	51	120	0.417386	0.351	4.46728	3.36705	0.005	0.261	0.24	517.2602	0.153
Rough Terrain Forklifts	2014	121	175	0.263476	0.221	3.59442	2.85182	0.005	0.139	0.128	516.0907	0.153
Rough Terrain Forklifts	2014	176	250	0.221616	0.186	2.98369	1.21218	0.005	0.087	0.08	517.7663	0.153
Rough Terrain Forklifts	2014	251	500	0.202465	0.17	3.49973	0.95399	0.005	0.076	0.07	511.6567	0.151
Rough Terrain Forklifts	2015	26	50	1.414803	1.189	5.18984	4.93325	0.005	0.431	0.397	569.4875	0.17
Rough Terrain Forklifts	2015	51	120	0.401892	0.338	4.28003	3.36619	0.005	0.247	0.228	512.0859	0.153
Rough Terrain Forklifts	2015	121	175	0.25808	0.217	3.42042	2.85917	0.005	0.133	0.122	510.8541	0.153
Rough Terrain Forklifts	2015	176	250	0.166466	0.14	2.4626	1.01164	0.005	0.058	0.054	512.1638	0.153
Rough Terrain Forklifts	2015	251	500	0.207111	0.174	3.52067	0.95822	0.005	0.077	0.071	506.4349	0.151
Rough Terrain Forklifts	2016	26	50	1.378654	1.158	5.09924	4.91773	0.005	0.415	0.382	563.3598	0.17
Rough Terrain Forklifts	2016	51	120	0.358928	0.302	3.84005	3.34169	0.005	0.213	0.196	507.0659	0.153
Rough Terrain Forklifts	2016	121	175	0.248476	0.209	3.2087	2.865	0.005	0.124	0.114	505.596	0.153
Rough Terrain Forklifts	2016	176	250	0.171278	0.144	2.46843	1.0177	0.005	0.059	0.054	506.8956	0.153
Rough Terrain Forklifts	2016	251	500	0.211667	0.178	3.54169	0.96236	0.005	0.078	0.072	501.2134	0.151
Rough Terrain Forklifts	2017	26	50	1.318488	1.108	4.90253	4.83344	0.005	0.382	0.352	554.6234	0.17
Rough Terrain Forklifts	2017	51	120	0.322506	0.271	3.41759	3.31778	0.005	0.182	0.167	499.1682	0.153
Rough Terrain Forklifts	2017	121	175	0.231401	0.194	2.90167	2.86636	0.005	0.112	0.103	497.7766	0.153
Rough Terrain Forklifts	2017	176	250	0.175965	0.148	2.47389	1.02362	0.005	0.059	0.054	499.0007	0.153
Rough Terrain Forklifts	2017	251	500	0.216551	0.182	3.56771	0.96636	0.005	0.079	0.073	493.3362	0.151
Rough Terrain Forklifts	2018	26	50	1.273116	1.07	4.73469	4.76839	0.005	0.359	0.33	545.8693	0.17
Rough Terrain Forklifts	2018	51	120	0.264415	0.222	2.84496	3.26976	0.005	0.136	0.125	491.2107	0.153
Rough Terrain Forklifts	2018	121	175	0.194786	0.164	2.34168	2.84245	0.005	0.088	0.081	489.9869	0.153
Rough Terrain Forklifts	2018	176	250	0.181003	0.152	2.48748	1.02948	0.005	0.06	0.055	491.0997	0.153
Rough Terrain Forklifts	2018	251	500	0.172771	0.145	2.70063	0.95802	0.005	0.06	0.055	485.9543	0.151
Rough Terrain Forklifts	2019	26	50	1.200779	1.009	4.55745	4.67405	0.005	0.328	0.301	537.3287	0.17
Rough Terrain Forklifts	2019	51	120	0.240277	0.202	2.6222	3.25848	0.005	0.117	0.107	483.3105	0.153
Rough Terrain Forklifts	2019	121	175	0.177689	0.149	2.05752	2.84092	0.005	0.075	0.069	482.1188	0.153
Rough Terrain Forklifts	2019	176	250	0.130153	0.109	1.63905	0.97423	0.005	0.036	0.033	483.0882	0.153
Rough Terrain Forklifts	2019	251	500	0.138302	0.116	1.96109	0.95034	0.005	0.043	0.039	477.2539	0.151
Rough Terrain Forklifts	2020	26	50	1.188595	0.999	4.4946	4.68594	0.005	0.316	0.291	525.6222	0.17
Rough Terrain Forklifts	2020	51	120	0.225188	0.189	2.45218	3.25575	0.005	0.103	0.094	472.9842	0.153
Rough Terrain Forklifts	2020	121	175	0.170092	0.143	1.86888	2.84466	0.005	0.068	0.063	471.7152	0.153
Rough Terrain Forklifts	2020	176	250	0.132727	0.112	1.60906	0.97848	0.005	0.037	0.034	472.5671	0.153
Rough Terrain Forklifts	2020	251	500	0.105484	0.089	1.30199	0.94184	0.005	0.028	0.026	465.7709	0.151
Rough Terrain Forklifts	2021	26	50	1.152538	0.968	4.41145	4.65658	0.005	0.304	0.279	525.3844	0.17
Rough Terrain Forklifts	2021	51	120	0.207836	0.175	2.28534	3.25191	0.005	0.089	0.081	473.11	0.153
Rough Terrain Forklifts	2021	121	175	0.154972	0.13	1.61661	2.8447	0.005	0.06	0.055	471.7575	0.153
Rough Terrain Forklifts	2021	176	250	0.136824	0.115	1.61186	0.98379	0.005	0.037	0.034	472.5469	0.153
Rough Terrain Forklifts	2021	251	500	0.109168	0.092	1.30199	0.94604	0.005	0.028	0.026	465.7442	0.151
Rough Terrain Forklifts	2022	26	50	0.93878	0.789	4.04131	4.3038	0.005	0.238	0.219	525.0151	0.17
Rough Terrain Forklifts	2022	51	120	0.18871	0.159	2.0983	3.24374	0.005	0.073	0.067	473.089	0.153
Rough Terrain Forklifts	2022	121	175	0.142314	0.12	1.40475	2.84439	0.005	0.051	0.047	471.6773	0.153
Rough Terrain Forklifts	2022	176	250	0.140994	0.118	1.61688	0.98924	0.005	0.037	0.034	472.5408	0.153
Rough Terrain Forklifts	2022	251	500	0.081218	0.068	0.55798	0.93709	0.005	0.009	0.008	466.5598	0.151
Rough Terrain Forklifts	2023	26	50	0.82158	0.69	3.85338	4.12519	0.005	0.204	0.187	524.8024	0.17
Rough Terrain Forklifts	2023	51	120	0.178416	0.15	1.9836	3.24217	0.005	0.064	0.059	473.1584	0.153
Rough Terrain Forklifts	2023	121	175	0.132417	0.111	1.21796	2.84289	0.005	0.043	0.04	471.6217	0.153
Rough Terrain Forklifts	2023	176	250	0.137509	0.116	1.47399	0.98987	0.005	0.034	0.032	472.7784	0.153
Rough Terrain Forklifts	2023	251	500	0.082146	0.069	0.55845	0.93788	0.005	0.009	0.008	466.554	0.151
Rough Terrain Forklifts	2024	26	50	0.678189	0.57	3.65343	3.91822	0.005	0.166	0.152	524.9235	0.17
Rough Terrain Forklifts	2024	51	120	0.172725	0.145	1.91392	3.24468	0.005	0.058	0.054	473.0631	0.153
Rough Terrain Forklifts	2024	121	175	0.122467	0.103	1.04413	2.83416	0.005	0.039	0.035	471.5346	0.153
Rough Terrain Forklifts	2024	176	250	0.141528	0.119	1.48012	0.99524	0.005	0.035	0.032	472.8527	0.153
Rough Terrain Forklifts	2024	251	500	0.078846	0.066	0.47582	0.93746	0.005	0.009	0.008	466.5479	0.151
Rough Terrain Forklifts	2025	26	50	0.542352	0.456	3.47668	3.74002	0.005	0.128	0.118	525.027	0.17
Rough Terrain Forklifts	2025	51	120	0.16354	0.137	1.82053	3.23971	0.005	0.051	0.047	473.0366	0.153
Rough Terrain Forklifts	2025	121	175	0.103861	0.087	0.78628	2.82091	0.005	0.03	0.028	471.4745	0.152
Rough Terrain Forklifts	2025	176	250	0.145736	0.122	1.48888	1.00073	0.005	0.035	0.033	472.9267	0.153
Rough Terrain Forklifts	2025	251	500	0.081817	0.069	0.47663	0.94151	0.005	0.009	0.008	466.5414	0.151
Rough Terrain Forklifts	2030	26	50	1.404	0.548	3.359	5.031	0.007	0.039	0.039	568.299	0.049
Rough Terrain Forklifts	2030	51	120	1.321	0.279	1.671	3.725	0.006	0.034	0.034	568.299	0.025
Rough Terrain Forklifts	2030	121	175	1.898	0.2	0.537	3.291	0.006	0.023	0.023	568.299	0.018
Rough Terrain Forklifts	2030	176	250	2.47	0.191	0.463	1.121	0.006	0.016	0.016	568.299	0.017
Rough Terrain Forklifts	2030	251	500	3.702	0.19	0.443	1.07	0.005	0.016	0.016	568.3	0.017
Rough Terrain Forklifts	2035	26	50	1.335	0.521	3.267	5.011	0.007	0.022	0.022	568.299	0.047
Rough Terrain Forklifts	2035	51	120	1.24	0.262	1.53	3.722	0.006	0.02	0.02	568.299	0.023
Rough Terrain Forklifts	2035	121	175	1.742	0.184	0.364	3.292	0.006	0.015	0.015	568.299	0.016
Rough Terrain Forklifts	2035	176	250	2.346	0.181	0.334	1.121	0.006	0.012	0.012	568.299	0.016
Rough Terrain Forklifts	2035	251	500	3.524	0.181	0.331	1.071	0.005	0.012	0.012	568.3	0.016
Rough Terrain Forklifts	2040	26	50	1.331	0.519	3.228	5.01	0.007	0.017	0.017	568.3	0.046
Rough Terrain Forklifts	2040	51	120	1.222	0.258	1.485	3.722	0.006	0.016	0.016	568.299	0.023
Rough Terrain Forklifts	2040	121	175	1.687	0.178	0.303	3.292	0.006	0.012	0.012	568.3	0.016
Rough Terrain Forklifts	2040	176	250	2.296	0.177	0.292	1.121	0.006	0.011	0.011	568.299	0.016
Rough Terrain Forklifts	2040	251	500	3.449	0.177	0.292	1.071	0.005	0.011	0.011	568.299	0.016
Rubber Tired Dozers	1990	121	175	6.172	1.886	14.831	5.29	0.758	1.059	1.059	568.299	0.17
Rubber Tired Dozers	1990	176	250	8.746	1.886	14.831	5.29	0.758	1.059	1.059	568.299	0.17
Rubber Tired Dozers	1990	251	500	11.084	1.655	13.986	12.26	0.662	0.899	0.899	568.299	0.149
Rubber Tired Dozers	1990	501	750	16.688	1.655	13.986	12.26	1.018	0.915	0.915	568.3	0.149
Rubber Tired Dozers	1990	751	1000	24.619	1.645	13.986	12.26	1.018	0.903	0.903	568.299	0.148
Rubber Tired Dozers	2000	121	175	4.761	1.454	10.881	4.295	0.057	0.624	0.624	568.299	0.131
Rubber Tired Dozers	2000	176	250	6.043	1.303	10.625	3.733	0.057	0.548	0.548	568.299	0.117
Rubber Tired Dozers	2000	251	500	7.775	1.161	10.023	6.982	0.05	0.474	0.474	568.299	0.104
Rubber Tired Dozers	2000	501	750	11.706	1.161	10.023	6.982	0.052	0.474	0.474	568.3	0.104
Rubber Tired Dozers	2000	751	1000	17.842	1.192	10.456	7.415	0.052	0.451	0.451	568.3	0.107
Rubber Tired Dozers	2005	121	175	4.21	1.286	9.666	4.026	0.057	0.567	0.567	568.299	0.116
Rubber Tired Dozers	2005	176	250	4.912	1.059	9.344	2.99	0.057	0.437	0.437	568.299	0.095

Rubber Tired Dozers	2005	251	500	6.277	0.937	8.574	5.159	0.05	0.38	0.38	568.299	0.084
Rubber Tired Dozers	2005	501	750	9.496	0.942	8.694	5.15	0.052	0.382	0.382	568.299	0.085
Rubber Tired Dozers	2005	751	1000	14.937	0.998	9.444	5.524	0.052	0.369	0.369	568.299	0.09
Rubber Tired Dozers	2010	121	175	1.12265	0.943	9.78349	4.17063	0.005	0.555	0.511	526.3128	0.153
Rubber Tired Dozers	2010	176	250	0.840919	0.707	8.22344	2.68761	0.005	0.394	0.362	527.9126	0.154
Rubber Tired Dozers	2010	251	500	0.88356	0.742	8.70703	6.7191	0.005	0.406	0.374	533.1476	0.155
Rubber Tired Dozers	2010	501	750	0.619996	0.521	7.42352	3.1214	0.005	0.269	0.248	525.7054	0.153
Rubber Tired Dozers	2010	751	1000	12.178	0.814	8.149	4.027	0.005	0.29	0.29	568.299	0.073
Rubber Tired Dozers	2011	121	175	1.128595	0.948	9.7992	4.18594	0.005	0.557	0.513	524.9639	0.153
Rubber Tired Dozers	2011	176	250	0.852039	0.716	8.24976	2.69892	0.005	0.396	0.364	526.5967	0.154
Rubber Tired Dozers	2011	251	500	0.878525	0.738	8.60406	6.65601	0.005	0.402	0.37	532.0871	0.155
Rubber Tired Dozers	2011	501	750	0.62921	0.529	7.4622	3.13084	0.005	0.272	0.25	524.3841	0.153
Rubber Tired Dozers	2011	751	1000	11.693	0.781	7.805	3.772	0.005	0.276	0.276	568.299	0.07
Rubber Tired Dozers	2012	121	175	1.133798	0.953	9.81194	4.1998	0.005	0.559	0.515	523.6318	0.153
Rubber Tired Dozers	2012	176	250	0.862577	0.725	8.27234	2.70943	0.005	0.398	0.366	525.281	0.154
Rubber Tired Dozers	2012	251	500	0.883165	0.742	8.58436	6.62489	0.005	0.401	0.369	530.6589	0.155
Rubber Tired Dozers	2012	501	750	0.635938	0.534	7.48052	3.13648	0.005	0.274	0.252	523.0626	0.153
Rubber Tired Dozers	2012	751	1000	11.228	0.75	7.474	3.531	0.005	0.262	0.262	568.299	0.067
Rubber Tired Dozers	2013	121	175	1.138698	0.957	9.82334	4.21297	0.005	0.561	0.516	520.9836	0.153
Rubber Tired Dozers	2013	176	250	0.859983	0.723	8.10695	2.71092	0.005	0.395	0.363	522.6456	0.154
Rubber Tired Dozers	2013	251	500	0.864011	0.726	8.33658	6.42295	0.005	0.39	0.359	527.9093	0.155
Rubber Tired Dozers	2013	501	750	0.641687	0.539	7.49129	3.14069	0.005	0.275	0.253	520.4266	0.153
Rubber Tired Dozers	2013	751	1000	10.78	0.72	7.155	3.306	0.005	0.249	0.249	568.299	0.065
Rubber Tired Dozers	2014	121	175	1.143391	0.961	9.83401	4.22564	0.005	0.563	0.518	518.335	0.153
Rubber Tired Dozers	2014	176	250	0.858402	0.721	7.97218	2.71199	0.005	0.392	0.361	520.0105	0.154
Rubber Tired Dozers	2014	251	500	0.841688	0.707	8.05819	6.16471	0.005	0.376	0.346	524.6758	0.155
Rubber Tired Dozers	2014	501	750	0.610646	0.513	7.14705	2.75605	0.005	0.258	0.237	517.7903	0.153
Rubber Tired Dozers	2014	751	1000	10.347	0.691	6.849	3.096	0.005	0.236	0.236	568.3	0.062
Rubber Tired Dozers	2015	121	175	1.147937	0.965	9.84425	4.23794	0.005	0.564	0.519	513.0549	0.153
Rubber Tired Dozers	2015	176	250	0.866859	0.728	7.9837	2.7204	0.005	0.394	0.362	514.7359	0.154
Rubber Tired Dozers	2015	251	500	0.842228	0.708	7.99736	6.10151	0.005	0.373	0.343	519.1472	0.155
Rubber Tired Dozers	2015	501	750	0.616719	0.518	7.15777	2.76062	0.005	0.259	0.238	512.5253	0.153
Rubber Tired Dozers	2015	751	1000	9.895	0.661	6.556	2.901	0.005	0.222	0.222	568.299	0.059
Rubber Tired Dozers	2016	121	175	1.152013	0.968	9.85328	4.24901	0.005	0.566	0.52	507.7744	0.153
Rubber Tired Dozers	2016	176	250	0.875531	0.736	7.99508	2.72943	0.005	0.395	0.364	509.4615	0.154
Rubber Tired Dozers	2016	251	500	0.819146	0.688	7.71034	5.82829	0.005	0.359	0.33	513.3109	0.155
Rubber Tired Dozers	2016	501	750	0.622662	0.523	7.16821	2.7651	0.005	0.26	0.239	507.2601	0.153
Rubber Tired Dozers	2016	751	1000	9.45	0.631	6.277	2.723	0.005	0.208	0.208	568.3	0.057
Rubber Tired Dozers	2017	121	175	1.074198	0.903	9.12915	4.14895	0.005	0.525	0.483	499.4096	0.153
Rubber Tired Dozers	2017	176	250	0.840865	0.707	7.67081	2.65514	0.005	0.375	0.345	501.5475	0.154
Rubber Tired Dozers	2017	251	500	0.787455	0.662	7.33345	5.52569	0.005	0.341	0.313	505.8493	0.155
Rubber Tired Dozers	2017	501	750	0.625767	0.526	7.17226	2.76746	0.005	0.26	0.239	499.3665	0.153
Rubber Tired Dozers	2017	751	1000	9.018	0.602	6.013	2.56	0.005	0.195	0.195	568.299	0.054
Rubber Tired Dozers	2018	121	175	0.954751	0.802	8.02079	3.98965	0.005	0.46	0.424	491.4921	0.153
Rubber Tired Dozers	2018	176	250	0.796398	0.669	7.20787	2.51156	0.005	0.35	0.322	493.6337	0.154
Rubber Tired Dozers	2018	251	500	0.711175	0.598	6.50184	4.98205	0.005	0.3	0.276	498.1862	0.155
Rubber Tired Dozers	2018	501	750	0.602699	0.506	6.72652	2.75902	0.005	0.248	0.228	491.4726	0.153
Rubber Tired Dozers	2018	751	1000	8.6	0.574	5.764	2.413	0.005	0.183	0.183	568.299	0.051
Rubber Tired Dozers	2019	121	175	0.90312	0.759	7.52037	3.94854	0.005	0.433	0.398	483.5585	0.153
Rubber Tired Dozers	2019	176	250	0.774882	0.651	6.92923	2.45855	0.005	0.338	0.311	485.172	0.154
Rubber Tired Dozers	2019	251	500	0.680848	0.572	6.14335	4.74309	0.005	0.283	0.26	490.383	0.155
Rubber Tired Dozers	2019	501	750	0.541107	0.455	6.12249	2.59814	0.005	0.218	0.201	483.5786	0.153
Rubber Tired Dozers	2019	751	1000	8.196	0.547	5.528	2.281	0.005	0.171	0.171	568.299	0.049
Rubber Tired Dozers	2020	121	175	0.864425	0.726	7.18525	3.89288	0.005	0.411	0.378	473.0116	0.153
Rubber Tired Dozers	2020	176	250	0.737248	0.619	6.50332	2.37104	0.005	0.318	0.293	474.7928	0.154
Rubber Tired Dozers	2020	251	500	0.636621	0.535	5.64089	4.41134	0.005	0.259	0.238	479.7569	0.155
Rubber Tired Dozers	2020	501	750	0.543245	0.456	6.12255	2.60108	0.005	0.218	0.201	473.0562	0.153
Rubber Tired Dozers	2020	751	1000	7.811	0.522	5.306	2.164	0.005	0.16	0.16	568.299	0.047
Rubber Tired Dozers	2021	121	175	0.822557	0.691	6.79037	3.84814	0.005	0.386	0.355	472.9751	0.153
Rubber Tired Dozers	2021	176	250	0.714624	0.6	6.29617	2.31719	0.005	0.306	0.281	474.7984	0.154
Rubber Tired Dozers	2021	251	500	0.585817	0.492	5.081	4.04107	0.005	0.232	0.214	478.9868	0.155
Rubber Tired Dozers	2021	501	750	0.545338	0.458	6.12254	2.60396	0.005	0.218	0.201	473.0459	0.153
Rubber Tired Dozers	2021	751	1000	7.448	0.497	5.095	2.057	0.005	0.15	0.15	568.299	0.044
Rubber Tired Dozers	2022	121	175	0.714312	0.6	5.80781	3.75194	0.005	0.326	0.3	473.9122	0.153
Rubber Tired Dozers	2022	176	250	0.571708	0.48	5.04648	2.05563	0.005	0.24	0.22	474.6166	0.154
Rubber Tired Dozers	2022	251	500	0.565033	0.475	4.80775	3.89489	0.005	0.22	0.202	479.3107	0.155
Rubber Tired Dozers	2022	501	750	0.547387	0.46	6.12245	2.60677	0.005	0.218	0.201	473.035	0.153
Rubber Tired Dozers	2022	751	1000	7.106	0.475	4.896	1.961	0.005	0.14	0.14	568.299	0.042
Rubber Tired Dozers	2023	121	175	0.700073	0.588	5.65638	3.7664	0.005	0.316	0.291	473.9009	0.153
Rubber Tired Dozers	2023	176	250	0.467601	0.393	4.09011	1.78266	0.005	0.184	0.169	474.5967	0.153
Rubber Tired Dozers	2023	251	500	0.531484	0.447	4.40835	3.68617	0.005	0.202	0.185	479.4678	0.155
Rubber Tired Dozers	2023	501	750	0.502999	0.423	5.33389	2.59131	0.005	0.196	0.18	473.0234	0.153
Rubber Tired Dozers	2023	751	1000	6.786	0.453	4.709	1.874	0.005	0.131	0.131	568.299	0.04
Rubber Tired Dozers	2024	121	175	0.633623	0.532	5.0144	3.69636	0.005	0.279	0.257	473.5147	0.153
Rubber Tired Dozers	2024	176	250	0.474702	0.399	4.0904	1.79685	0.005	0.184	0.17	474.5854	0.153
Rubber Tired Dozers	2024	251	500	0.495724	0.417	4.03046	3.45746	0.005	0.182	0.168	479.3938	0.155
Rubber Tired Dozers	2024	501	750	0.506146	0.425	5.33372	2.59604	0.005	0.196	0.18	473.0111	0.153
Rubber Tired Dozers	2024	751	1000	6.485	0.433	4.532	1.796	0.005	0.123	0.123	568.299	0.039
Rubber Tired Dozers	2025	121	175	0.548636	0.461	4.22886	3.61238	0.005	0.23	0.212	474.1029	0.153
Rubber Tired Dozers	2025	176	250	0.442605	0.372	3.80547	1.72032	0.005	0.167	0.153	474.5734	0.153
Rubber Tired Dozers	2025	251	500	0.436562	0.367	3.36957	2.95895	0.005	0.151	0.139	479.0915	0.155
Rubber Tired Dozers	2025	501	750	0.509225	0.428	5.33346	2.60066	0.005	0.196	0.18	472.9981	0.153
Rubber Tired Dozers	2025	751	1000	6.203	0.414	4.365	1.725	0.005	0.115	0.115	568.299	0.037
Rubber Tired Dozers	2030	121	175	1.303	0.398	2.034	3.496	0.006	0.111	0.111	568.299	0.035
Rubber Tired Dozers	2030	176	250	1.556	0.335	1.828	1.322	0.006	0.069	0.069	568.299	0.03
Rubber Tired Dozers	2030	251	500	2.16	0.322	1.658	1.401	0.005	0.064	0.064	568.299	0.029
Rubber Tired Dozers	2030	501	750	3.261	0.323	1.694	1.401	0.005	0.064	0.064	568.299	0.029
Rubber Tired Dozers	2030	751	1000	5.063	0.338	3.676	1.465	0.005	0.082	0.082	568.299	0.03
Rubber Tired Dozers	2035	121	175	1.054	0.322	1.345	3.481	0.006	0.071	0.071	568.299	0.029

Rubber Tired Dozers	2035	176	250	1.326	0.286	1.203	1.262	0.006	0.046	0.046	568.299	0.025
Rubber Tired Dozers	2035	251	500	1.868	0.279	1.107	1.279	0.005	0.043	0.043	568.3	0.025
Rubber Tired Dozers	2035	501	750	2.816	0.279	1.126	1.279	0.005	0.043	0.043	568.299	0.025
Rubber Tired Dozers	2035	751	1000	4.306	0.287	3.204	1.312	0.005	0.06	0.06	568.299	0.025
Rubber Tired Dozers	2040	121	175	0.9	0.275	0.903	3.47	0.006	0.045	0.045	568.299	0.024
Rubber Tired Dozers	2040	176	250	1.176	0.253	0.81	1.225	0.006	0.031	0.031	568.299	0.022
Rubber Tired Dozers	2040	251	500	1.672	0.249	0.758	1.198	0.005	0.029	0.029	568.299	0.022
Rubber Tired Dozers	2040	501	750	2.519	0.25	0.767	1.198	0.005	0.029	0.029	568.3	0.022
Rubber Tired Dozers	2040	751	1000	3.814	0.254	2.91	1.218	0.005	0.045	0.045	568.3	0.023
Rubber Tired Loaders	1990	16	25	5.92	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Rubber Tired Loaders	1990	26	50	23.869	4.848	7.964	9.805	0.871	1.279	1.279	568.299	0.437
Rubber Tired Loaders	1990	51	120	22.055	2.368	14.978	5.728	0.791	1.345	1.345	568.299	0.213
Rubber Tired Loaders	1990	121	175	30.1	1.791	14.294	5.094	0.758	0.995	0.995	568.299	0.161
Rubber Tired Loaders	1990	176	250	42.179	1.791	14.294	5.094	0.758	0.995	0.995	568.3	0.161
Rubber Tired Loaders	1990	251	500	59.295	1.583	13.545	11.282	0.662	0.851	0.851	568.3	0.142
Rubber Tired Loaders	1990	501	750	121.471	1.583	13.545	11.282	1.018	0.867	0.867	568.299	0.142
Rubber Tired Loaders	1990	751	1000	147.851	1.575	13.545	11.282	1.018	0.858	0.858	568.299	0.142
Rubber Tired Loaders	2000	16	25	5.105	1.908	6.326	4.438	0.065	0.555	0.555	568.299	0.172
Rubber Tired Loaders	2000	26	50	21.853	4.439	7.065	9.15	0.066	0.928	0.928	568.299	0.4
Rubber Tired Loaders	2000	51	120	17.155	1.842	10.433	4.652	0.06	0.896	0.896	568.299	0.166
Rubber Tired Loaders	2000	121	175	20.951	1.246	9.552	3.765	0.057	0.526	0.526	568.299	0.112
Rubber Tired Loaders	2000	176	250	24.776	1.052	9.216	3.019	0.057	0.433	0.433	568.299	0.094
Rubber Tired Loaders	2000	251	500	35.779	0.955	8.766	4.797	0.05	0.381	0.381	568.299	0.086
Rubber Tired Loaders	2000	501	750	73.296	0.955	8.766	4.797	0.052	0.381	0.381	568.299	0.086
Rubber Tired Loaders	2000	751	1000	95.549	1.018	9.342	5.369	0.052	0.372	0.372	568.299	0.091
Rubber Tired Loaders	2005	16	25	2.273	0.849	5.321	2.519	0.065	0.333	0.333	568.299	0.076
Rubber Tired Loaders	2005	26	50	19.43	3.947	6.59	8.471	0.066	0.86	0.86	568.299	0.356
Rubber Tired Loaders	2005	51	120	14.973	1.608	8.954	4.379	0.06	0.841	0.841	568.3	0.145
Rubber Tired Loaders	2005	121	175	17.677	1.052	8.183	3.496	0.057	0.464	0.464	568.299	0.094
Rubber Tired Loaders	2005	176	250	18.23	0.774	7.781	2.143	0.057	0.31	0.31	568.3	0.069
Rubber Tired Loaders	2005	251	500	25.602	0.683	7.066	2.836	0.05	0.275	0.275	568.3	0.061
Rubber Tired Loaders	2005	501	750	53.332	0.695	7.236	2.831	0.052	0.278	0.278	568.299	0.062
Rubber Tired Loaders	2005	751	1000	74.257	0.791	8.232	3.279	0.052	0.275	0.275	568.299	0.071
Rubber Tired Loaders	2010	16	25	2.807425	2.359	6.29919	7.88269	0.005	0.734	0.675	581.9969	0.169
Rubber Tired Loaders	2010	26	50	2.807425	2.359	6.29919	7.88269	0.005	0.734	0.675	581.9969	0.169
Rubber Tired Loaders	2010	51	120	1.132276	0.951	7.85298	4.28386	0.005	0.68	0.626	519.5038	0.151
Rubber Tired Loaders	2010	121	175	0.772004	0.649	7.01127	3.56499	0.005	0.387	0.356	523.9006	0.152
Rubber Tired Loaders	2010	176	250	0.475737	0.4	5.94632	1.50852	0.005	0.199	0.183	522.3501	0.152
Rubber Tired Loaders	2010	251	500	0.495122	0.416	5.66307	2.61599	0.005	0.211	0.194	521.885	0.152
Rubber Tired Loaders	2010	501	750	0.454547	0.382	5.06362	2.10254	0.005	0.197	0.181	507.2864	0.148
Rubber Tired Loaders	2010	751	1000	0.464861	0.391	6.63966	1.45926	0.005	0.187	0.172	523.2526	0.152
Rubber Tired Loaders	2011	16	25	2.679774	2.252	6.24779	7.77095	0.005	0.711	0.654	581.4262	0.17
Rubber Tired Loaders	2011	26	50	2.679774	2.252	6.24779	7.77095	0.005	0.711	0.654	581.4262	0.17
Rubber Tired Loaders	2011	51	120	1.113092	0.935	7.68957	4.28739	0.005	0.671	0.618	517.9363	0.151
Rubber Tired Loaders	2011	121	175	0.757164	0.636	6.81375	3.57219	0.005	0.378	0.348	522.5315	0.152
Rubber Tired Loaders	2011	176	250	0.481296	0.404	5.87694	1.50155	0.005	0.197	0.181	520.9732	0.152
Rubber Tired Loaders	2011	251	500	0.501144	0.421	5.5868	2.56846	0.005	0.209	0.192	520.154	0.152
Rubber Tired Loaders	2011	501	750	0.472712	0.397	5.09397	2.12943	0.005	0.2	0.184	505.881	0.148
Rubber Tired Loaders	2011	751	1000	0.476526	0.4	6.69396	1.47057	0.005	0.191	0.176	521.9232	0.152
Rubber Tired Loaders	2012	16	25	2.730745	2.295	6.30427	7.96233	0.005	0.724	0.666	579.9785	0.17
Rubber Tired Loaders	2012	26	50	2.730745	2.295	6.30427	7.96233	0.005	0.724	0.666	579.9785	0.17
Rubber Tired Loaders	2012	51	120	1.113822	0.936	7.65616	4.31845	0.005	0.671	0.617	516.6239	0.151
Rubber Tired Loaders	2012	121	175	0.765409	0.643	6.79567	3.60616	0.005	0.38	0.349	521.0995	0.152
Rubber Tired Loaders	2012	176	250	0.492248	0.414	5.85805	1.51119	0.005	0.198	0.182	519.646	0.152
Rubber Tired Loaders	2012	251	500	0.515336	0.433	5.58714	2.59983	0.005	0.211	0.194	518.7236	0.152
Rubber Tired Loaders	2012	501	750	0.485752	0.408	5.07921	2.14848	0.005	0.201	0.185	504.6824	0.148
Rubber Tired Loaders	2012	751	1000	0.48616	0.409	6.73245	1.47877	0.005	0.194	0.178	520.592	0.152
Rubber Tired Loaders	2013	16	25	2.60616	2.19	6.18494	7.83573	0.005	0.695	0.64	577.0156	0.17
Rubber Tired Loaders	2013	26	50	2.60616	2.19	6.18494	7.83573	0.005	0.695	0.64	577.0156	0.17
Rubber Tired Loaders	2013	51	120	1.087575	0.914	7.47698	4.31523	0.005	0.654	0.602	513.9368	0.151
Rubber Tired Loaders	2013	121	175	0.750707	0.631	6.6063	3.60722	0.005	0.369	0.339	518.3787	0.152
Rubber Tired Loaders	2013	176	250	0.496511	0.417	5.75293	1.5142	0.005	0.196	0.181	516.9736	0.152
Rubber Tired Loaders	2013	251	500	0.517428	0.435	5.4738	2.55447	0.005	0.208	0.191	515.9429	0.152
Rubber Tired Loaders	2013	501	750	0.49047	0.412	4.99146	2.0823	0.005	0.199	0.183	502.8589	0.148
Rubber Tired Loaders	2013	751	1000	0.484243	0.407	6.66719	1.45163	0.005	0.193	0.178	517.9506	0.152
Rubber Tired Loaders	2014	16	25	2.51646	2.115	6.10324	7.7699	0.005	0.676	0.622	573.5218	0.169
Rubber Tired Loaders	2014	26	50	2.51646	2.115	6.10324	7.7699	0.005	0.676	0.622	573.5218	0.169
Rubber Tired Loaders	2014	51	120	1.032758	0.868	7.12932	4.26762	0.005	0.619	0.569	510.0099	0.151
Rubber Tired Loaders	2014	121	175	0.720145	0.605	6.27196	3.58536	0.005	0.35	0.322	515.7685	0.152
Rubber Tired Loaders	2014	176	250	0.483874	0.407	5.49539	1.48551	0.005	0.187	0.172	514.2167	0.152
Rubber Tired Loaders	2014	251	500	0.501158	0.421	5.19438	2.40656	0.005	0.196	0.18	512.5095	0.151
Rubber Tired Loaders	2014	501	750	0.483251	0.406	4.81047	1.94616	0.005	0.19	0.175	499.6952	0.148
Rubber Tired Loaders	2014	751	1000	0.492279	0.414	6.69249	1.45724	0.005	0.195	0.179	515.307	0.152
Rubber Tired Loaders	2015	16	25	2.508512	2.108	6.11232	7.83443	0.005	0.675	0.621	567.672	0.169
Rubber Tired Loaders	2015	26	50	2.508512	2.108	6.11232	7.83443	0.005	0.675	0.621	567.672	0.169
Rubber Tired Loaders	2015	51	120	1.018295	0.856	7.01153	4.27362	0.005	0.606	0.558	505.0231	0.151
Rubber Tired Loaders	2015	121	175	0.708161	0.595	6.09735	3.58815	0.005	0.341	0.313	510.4677	0.152
Rubber Tired Loaders	2015	176	250	0.482642	0.406	5.36927	1.47986	0.005	0.183	0.169	508.9127	0.152
Rubber Tired Loaders	2015	251	500	0.494223	0.415	5.0195	2.33208	0.005	0.19	0.174	506.3723	0.151
Rubber Tired Loaders	2015	501	750	0.469822	0.395	4.55578	1.78908	0.005	0.179	0.165	495.31	0.148
Rubber Tired Loaders	2015	751	1000	0.499538	0.42	6.71262	1.46167	0.005	0.197	0.181	510.0449	0.152
Rubber Tired Loaders	2016	16	25	2.445921	2.055	6.05258	7.79111	0.005	0.66	0.607	561.9032	0.169
Rubber Tired Loaders	2016	26	50	2.445921	2.055	6.05258	7.79111	0.005	0.66	0.607	561.9032	0.169
Rubber Tired Loaders	2016	51	120	0.955142	0.803	6.58334	4.21236	0.005	0.565	0.52	499.5935	0.151
Rubber Tired Loaders	2016	121	175	0.67267	0.565	5.72558	3.56236	0.005	0.319	0.294	505.1308	0.152
Rubber Tired Loaders	2016	176	250	0.468005	0.393	5.1151	1.45212	0.005	0.174	0.16	503.6542	0.152
Rubber Tired Loaders	2016	251	500	0.465473	0.391	4.62743	2.15506	0.005	0.174	0.16	500.4314	0.151
Rubber Tired Loaders	2016	501	750	0.443728	0.373	4.17165	1.70263	0.005	0.164	0.151	491.9183	0.148
Rubber Tired Loaders	2016	751	1000	0.505153	0.424	6.72411	1.46404	0.005	0.198	0.182	504.7801	0.152

Rubber Tired Loaders	2017	16	25	2.32856	1.957	5.95377	7.65953	0.005	0.633	0.582	553.5831	0.17
Rubber Tired Loaders	2017	26	50	2.32856	1.957	5.95377	7.65953	0.005	0.633	0.582	553.5831	0.17
Rubber Tired Loaders	2017	51	120	0.900842	0.757	6.23569	4.17083	0.005	0.53	0.487	491.8531	0.151
Rubber Tired Loaders	2017	121	175	0.620654	0.522	5.19525	3.5175	0.005	0.289	0.266	497.3533	0.152
Rubber Tired Loaders	2017	176	250	0.443532	0.373	4.75473	1.4172	0.005	0.162	0.149	495.9499	0.152
Rubber Tired Loaders	2017	251	500	0.439436	0.369	4.25314	2.06046	0.005	0.16	0.147	492.2764	0.151
Rubber Tired Loaders	2017	501	750	0.436922	0.367	4.05049	1.70044	0.005	0.16	0.147	484.3661	0.148
Rubber Tired Loaders	2017	751	1000	0.493245	0.414	6.55319	1.45641	0.005	0.192	0.176	496.8966	0.152
Rubber Tired Loaders	2018	16	25	2.100538	1.765	5.67925	7.29915	0.005	0.576	0.53	545.0529	0.17
Rubber Tired Loaders	2018	26	50	2.100538	1.765	5.67925	7.29915	0.005	0.576	0.53	545.0529	0.17
Rubber Tired Loaders	2018	51	120	0.779856	0.655	5.47032	4.04742	0.005	0.452	0.416	484.0931	0.151
Rubber Tired Loaders	2018	121	175	0.533198	0.448	4.36814	3.42332	0.005	0.242	0.223	489.5114	0.152
Rubber Tired Loaders	2018	176	250	0.396861	0.333	4.13133	1.34644	0.005	0.14	0.129	487.9023	0.152
Rubber Tired Loaders	2018	251	500	0.397312	0.334	3.72607	1.86807	0.005	0.14	0.128	484.5709	0.151
Rubber Tired Loaders	2018	501	750	0.393495	0.331	3.5437	1.55549	0.005	0.14	0.129	476.5663	0.148
Rubber Tired Loaders	2018	751	1000	0.399711	0.336	5.67315	1.21289	0.005	0.154	0.142	488.4037	0.152
Rubber Tired Loaders	2019	16	25	1.906195	1.602	5.43193	6.97769	0.005	0.518	0.476	536.2254	0.17
Rubber Tired Loaders	2019	26	50	1.906195	1.602	5.43193	6.97769	0.005	0.518	0.476	536.2254	0.17
Rubber Tired Loaders	2019	51	120	0.707701	0.595	5.00611	3.97887	0.005	0.402	0.37	475.8636	0.151
Rubber Tired Loaders	2019	121	175	0.482139	0.405	3.85918	3.38084	0.005	0.213	0.196	481.7364	0.152
Rubber Tired Loaders	2019	176	250	0.368194	0.309	3.74452	1.30248	0.005	0.126	0.116	480.0997	0.152
Rubber Tired Loaders	2019	251	500	0.363843	0.306	3.28755	1.7248	0.005	0.123	0.113	477.0415	0.151
Rubber Tired Loaders	2019	501	750	0.348958	0.293	3.01875	1.45157	0.005	0.118	0.109	471.1874	0.149
Rubber Tired Loaders	2019	751	1000	0.384887	0.323	5.45926	1.20834	0.005	0.146	0.134	480.523	0.152
Rubber Tired Loaders	2020	16	25	1.761913	1.48	5.25369	6.76793	0.005	0.474	0.436	524.6967	0.17
Rubber Tired Loaders	2020	26	50	1.761913	1.48	5.25369	6.76793	0.005	0.474	0.436	524.6967	0.17
Rubber Tired Loaders	2020	51	120	0.661113	0.556	4.68644	3.94839	0.005	0.367	0.338	465.6735	0.151
Rubber Tired Loaders	2020	121	175	0.450696	0.379	3.51735	3.36809	0.005	0.194	0.178	471.2135	0.152
Rubber Tired Loaders	2020	176	250	0.345399	0.29	3.42116	1.26885	0.005	0.114	0.104	469.5127	0.152
Rubber Tired Loaders	2020	251	500	0.343959	0.289	3.01666	1.6304	0.005	0.112	0.103	466.7831	0.151
Rubber Tired Loaders	2020	501	750	0.329462	0.277	2.76722	1.39991	0.005	0.107	0.099	462.193	0.149
Rubber Tired Loaders	2020	751	1000	0.370676	0.311	5.25309	1.20366	0.005	0.139	0.127	469.9352	0.152
Rubber Tired Loaders	2021	16	25	1.577419	1.325	4.97419	6.44855	0.005	0.409	0.376	524.5505	0.17
Rubber Tired Loaders	2021	26	50	1.577419	1.325	4.97419	6.44855	0.005	0.409	0.376	524.5505	0.17
Rubber Tired Loaders	2021	51	120	0.592559	0.498	4.21491	3.8917	0.005	0.316	0.291	466.4213	0.151
Rubber Tired Loaders	2021	121	175	0.411896	0.346	3.11886	3.35381	0.005	0.171	0.157	471.0804	0.152
Rubber Tired Loaders	2021	176	250	0.316703	0.266	2.9977	1.24034	0.005	0.1	0.092	469.5642	0.152
Rubber Tired Loaders	2021	251	500	0.314488	0.264	2.61037	1.52922	0.005	0.097	0.09	467.9277	0.151
Rubber Tired Loaders	2021	501	750	0.322962	0.271	2.64092	1.39703	0.005	0.102	0.094	462.0548	0.149
Rubber Tired Loaders	2021	751	1000	0.350105	0.294	4.97489	1.2055	0.005	0.128	0.118	471.2577	0.152
Rubber Tired Loaders	2022	16	25	1.402643	1.179	4.74817	6.20445	0.005	0.354	0.326	524.7914	0.17
Rubber Tired Loaders	2022	26	50	1.402643	1.179	4.74817	6.20445	0.005	0.354	0.326	524.7914	0.17
Rubber Tired Loaders	2022	51	120	0.523774	0.44	3.7684	3.83931	0.005	0.267	0.245	466.4936	0.151
Rubber Tired Loaders	2022	121	175	0.350975	0.295	2.5181	3.30208	0.005	0.136	0.125	470.9274	0.152
Rubber Tired Loaders	2022	176	250	0.269035	0.226	2.34693	1.188	0.005	0.079	0.072	469.9041	0.152
Rubber Tired Loaders	2022	251	500	0.281674	0.237	2.17525	1.441	0.005	0.081	0.075	468.1288	0.151
Rubber Tired Loaders	2022	501	750	0.27713	0.233	2.0971	1.31524	0.005	0.08	0.074	463.8194	0.15
Rubber Tired Loaders	2022	751	1000	0.229104	0.193	3.61655	1.16216	0.005	0.074	0.069	472.8577	0.153
Rubber Tired Loaders	2023	16	25	1.248748	1.049	4.52113	5.97233	0.005	0.304	0.279	524.304	0.17
Rubber Tired Loaders	2023	26	50	1.248748	1.049	4.52113	5.97233	0.005	0.304	0.279	524.304	0.17
Rubber Tired Loaders	2023	51	120	0.490267	0.412	3.51183	3.82678	0.005	0.238	0.219	466.5584	0.151
Rubber Tired Loaders	2023	121	175	0.320411	0.269	2.19586	3.29198	0.005	0.118	0.108	470.6601	0.152
Rubber Tired Loaders	2023	176	250	0.249759	0.21	2.05963	1.17136	0.005	0.069	0.063	469.824	0.152
Rubber Tired Loaders	2023	251	500	0.258421	0.217	1.86629	1.38396	0.005	0.069	0.064	468.466	0.152
Rubber Tired Loaders	2023	501	750	0.269537	0.226	1.92719	1.32307	0.005	0.074	0.069	464.5553	0.15
Rubber Tired Loaders	2023	751	1000	0.229405	0.193	3.52792	1.17379	0.005	0.071	0.065	472.3032	0.153
Rubber Tired Loaders	2024	16	25	1.200513	1.009	4.46751	5.98698	0.005	0.286	0.263	524.2299	0.17
Rubber Tired Loaders	2024	26	50	1.200513	1.009	4.46751	5.98698	0.005	0.286	0.263	524.2299	0.17
Rubber Tired Loaders	2024	51	120	0.472864	0.397	3.33895	3.83209	0.005	0.22	0.203	466.8084	0.151
Rubber Tired Loaders	2024	121	175	0.292737	0.246	1.88365	3.28823	0.005	0.1	0.092	470.3567	0.152
Rubber Tired Loaders	2024	176	250	0.234511	0.197	1.80598	1.1607	0.005	0.06	0.056	469.7875	0.152
Rubber Tired Loaders	2024	251	500	0.249195	0.209	1.70166	1.3518	0.005	0.063	0.058	468.5133	0.152
Rubber Tired Loaders	2024	501	750	0.268468	0.226	1.88137	1.33327	0.005	0.072	0.066	464.8656	0.15
Rubber Tired Loaders	2024	751	1000	0.238754	0.201	3.54358	1.19144	0.005	0.071	0.066	472.3454	0.153
Rubber Tired Loaders	2025	16	25	1.142731	0.96	4.34846	5.9413	0.005	0.259	0.238	523.9076	0.169
Rubber Tired Loaders	2025	26	50	1.142731	0.96	4.34846	5.9413	0.005	0.259	0.238	523.9076	0.169
Rubber Tired Loaders	2025	51	120	0.418779	0.352	2.97026	3.79086	0.005	0.179	0.165	466.8982	0.151
Rubber Tired Loaders	2025	121	175	0.266202	0.224	1.59023	3.28059	0.005	0.084	0.077	470.4594	0.152
Rubber Tired Loaders	2025	176	250	0.211073	0.177	1.44207	1.1417	0.005	0.048	0.045	469.8711	0.152
Rubber Tired Loaders	2025	251	500	0.22979	0.193	1.43264	1.2763	0.005	0.053	0.048	469.1434	0.152
Rubber Tired Loaders	2025	501	750	0.252566	0.212	1.65408	1.33262	0.005	0.064	0.059	465.0523	0.15
Rubber Tired Loaders	2025	751	1000	0.196905	0.165	3.08852	1.12172	0.005	0.052	0.048	472.4559	0.153
Rubber Tired Loaders	2030	16	25	1.834	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Rubber Tired Loaders	2030	26	50	3.121	0.634	3.5	5.181	0.007	0.062	0.062	568.3	0.057
Rubber Tired Loaders	2030	51	120	2.953	0.317	1.875	3.759	0.006	0.056	0.056	568.299	0.028
Rubber Tired Loaders	2030	121	175	3.898	0.232	0.787	3.312	0.006	0.036	0.036	568.299	0.02
Rubber Tired Loaders	2030	176	250	4.951	0.21	0.655	1.138	0.006	0.022	0.022	568.299	0.018
Rubber Tired Loaders	2030	251	500	7.812	0.208	0.619	1.085	0.005	0.021	0.021	568.299	0.018
Rubber Tired Loaders	2030	501	750	16.018	0.208	0.627	1.085	0.005	0.022	0.022	568.299	0.018
Rubber Tired Loaders	2030	751	1000	20.168	0.214	2.722	1.099	0.005	0.039	0.039	568.299	0.019
Rubber Tired Loaders	2035	16	25	1.834	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Rubber Tired Loaders	2035	26	50	2.833	0.575	3.337	5.126	0.007	0.035	0.035	568.299	0.051
Rubber Tired Loaders	2035	51	120	2.663	0.286	1.639	3.751	0.006	0.033	0.033	568.299	0.025
Rubber Tired Loaders	2035	121	175	3.376	0.2	0.481	3.312	0.006	0.022	0.022	568.299	0.018
Rubber Tired Loaders	2035	176	250	4.514	0.191	0.434	1.129	0.006	0.015	0.015	568.299	0.017
Rubber Tired Loaders	2035	251	500	7.156	0.191	0.416	1.076	0.005	0.015	0.015	568.299	0.017
Rubber Tired Loaders	2035	501	750	14.669	0.191	0.421	1.076	0.005	0.015	0.015	568.299	0.017
Rubber Tired Loaders	2035	751	1000	18.204	0.193	2.584	1.082	0.005	0.03	0.03	568.299	0.017
Rubber Tired Loaders	2040	16	25	1.834	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061

Rubber Tired Loaders	2040	26	50	2.684	0.545	3.283	5.102	0.007	0.024	0.024	568.3	0.049
Rubber Tired Loaders	2040	51	120	2.53	0.271	1.543	3.748	0.006	0.022	0.022	568.3	0.024
Rubber Tired Loaders	2040	121	175	3.172	0.188	0.365	3.314	0.006	0.016	0.016	568.299	0.017
Rubber Tired Loaders	2040	176	250	4.375	0.185	0.346	1.128	0.006	0.013	0.013	568.299	0.016
Rubber Tired Loaders	2040	251	500	6.953	0.185	0.338	1.076	0.005	0.013	0.013	568.3	0.016
Rubber Tired Loaders	2040	501	750	14.247	0.185	0.34	1.076	0.005	0.013	0.013	568.299	0.016
Rubber Tired Loaders	2040	751	1000	17.496	0.186	2.522	1.076	0.005	0.026	0.026	568.299	0.016
Scrapers	1990	51	120	7.335	2.413	15.182	5.806	0.791	1.373	1.373	568.299	0.217
Scrapers	1990	121	175	8.743	1.823	14.491	5.174	0.758	1.017	1.017	568.299	0.164
Scrapers	1990	176	250	12.369	1.823	14.491	5.174	0.758	1.017	1.017	568.299	0.164
Scrapers	1990	251	500	16.73	1.607	13.709	11.673	0.662	0.867	0.867	568.299	0.145
Scrapers	1990	501	750	28.902	1.607	13.709	11.673	1.018	0.883	0.883	568.299	0.145
Scrapers	2000	51	120	6.006	1.975	11.177	4.906	0.06	0.949	0.949	568.299	0.178
Scrapers	2000	121	175	6.456	1.346	10.226	4.046	0.057	0.572	0.572	568.299	0.121
Scrapers	2000	176	250	8.023	1.183	9.944	3.423	0.057	0.493	0.493	568.299	0.106
Scrapers	2000	251	500	11.061	1.062	9.42	6.04	0.05	0.43	0.43	568.299	0.095
Scrapers	2000	501	750	19.108	1.062	9.42	6.04	0.052	0.43	0.43	568.299	0.095
Scrapers	2005	51	120	5.36	1.763	9.807	4.636	0.06	0.901	0.901	568.299	0.159
Scrapers	2005	121	175	5.592	1.166	8.934	3.76	0.057	0.514	0.514	568.299	0.105
Scrapers	2005	176	250	6.251	0.921	8.58	2.602	0.057	0.377	0.377	568.299	0.083
Scrapers	2005	251	500	8.477	0.814	7.854	4.07	0.05	0.331	0.331	568.3	0.073
Scrapers	2005	501	750	14.794	0.822	7.99	4.063	0.052	0.333	0.333	568.299	0.074
Scrapers	2010	51	120	0.828186	0.696	7.09453	3.97834	0.005	0.507	0.466	537.9051	0.157
Scrapers	2010	121	175	0.907518	0.763	8.55764	3.83189	0.005	0.444	0.408	532.551	0.155
Scrapers	2010	176	250	0.939807	0.79	9.42837	3.25278	0.005	0.434	0.399	520.9381	0.152
Scrapers	2010	251	500	0.595043	0.5	6.75544	4.1939	0.005	0.272	0.25	525.1553	0.153
Scrapers	2010	501	750	0.454495	0.382	5.53444	3.13671	0.005	0.209	0.192	525.522	0.153
Scrapers	2011	51	120	0.831534	0.699	7.06921	4.00655	0.005	0.509	0.469	536.4691	0.157
Scrapers	2011	121	175	0.907072	0.762	8.51777	3.84357	0.005	0.444	0.409	531.1835	0.155
Scrapers	2011	176	250	0.933155	0.784	9.34756	3.22574	0.005	0.43	0.396	519.6705	0.152
Scrapers	2011	251	500	0.590447	0.496	6.64672	4.14563	0.005	0.268	0.246	523.9083	0.153
Scrapers	2011	501	750	0.45862	0.385	5.48614	3.14165	0.005	0.208	0.191	524.1241	0.153
Scrapers	2012	51	120	0.847004	0.712	7.11199	4.04661	0.005	0.519	0.477	535.1238	0.157
Scrapers	2012	121	175	0.915185	0.769	8.53485	3.8659	0.005	0.448	0.412	529.8158	0.155
Scrapers	2012	176	250	0.935111	0.786	9.33173	3.22909	0.005	0.43	0.396	518.3695	0.152
Scrapers	2012	251	500	0.596548	0.501	6.64299	4.16192	0.005	0.269	0.247	522.6784	0.153
Scrapers	2012	501	750	0.468161	0.393	5.49999	3.16628	0.005	0.209	0.193	522.7621	0.153
Scrapers	2013	51	120	0.850862	0.715	7.08801	4.06971	0.005	0.523	0.482	532.4144	0.157
Scrapers	2013	121	175	0.895558	0.753	8.33026	3.85136	0.005	0.438	0.403	527.0754	0.155
Scrapers	2013	176	250	0.923168	0.776	9.20338	3.18463	0.005	0.423	0.389	515.7585	0.152
Scrapers	2013	251	500	0.590637	0.496	6.51716	4.08663	0.005	0.264	0.242	520.0884	0.153
Scrapers	2013	501	750	0.462466	0.389	5.3398	3.09865	0.005	0.204	0.187	520.1031	0.153
Scrapers	2014	51	120	0.855598	0.719	7.0654	4.09983	0.005	0.526	0.484	529.9445	0.157
Scrapers	2014	121	175	0.85473	0.718	7.90715	3.80661	0.005	0.419	0.385	524.1709	0.155
Scrapers	2014	176	250	0.882887	0.742	8.81494	3.06131	0.005	0.403	0.371	512.8529	0.152
Scrapers	2014	251	500	0.569739	0.479	6.23299	3.89824	0.005	0.251	0.231	517.3608	0.153
Scrapers	2014	501	750	0.438954	0.369	5.01248	2.84564	0.005	0.19	0.174	517.3937	0.153
Scrapers	2015	51	120	0.869823	0.731	7.10509	4.13678	0.005	0.535	0.492	524.5601	0.157
Scrapers	2015	121	175	0.849601	0.714	7.76471	3.80865	0.005	0.415	0.382	518.8294	0.155
Scrapers	2015	176	250	0.868271	0.73	8.66317	3.00753	0.005	0.395	0.364	507.5699	0.152
Scrapers	2015	251	500	0.561967	0.472	6.08577	3.788	0.005	0.246	0.226	511.9471	0.153
Scrapers	2015	501	750	0.427981	0.36	4.83862	2.68469	0.005	0.182	0.167	512.0837	0.153
Scrapers	2016	51	120	0.883537	0.742	7.14312	4.17273	0.005	0.543	0.5	519.1668	0.157
Scrapers	2016	121	175	0.818244	0.688	7.3844	3.78062	0.005	0.397	0.365	513.4363	0.155
Scrapers	2016	176	250	0.814194	0.684	8.10864	2.8398	0.005	0.367	0.338	502.255	0.151
Scrapers	2016	251	500	0.538344	0.452	5.75749	3.60633	0.005	0.232	0.213	506.3503	0.153
Scrapers	2016	501	750	0.404454	0.34	4.48425	2.48181	0.005	0.167	0.154	506.6381	0.153
Scrapers	2017	51	120	0.896722	0.753	7.17946	4.20744	0.005	0.551	0.507	511.1123	0.157
Scrapers	2017	121	175	0.748819	0.629	6.67066	3.70478	0.005	0.359	0.331	505.3309	0.155
Scrapers	2017	176	250	0.74607	0.627	7.39867	2.64676	0.005	0.333	0.306	494.5231	0.152
Scrapers	2017	251	500	0.505877	0.425	5.33951	3.33699	0.005	0.214	0.197	498.4571	0.153
Scrapers	2017	501	750	0.386598	0.325	4.21648	2.29479	0.005	0.156	0.143	498.6929	0.153
Scrapers	2018	51	120	0.881019	0.74	7.03577	4.20429	0.005	0.543	0.499	502.8288	0.157
Scrapers	2018	121	175	0.640866	0.539	5.64105	3.56847	0.005	0.303	0.279	497.3396	0.155
Scrapers	2018	176	250	0.662403	0.557	6.56304	2.40704	0.005	0.29	0.267	486.9908	0.152
Scrapers	2018	251	500	0.439318	0.369	4.56771	2.82811	0.005	0.18	0.166	490.7734	0.153
Scrapers	2018	501	750	0.349618	0.294	3.74582	1.96493	0.005	0.135	0.124	490.5775	0.153
Scrapers	2019	51	120	0.854498	0.718	6.84136	4.19661	0.005	0.525	0.483	494.1	0.156
Scrapers	2019	121	175	0.606989	0.51	5.26356	3.53297	0.005	0.283	0.261	489.2546	0.155
Scrapers	2019	176	250	0.596624	0.501	5.83102	2.23321	0.005	0.257	0.236	479.0317	0.152
Scrapers	2019	251	500	0.40804	0.343	4.15646	2.59466	0.005	0.163	0.15	482.7319	0.153
Scrapers	2019	501	750	0.329384	0.277	3.43103	1.82903	0.005	0.123	0.113	482.5963	0.153
Scrapers	2020	51	120	0.834143	0.701	6.6767	4.19756	0.005	0.51	0.469	483.745	0.156
Scrapers	2020	121	175	0.568453	0.478	4.86851	3.50114	0.005	0.262	0.241	478.6077	0.155
Scrapers	2020	176	250	0.531032	0.446	5.089	2.06469	0.005	0.223	0.205	468.9883	0.152
Scrapers	2020	251	500	0.380326	0.32	3.78254	2.40063	0.005	0.148	0.136	472.1751	0.153
Scrapers	2020	501	750	0.311991	0.262	3.12592	1.72502	0.005	0.113	0.104	471.7776	0.153
Scrapers	2021	51	120	0.837922	0.704	6.65882	4.21819	0.005	0.512	0.471	483.7128	0.156
Scrapers	2021	121	175	0.514014	0.432	4.34133	3.45599	0.005	0.232	0.213	478.654	0.155
Scrapers	2021	176	250	0.464853	0.391	4.36706	1.88374	0.005	0.189	0.174	469.1258	0.152
Scrapers	2021	251	500	0.356021	0.299	3.44481	2.25454	0.005	0.134	0.123	472.4636	0.153
Scrapers	2021	501	750	0.298025	0.25	2.88702	1.65772	0.005	0.105	0.097	471.7859	0.153
Scrapers	2022	51	120	0.809995	0.681	6.45548	4.20484	0.005	0.494	0.454	483.4481	0.156
Scrapers	2022	121	175	0.463814	0.39	3.83296	3.41662	0.005	0.204	0.187	478.7411	0.155
Scrapers	2022	176	250	0.406319	0.341	3.66905	1.74265	0.005	0.16	0.147	469.2686	0.152
Scrapers	2022	251	500	0.313802	0.264	2.87856	2.05212	0.005	0.112	0.103	473.2304	0.153
Scrapers	2022	501	750	0.266627	0.224	2.47537	1.50816	0.005	0.09	0.083	471.2788	0.152
Scrapers	2023	51	120	0.7496	0.63	6.02603	4.14443	0.005	0.458	0.421	483.0296	0.156
Scrapers	2023	121	175	0.430003	0.361	3.47913	3.39533	0.005	0.184	0.169	478.6814	0.155

Scrapers	2023	176	250	0.37772	0.317	3.2838	1.67839	0.005	0.144	0.133	469.5597	0.152
Scrapers	2023	251	500	0.301363	0.253	2.66611	1.97527	0.005	0.105	0.096	473.1772	0.153
Scrapers	2023	501	750	0.26361	0.222	2.38587	1.51295	0.005	0.087	0.08	471.2953	0.152
Scrapers	2024	51	120	0.683919	0.575	5.63222	4.09486	0.005	0.414	0.381	482.7009	0.156
Scrapers	2024	121	175	0.399992	0.336	3.15631	3.37249	0.005	0.166	0.153	478.8089	0.155
Scrapers	2024	176	250	0.358714	0.301	3.01379	1.62739	0.005	0.133	0.122	469.3521	0.152
Scrapers	2024	251	500	0.291137	0.245	2.47694	1.92055	0.005	0.098	0.09	472.8455	0.153
Scrapers	2024	501	750	0.253257	0.213	2.18653	1.46065	0.005	0.081	0.074	471.4291	0.152
Scrapers	2025	51	120	0.673967	0.566	5.50259	4.09423	0.005	0.405	0.372	482.3629	0.156
Scrapers	2025	121	175	0.34526	0.29	2.63098	3.3209	0.005	0.137	0.126	478.9476	0.155
Scrapers	2025	176	250	0.346529	0.291	2.80326	1.60249	0.005	0.125	0.115	469.4459	0.152
Scrapers	2025	251	500	0.257328	0.216	2.05051	1.7318	0.005	0.081	0.074	472.5394	0.153
Scrapers	2025	501	750	0.218534	0.184	1.71287	1.33825	0.005	0.064	0.059	472.115	0.153
Scrapers	2030	51	120	1.248	0.41	2.384	3.866	0.006	0.111	0.111	568.299	0.037
Scrapers	2030	121	175	1.445	0.301	1.32	3.389	0.006	0.068	0.068	568.299	0.027
Scrapers	2030	176	250	1.794	0.264	1.149	1.206	0.006	0.042	0.042	568.299	0.023
Scrapers	2030	251	500	2.697	0.259	1.057	1.184	0.005	0.04	0.04	568.299	0.023
Scrapers	2030	501	750	4.666	0.259	1.075	1.184	0.005	0.04	0.04	568.299	0.023
Scrapers	2035	51	120	1.058	0.348	1.943	3.842	0.006	0.064	0.064	568.299	0.031
Scrapers	2035	121	175	1.199	0.25	0.824	3.382	0.006	0.04	0.04	568.299	0.022
Scrapers	2035	176	250	1.553	0.229	0.717	1.175	0.006	0.026	0.026	568.299	0.02
Scrapers	2035	251	500	2.356	0.226	0.674	1.123	0.005	0.025	0.025	568.3	0.02
Scrapers	2035	501	750	4.075	0.226	0.682	1.123	0.005	0.025	0.025	568.299	0.02
Scrapers	2040	51	120	0.962	0.316	1.715	3.833	0.006	0.04	0.04	568.299	0.028
Scrapers	2040	121	175	1.063	0.221	0.549	3.381	0.006	0.026	0.026	568.299	0.02
Scrapers	2040	176	250	1.425	0.21	0.498	1.159	0.006	0.018	0.018	568.3	0.018
Scrapers	2040	251	500	2.175	0.209	0.475	1.1	0.005	0.017	0.017	568.299	0.018
Scrapers	2040	501	750	3.76	0.209	0.48	1.1	0.005	0.017	0.017	568.299	0.018
Signal Boards	1990	6	15	2.838	1.804	9.999	4.999	1.049	0.975	0.975	568.299	0.162
Signal Boards	1990	26	50	33.688	3.65	7.518	7.626	0.871	1.035	1.035	568.299	0.329
Signal Boards	1990	51	120	41.675	2.037	13.738	5.201	0.791	1.095	1.095	568.3	0.183
Signal Boards	1990	121	175	54.982	1.395	12.364	4.603	0.758	0.728	0.728	568.3	0.125
Signal Boards	1990	176	250	90.827	1.685	14.94	5.563	0.917	0.88	0.88	686.695	0.152
Signal Boards	2000	6	15	2.085	1.325	7.675	4.257	0.079	0.61	0.61	568.299	0.119
Signal Boards	2000	26	50	31.608	3.424	6.709	7.268	0.066	0.765	0.765	568.299	0.309
Signal Boards	2000	51	120	33.68	1.646	9.835	4.338	0.06	0.756	0.756	568.299	0.148
Signal Boards	2000	121	175	43.484	1.103	8.941	3.53	0.057	0.447	0.447	568.299	0.099
Signal Boards	2000	176	250	59.587	1.105	10.385	3.359	0.069	0.438	0.438	686.695	0.099
Signal Boards	2005	6	15	1.168	0.742	4.981	3.469	0.079	0.35	0.35	568.299	0.066
Signal Boards	2005	26	50	27.711	3.002	6.227	6.663	0.066	0.704	0.704	568.299	0.27
Signal Boards	2005	51	120	28.596	1.398	8.234	4	0.06	0.695	0.695	568.299	0.126
Signal Boards	2005	121	175	35.881	0.91	7.528	3.185	0.057	0.383	0.383	568.3	0.082
Signal Boards	2005	176	250	41.93	0.778	8.577	2.245	0.069	0.303	0.303	686.695	0.07
Signal Boards	2010	6	15	1.04	0.661	4.142	3.469	0.008	0.155	0.155	568.299	0.059
Signal Boards	2010	26	50	21.63	2.343	5.792	6.009	0.007	0.571	0.571	568.299	0.211
Signal Boards	2010	51	120	21.667	1.059	6.693	3.811	0.006	0.56	0.56	568.299	0.095
Signal Boards	2010	121	175	27.641	0.701	5.958	3.102	0.006	0.311	0.311	568.299	0.063
Signal Boards	2010	176	250	29.698	0.551	6.749	1.651	0.007	0.212	0.212	686.695	0.049
Signal Boards	2011	6	15	1.04	0.661	4.142	3.469	0.008	0.156	0.156	568.299	0.059
Signal Boards	2011	26	50	20.109	2.178	5.698	5.834	0.007	0.541	0.541	568.299	0.196
Signal Boards	2011	51	120	20.187	0.986	6.327	3.774	0.006	0.535	0.535	568.299	0.089
Signal Boards	2011	121	175	25.933	0.658	5.615	3.09	0.006	0.298	0.298	568.299	0.059
Signal Boards	2011	176	250	27.264	0.506	6.272	1.548	0.007	0.19	0.19	686.695	0.045
Signal Boards	2012	6	15	1.04	0.661	4.142	3.469	0.008	0.16	0.16	568.299	0.059
Signal Boards	2012	26	50	18.413	1.995	5.596	5.632	0.007	0.508	0.508	568.299	0.18
Signal Boards	2012	51	120	18.605	0.909	5.923	3.733	0.006	0.498	0.498	568.299	0.082
Signal Boards	2012	121	175	24.082	0.611	5.246	3.077	0.006	0.275	0.275	568.3	0.055
Signal Boards	2012	176	250	25.308	0.469	5.81	1.483	0.007	0.171	0.171	686.695	0.042
Signal Boards	2013	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2013	26	50	16.687	1.808	5.362	5.427	0.007	0.465	0.465	568.299	0.163
Signal Boards	2013	51	120	17.043	0.833	5.532	3.694	0.006	0.456	0.456	568.299	0.075
Signal Boards	2013	121	175	22.253	0.564	4.903	3.067	0.006	0.252	0.252	568.3	0.05
Signal Boards	2013	176	250	23.66	0.439	5.369	1.439	0.007	0.156	0.156	686.695	0.039
Signal Boards	2014	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2014	26	50	15.005	1.625	5.139	5.231	0.007	0.422	0.422	568.299	0.146
Signal Boards	2014	51	120	15.539	0.759	5.186	3.658	0.006	0.414	0.414	568.299	0.068
Signal Boards	2014	121	175	20.512	0.52	4.582	3.058	0.006	0.228	0.228	568.299	0.046
Signal Boards	2014	176	250	22.034	0.408	4.857	1.402	0.007	0.141	0.141	686.695	0.036
Signal Boards	2015	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2015	26	50	13.489	1.461	4.943	5.068	0.007	0.382	0.382	568.299	0.131
Signal Boards	2015	51	120	14.067	0.687	4.791	3.624	0.006	0.371	0.371	568.299	0.062
Signal Boards	2015	121	175	18.694	0.474	4.136	3.052	0.006	0.205	0.205	568.299	0.042
Signal Boards	2015	176	250	20.523	0.38	4.365	1.371	0.007	0.127	0.127	686.695	0.034
Signal Boards	2016	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2016	26	50	12.061	1.306	4.761	4.921	0.007	0.343	0.343	568.299	0.117
Signal Boards	2016	51	120	12.653	0.618	4.414	3.594	0.006	0.33	0.33	568.299	0.055
Signal Boards	2016	121	175	16.949	0.43	3.708	3.047	0.006	0.183	0.183	568.299	0.038
Signal Boards	2016	176	250	19.106	0.354	3.894	1.344	0.007	0.114	0.114	686.695	0.031
Signal Boards	2017	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2017	26	50	10.695	1.158	4.59	4.785	0.007	0.306	0.306	568.299	0.104
Signal Boards	2017	51	120	11.32	0.553	4.059	3.566	0.006	0.29	0.29	568.299	0.049
Signal Boards	2017	121	175	15.322	0.388	3.305	3.044	0.006	0.161	0.161	568.299	0.035
Signal Boards	2017	176	250	17.83	0.33	3.452	1.323	0.007	0.101	0.101	686.695	0.029
Signal Boards	2018	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2018	26	50	9.4	1.018	4.427	4.657	0.007	0.27	0.27	568.299	0.091
Signal Boards	2018	51	120	10.078	0.492	3.723	3.541	0.006	0.252	0.252	568.299	0.044
Signal Boards	2018	121	175	13.836	0.351	2.93	3.043	0.006	0.141	0.141	568.299	0.031
Signal Boards	2018	176	250	16.678	0.309	3.04	1.306	0.007	0.09	0.09	686.695	0.027
Signal Boards	2019	6	15	1.04	0.661	4.142	3.47	0.008	0.161	0.161	568.299	0.059

Signal Boards	2019	26	50	8.189	0.887	4.272	4.538	0.007	0.236	0.236	568.3	0.08
Signal Boards	2019	51	120	8.938	0.437	3.41	3.519	0.006	0.216	0.216	568.299	0.039
Signal Boards	2019	121	175	12.677	0.321	2.601	3.043	0.006	0.125	0.125	568.299	0.029
Signal Boards	2019	176	250	15.682	0.291	2.676	1.292	0.007	0.08	0.08	686.695	0.026
Signal Boards	2020	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2020	26	50	7.28	0.788	4.132	4.448	0.007	0.206	0.206	568.299	0.071
Signal Boards	2020	51	120	8.081	0.395	3.134	3.504	0.006	0.187	0.187	568.299	0.035
Signal Boards	2020	121	175	11.756	0.298	2.309	3.043	0.006	0.11	0.11	568.299	0.026
Signal Boards	2020	176	250	14.813	0.274	2.35	1.281	0.007	0.071	0.071	686.695	0.024
Signal Boards	2021	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2021	26	50	6.598	0.714	4.002	4.38	0.007	0.179	0.179	568.299	0.064
Signal Boards	2021	51	120	7.434	0.363	2.889	3.493	0.006	0.162	0.162	568.299	0.032
Signal Boards	2021	121	175	10.965	0.278	2.043	3.043	0.006	0.098	0.098	568.299	0.025
Signal Boards	2021	176	250	14.033	0.26	2.053	1.273	0.007	0.063	0.063	686.695	0.023
Signal Boards	2022	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.3	0.059
Signal Boards	2022	26	50	6.047	0.655	3.88	4.325	0.007	0.154	0.154	568.299	0.059
Signal Boards	2022	51	120	6.908	0.337	2.668	3.484	0.006	0.141	0.141	568.299	0.03
Signal Boards	2022	121	175	10.249	0.26	1.801	3.044	0.006	0.086	0.086	568.299	0.023
Signal Boards	2022	176	250	13.317	0.247	1.782	1.266	0.007	0.055	0.055	686.695	0.022
Signal Boards	2023	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2023	26	50	5.57	0.603	3.767	4.282	0.007	0.132	0.132	568.299	0.054
Signal Boards	2023	51	120	6.449	0.315	2.472	3.478	0.006	0.122	0.122	568.299	0.028
Signal Boards	2023	121	175	9.619	0.244	1.602	3.045	0.006	0.075	0.075	568.299	0.022
Signal Boards	2023	176	250	12.678	0.235	1.562	1.263	0.007	0.048	0.048	686.695	0.021
Signal Boards	2024	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2024	26	50	5.168	0.559	3.662	4.247	0.007	0.114	0.114	568.299	0.05
Signal Boards	2024	51	120	6.055	0.296	2.315	3.474	0.006	0.105	0.105	568.299	0.026
Signal Boards	2024	121	175	9.047	0.229	1.427	3.047	0.006	0.065	0.065	568.299	0.02
Signal Boards	2024	176	250	12.079	0.224	1.37	1.259	0.007	0.041	0.041	686.695	0.02
Signal Boards	2025	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2025	26	50	4.819	0.522	3.561	4.217	0.007	0.098	0.098	568.299	0.047
Signal Boards	2025	51	120	5.705	0.278	2.179	3.47	0.006	0.089	0.089	568.299	0.025
Signal Boards	2025	121	175	8.5	0.215	1.262	3.049	0.006	0.055	0.055	568.299	0.019
Signal Boards	2025	176	250	11.509	0.213	1.192	1.257	0.007	0.035	0.035	686.695	0.019
Signal Boards	2030	6	15	1.04	0.661	4.142	3.47	0.008	0.161	0.161	568.299	0.059
Signal Boards	2030	26	50	3.631	0.393	3.193	4.099	0.007	0.04	0.04	568.299	0.035
Signal Boards	2030	51	120	4.366	0.213	1.657	3.451	0.006	0.035	0.035	568.3	0.019
Signal Boards	2030	121	175	6.201	0.157	0.586	3.048	0.006	0.024	0.024	568.299	0.014
Signal Boards	2030	176	250	9.484	0.176	0.594	1.255	0.007	0.019	0.019	686.695	0.015
Signal Boards	2035	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2035	26	50	3.294	0.356	3.082	4.067	0.007	0.02	0.02	568.299	0.032
Signal Boards	2035	51	120	3.929	0.192	1.482	3.445	0.006	0.018	0.018	568.299	0.017
Signal Boards	2035	121	175	5.439	0.138	0.372	3.048	0.006	0.014	0.014	568.299	0.012
Signal Boards	2035	176	250	8.75	0.162	0.401	1.254	0.007	0.014	0.014	686.695	0.014
Signal Boards	2040	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2040	26	50	3.289	0.356	3.037	4.074	0.007	0.014	0.014	568.299	0.032
Signal Boards	2040	51	120	3.848	0.188	1.428	3.447	0.006	0.013	0.013	568.299	0.016
Signal Boards	2040	121	175	5.177	0.131	0.296	3.05	0.006	0.011	0.011	568.299	0.011
Signal Boards	2040	176	250	8.473	0.157	0.341	1.255	0.007	0.012	0.012	686.695	0.014
Skid Steer Loaders	1990	16	25	4.928	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Skid Steer Loaders	1990	26	50	18.4	4.466	7.821	9.113	0.871	1.202	1.202	568.299	0.403
Skid Steer Loaders	1990	51	120	15.551	2.252	14.506	5.536	0.791	1.262	1.262	568.299	0.203
Skid Steer Loaders	2000	16	25	4.659	2.092	6.403	4.777	0.065	0.568	0.568	568.299	0.188
Skid Steer Loaders	2000	26	50	15.338	3.723	6.733	7.849	0.066	0.816	0.816	568.299	0.335
Skid Steer Loaders	2000	51	120	10.902	1.579	9.028	4.162	0.06	0.779	0.779	568.299	0.142
Skid Steer Loaders	2005	16	25	3.352	1.505	5.913	3.709	0.065	0.461	0.461	568.299	0.135
Skid Steer Loaders	2005	26	50	12.458	3.024	6.068	6.864	0.066	0.716	0.716	568.3	0.272
Skid Steer Loaders	2005	51	120	9.248	1.339	7.653	3.988	0.06	0.712	0.712	568.299	0.12
Skid Steer Loaders	2010	16	25	1.189544	1	5.29745	4.48486	0.005	0.435	0.401	586.3356	0.171
Skid Steer Loaders	2010	26	50	1.189544	1	5.29745	4.48486	0.005	0.435	0.401	586.3356	0.171
Skid Steer Loaders	2010	51	120	0.504832	0.424	5.19396	3.40768	0.005	0.344	0.317	525.6915	0.153
Skid Steer Loaders	2011	16	25	1.055747	0.887	5.2163	4.32754	0.005	0.402	0.37	584.7285	0.171
Skid Steer Loaders	2011	26	50	1.055747	0.887	5.2163	4.32754	0.005	0.402	0.37	584.7285	0.171
Skid Steer Loaders	2011	51	120	0.460213	0.387	4.88341	3.38539	0.005	0.316	0.291	524.0915	0.153
Skid Steer Loaders	2012	16	25	1.031332	0.867	5.12974	4.33156	0.005	0.388	0.357	583.1258	0.171
Skid Steer Loaders	2012	26	50	1.031332	0.867	5.12974	4.33156	0.005	0.388	0.357	583.1258	0.171
Skid Steer Loaders	2012	51	120	0.443294	0.372	4.73478	3.38462	0.005	0.303	0.279	522.5357	0.153
Skid Steer Loaders	2013	16	25	0.908612	0.763	4.84472	4.17576	0.005	0.337	0.31	580.0144	0.171
Skid Steer Loaders	2013	26	50	0.908612	0.763	4.84472	4.17576	0.005	0.337	0.31	580.0144	0.171
Skid Steer Loaders	2013	51	120	0.404938	0.34	4.44237	3.36337	0.005	0.271	0.249	519.6388	0.153
Skid Steer Loaders	2014	16	25	0.790746	0.664	4.54075	4.01585	0.005	0.286	0.263	577.0757	0.171
Skid Steer Loaders	2014	26	50	0.790746	0.664	4.54075	4.01585	0.005	0.286	0.263	577.0757	0.171
Skid Steer Loaders	2014	51	120	0.361873	0.304	4.0133	3.33829	0.005	0.235	0.216	517.0621	0.153
Skid Steer Loaders	2015	16	25	0.760751	0.639	4.43612	4.00436	0.005	0.267	0.246	571.4195	0.171
Skid Steer Loaders	2015	26	50	0.760751	0.639	4.43612	4.00436	0.005	0.267	0.246	571.4195	0.171
Skid Steer Loaders	2015	51	120	0.349713	0.294	3.8106	3.33751	0.005	0.22	0.203	511.595	0.153
Skid Steer Loaders	2016	16	25	0.713135	0.599	4.26784	3.95661	0.005	0.241	0.221	565.2281	0.17
Skid Steer Loaders	2016	26	50	0.713135	0.599	4.26784	3.95661	0.005	0.241	0.221	565.2281	0.17
Skid Steer Loaders	2016	51	120	0.325064	0.273	3.53439	3.32767	0.005	0.197	0.182	506.2971	0.153
Skid Steer Loaders	2017	16	25	0.676461	0.568	4.11272	3.91907	0.005	0.217	0.2	556.7144	0.171
Skid Steer Loaders	2017	26	50	0.676461	0.568	4.11272	3.91907	0.005	0.217	0.2	556.7144	0.171
Skid Steer Loaders	2017	51	120	0.303772	0.255	3.28618	3.31863	0.005	0.177	0.162	498.3256	0.153
Skid Steer Loaders	2018	16	25	0.579635	0.487	3.88962	3.78725	0.005	0.178	0.164	547.5575	0.17
Skid Steer Loaders	2018	26	50	0.579635	0.487	3.88962	3.78725	0.005	0.178	0.164	547.5575	0.17
Skid Steer Loaders	2018	51	120	0.256853	0.216	2.86	3.28204	0.005	0.14	0.129	490.0935	0.153
Skid Steer Loaders	2019	16	25	0.531282	0.446	3.75009	3.73957	0.005	0.154	0.141	539.2667	0.171
Skid Steer Loaders	2019	26	50	0.531282	0.446	3.75009	3.73957	0.005	0.154	0.141	539.2667	0.171
Skid Steer Loaders	2019	51	120	0.2373	0.199	2.65586	3.27736	0.005	0.122	0.112	482.3844	0.153
Skid Steer Loaders	2020	16	25	0.522771	0.439	3.69113	3.76397	0.005	0.145	0.133	527.7577	0.171



Skid Steer Loaders	2020	26	50	0.522771	0.439	3.69113	3.76397	0.005	0.145	0.133	527.7577	0.171
Skid Steer Loaders	2020	51	120	0.224183	0.188	2.5046	3.2771	0.005	0.108	0.1	471.9075	0.153
Skid Steer Loaders	2021	16	25	0.486515	0.409	3.57304	3.73158	0.005	0.126	0.116	527.4501	0.171
Skid Steer Loaders	2021	26	50	0.486515	0.409	3.57304	3.73158	0.005	0.126	0.116	527.4501	0.171
Skid Steer Loaders	2021	51	120	0.211817	0.178	2.36588	3.27687	0.005	0.096	0.089	471.9774	0.153
Skid Steer Loaders	2022	16	25	0.434318	0.365	3.43256	3.65597	0.005	0.103	0.095	527.2726	0.171
Skid Steer Loaders	2022	26	50	0.434318	0.365	3.43256	3.65597	0.005	0.103	0.095	527.2726	0.171
Skid Steer Loaders	2022	51	120	0.195311	0.164	2.18922	3.27037	0.005	0.081	0.075	472.4321	0.153
Skid Steer Loaders	2023	16	25	0.420524	0.353	3.37057	3.65358	0.005	0.093	0.086	527.4231	0.171
Skid Steer Loaders	2023	26	50	0.420524	0.353	3.37057	3.65358	0.005	0.093	0.086	527.4231	0.171
Skid Steer Loaders	2023	51	120	0.182613	0.153	2.03854	3.26613	0.005	0.069	0.063	472.656	0.153
Skid Steer Loaders	2024	16	25	0.415881	0.349	3.34552	3.67076	0.005	0.089	0.082	527.8005	0.171
Skid Steer Loaders	2024	26	50	0.415881	0.349	3.34552	3.67076	0.005	0.089	0.082	527.8005	0.171
Skid Steer Loaders	2024	51	120	0.174841	0.147	1.94841	3.26403	0.005	0.063	0.058	472.847	0.153
Skid Steer Loaders	2025	16	25	0.406183	0.341	3.30934	3.6601	0.005	0.084	0.077	527.8608	0.171
Skid Steer Loaders	2025	26	50	0.406183	0.341	3.30934	3.6601	0.005	0.084	0.077	527.8608	0.171
Skid Steer Loaders	2025	51	120	0.166357	0.14	1.86736	3.25156	0.005	0.057	0.052	472.6295	0.153
Skid Steer Loaders	2030	16	25	1.526	0.685	4.332	2.34	0.007	0.162	0.162	568.299	0.061
Skid Steer Loaders	2030	26	50	1.694	0.411	3.128	4.386	0.007	0.018	0.018	568.299	0.037
Skid Steer Loaders	2030	51	120	1.478	0.214	1.477	3.538	0.006	0.017	0.017	568.299	0.019
Skid Steer Loaders	2035	16	25	1.526	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Skid Steer Loaders	2035	26	50	1.694	0.411	3.097	4.39	0.007	0.015	0.015	568.299	0.037
Skid Steer Loaders	2035	51	120	1.459	0.211	1.442	3.54	0.006	0.014	0.014	568.299	0.019
Skid Steer Loaders	2040	16	25	1.526	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Skid Steer Loaders	2040	26	50	1.696	0.411	3.093	4.392	0.007	0.014	0.014	568.299	0.037
Skid Steer Loaders	2040	51	120	1.456	0.211	1.435	3.54	0.006	0.013	0.013	568.3	0.019
Surfacing Equipment	1990	26	50	8.011	4.203	7.726	8.629	0.871	1.147	1.147	568.299	0.379
Surfacing Equipment	1990	51	120	18.985	2.203	14.403	5.473	0.791	1.214	1.214	568.299	0.198
Surfacing Equipment	1990	121	175	19.781	1.707	13.91	4.883	0.758	0.927	0.927	568.3	0.154
Surfacing Equipment	1990	176	250	31.103	1.707	13.91	4.883	0.758	0.927	0.927	568.299	0.154
Surfacing Equipment	1990	251	500	45.625	1.526	13.316	9.66	0.662	0.805	0.805	568.299	0.137
Surfacing Equipment	1990	501	750	71.58	1.526	13.316	9.66	1.018	0.82	0.82	568.299	0.137
Surfacing Equipment	2000	26	50	6.689	3.509	6.755	7.426	0.066	0.779	0.779	568.299	0.316
Surfacing Equipment	2000	51	120	14.399	1.671	9.991	4.385	0.06	0.768	0.768	568.299	0.15
Surfacing Equipment	2000	121	175	13.132	1.133	9.132	3.583	0.057	0.458	0.458	568.299	0.102
Surfacing Equipment	2000	176	250	17.689	0.97	8.84	2.937	0.057	0.385	0.385	568.299	0.087
Surfacing Equipment	2000	251	500	26.875	0.899	8.551	4.584	0.05	0.347	0.347	568.299	0.081
Surfacing Equipment	2000	501	750	42.164	0.899	8.551	4.584	0.052	0.347	0.347	568.299	0.081
Surfacing Equipment	2005	26	50	6.001	3.148	6.318	6.936	0.066	0.727	0.727	568.3	0.284
Surfacing Equipment	2005	51	120	12.568	1.458	8.636	4.122	0.06	0.718	0.718	568.299	0.131
Surfacing Equipment	2005	121	175	11.032	0.952	7.874	3.316	0.057	0.402	0.402	568.3	0.085
Surfacing Equipment	2005	176	250	13.31	0.73	7.529	2.16	0.057	0.29	0.29	568.299	0.065
Surfacing Equipment	2005	251	500	19.448	0.65	6.988	3.023	0.05	0.26	0.26	568.299	0.058
Surfacing Equipment	2005	501	750	31.164	0.664	7.132	3.019	0.052	0.262	0.262	568.299	0.059
Surfacing Equipment	2010	26	50	1.528976	1.285	5.66618	4.99949	0.005	0.479	0.44	593.0498	0.173
Surfacing Equipment	2010	51	120	0.730908	0.614	6.16537	3.59404	0.005	0.437	0.402	524.0289	0.153
Surfacing Equipment	2010	121	175	0.662829	0.557	6.60554	3.09066	0.005	0.318	0.292	522.4909	0.152
Surfacing Equipment	2010	176	250	0.488779	0.411	6.37687	1.7501	0.005	0.212	0.195	530.3611	0.154
Surfacing Equipment	2010	251	500	0.29849	0.251	4.43284	1.5491	0.005	0.144	0.133	522.9659	0.152
Surfacing Equipment	2010	501	750	0.208991	0.176	3.5514	1.09654	0.005	0.112	0.103	524.8847	0.153
Surfacing Equipment	2011	26	50	1.476255	1.24	5.62022	4.95391	0.005	0.467	0.43	590.2612	0.172
Surfacing Equipment	2011	51	120	0.710662	0.597	5.98734	3.58797	0.005	0.427	0.393	522.8446	0.153
Surfacing Equipment	2011	121	175	0.6472	0.544	6.46356	3.07389	0.005	0.312	0.287	521.1883	0.152
Surfacing Equipment	2011	176	250	0.481299	0.404	6.2863	1.72048	0.005	0.207	0.191	529.0217	0.154
Surfacing Equipment	2011	251	500	0.289572	0.243	4.26701	1.48634	0.005	0.136	0.125	520.4212	0.152
Surfacing Equipment	2011	501	750	0.214952	0.181	3.56055	1.10325	0.005	0.113	0.104	523.5482	0.153
Surfacing Equipment	2012	26	50	1.500607	1.261	5.63914	5.03037	0.005	0.473	0.435	588.7118	0.172
Surfacing Equipment	2012	51	120	0.709653	0.596	5.94999	3.59999	0.005	0.426	0.392	521.4233	0.153
Surfacing Equipment	2012	121	175	0.653605	0.549	6.48747	3.0893	0.005	0.315	0.29	519.886	0.152
Surfacing Equipment	2012	176	250	0.481696	0.405	6.22653	1.72816	0.005	0.207	0.191	527.6815	0.154
Surfacing Equipment	2012	251	500	0.290035	0.244	4.20283	1.49574	0.005	0.134	0.124	519.0487	0.152
Surfacing Equipment	2012	501	750	0.210249	0.177	3.45723	1.04051	0.005	0.109	0.1	521.0672	0.152
Surfacing Equipment	2013	26	50	1.455428	1.223	5.53803	4.99596	0.005	0.457	0.421	585.7193	0.172
Surfacing Equipment	2013	51	120	0.69949	0.588	5.8163	3.60266	0.005	0.415	0.382	518.7481	0.153
Surfacing Equipment	2013	121	175	0.588968	0.495	5.94134	3.00889	0.005	0.286	0.263	518.4738	0.152
Surfacing Equipment	2013	176	250	0.441295	0.371	5.8812	1.62196	0.005	0.187	0.172	524.5301	0.154
Surfacing Equipment	2013	251	500	0.288988	0.243	4.09243	1.50462	0.005	0.131	0.121	516.1488	0.152
Surfacing Equipment	2013	501	750	0.215353	0.181	3.46124	1.04387	0.005	0.11	0.101	518.3853	0.152
Surfacing Equipment	2014	26	50	1.358041	1.141	5.42525	4.87668	0.005	0.434	0.399	582.7249	0.172
Surfacing Equipment	2014	51	120	0.665267	0.559	5.52029	3.58043	0.005	0.391	0.36	516.3377	0.153
Surfacing Equipment	2014	121	175	0.561853	0.472	5.71146	3.01212	0.005	0.273	0.251	515.8203	0.152
Surfacing Equipment	2014	176	250	0.364211	0.306	5.10182	1.43363	0.005	0.149	0.137	521.4518	0.154
Surfacing Equipment	2014	251	500	0.2821	0.237	3.8952	1.50147	0.005	0.125	0.115	513.6157	0.152
Surfacing Equipment	2014	501	750	0.206755	0.174	3.28435	1.02007	0.005	0.103	0.095	516.3212	0.153
Surfacing Equipment	2015	26	50	1.223408	1.028	5.25471	4.69178	0.005	0.402	0.37	576.7706	0.172
Surfacing Equipment	2015	51	120	0.651534	0.547	5.37414	3.57496	0.005	0.378	0.348	510.1417	0.152
Surfacing Equipment	2015	121	175	0.568	0.477	5.73307	3.02727	0.005	0.276	0.254	510.5481	0.152
Surfacing Equipment	2015	176	250	0.36864	0.31	5.11205	1.44156	0.005	0.151	0.139	516.058	0.154
Surfacing Equipment	2015	251	500	0.286581	0.241	3.90037	1.51303	0.005	0.126	0.116	508.3985	0.152
Surfacing Equipment	2015	501	750	0.211433	0.178	3.28678	1.02353	0.005	0.104	0.096	511.1157	0.153
Surfacing Equipment	2016	26	50	1.243319	1.045	5.27275	4.7626	0.005	0.406	0.374	570.8145	0.172
Surfacing Equipment	2016	51	120	0.621267	0.522	5.05142	3.54977	0.005	0.349	0.321	505.0873	0.152
Surfacing Equipment	2016	121	175	0.544572	0.458	5.45794	3.00649	0.005	0.265	0.244	504.5576	0.152
Surfacing Equipment	2016	176	250	0.365495	0.307	5.04791	1.42946	0.005	0.148	0.136	510.7058	0.154
Surfacing Equipment	2016	251	500	0.258417	0.217	3.46816	1.42484	0.005	0.111	0.102	502.4709	0.152
Surfacing Equipment	2016	501	750	0.192579	0.162	2.87955	0.99966	0.005	0.093	0.085	506.967	0.153
Surfacing Equipment	2017	26	50	1.10469	0.928	5.0643	4.60324	0.006	0.365	0.336	564.4772	0.173
Surfacing Equipment	2017	51	120	0.604716	0.508	4.94212	3.55587	0.005	0.337	0.31	498.36	0.153
Surfacing Equipment	2017	121	175	0.541755	0.455	5.39296	3.00273	0.005	0.264	0.243	496.2741	0.152

Surfacing Equipment	2017	176	250	0.325463	0.273	4.46793	1.3431	0.005	0.129	0.119	501.8465	0.154
Surfacing Equipment	2017	251	500	0.242435	0.204	3.10636	1.3962	0.005	0.103	0.094	496.885	0.152
Surfacing Equipment	2017	501	750	0.190932	0.16	2.76955	1.00272	0.005	0.09	0.083	499.7117	0.153
Surfacing Equipment	2018	26	50	0.927049	0.779	4.81982	4.35302	0.006	0.32	0.294	555.7363	0.173
Surfacing Equipment	2018	51	120	0.49279	0.414	4.28388	3.48871	0.005	0.268	0.247	491.3172	0.153
Surfacing Equipment	2018	121	175	0.44632	0.375	4.47527	2.97609	0.005	0.215	0.198	488.4406	0.152
Surfacing Equipment	2018	176	250	0.286758	0.241	3.98866	1.234	0.005	0.113	0.104	494.1388	0.154
Surfacing Equipment	2018	251	500	0.187325	0.157	2.20389	1.22557	0.005	0.076	0.07	487.8722	0.152
Surfacing Equipment	2018	501	750	0.169556	0.142	2.26863	0.99347	0.005	0.078	0.072	488.86	0.152
Surfacing Equipment	2019	26	50	0.765383	0.643	4.41999	4.0998	0.006	0.25	0.23	547.0462	0.173
Surfacing Equipment	2019	51	120	0.42278	0.355	3.82306	3.44856	0.005	0.226	0.208	484.0757	0.153
Surfacing Equipment	2019	121	175	0.425034	0.357	4.23866	2.97177	0.005	0.204	0.187	479.6717	0.152
Surfacing Equipment	2019	176	250	0.257694	0.217	3.39993	1.21576	0.005	0.101	0.093	486.8417	0.154
Surfacing Equipment	2019	251	500	0.173135	0.145	1.89944	1.2143	0.005	0.068	0.063	481.8965	0.152
Surfacing Equipment	2019	501	750	0.168821	0.142	2.17879	0.99372	0.005	0.076	0.07	480.166	0.152
Surfacing Equipment	2020	26	50	0.637406	0.536	4.23906	3.93357	0.006	0.216	0.199	535.5275	0.173
Surfacing Equipment	2020	51	120	0.392345	0.33	3.61216	3.43932	0.005	0.206	0.19	473.8188	0.153
Surfacing Equipment	2020	121	175	0.365927	0.307	3.67232	2.93068	0.005	0.175	0.161	469.2079	0.152
Surfacing Equipment	2020	176	250	0.252128	0.212	3.22243	1.21774	0.005	0.097	0.089	476.4261	0.154
Surfacing Equipment	2020	251	500	0.173203	0.146	1.83755	1.21902	0.005	0.067	0.062	471.6331	0.153
Surfacing Equipment	2020	501	750	0.168871	0.142	2.09374	0.99569	0.005	0.074	0.068	469.6252	0.152
Surfacing Equipment	2021	26	50	0.60314	0.507	4.18875	3.93231	0.006	0.204	0.188	535.784	0.173
Surfacing Equipment	2021	51	120	0.370907	0.312	3.46112	3.43619	0.005	0.191	0.175	474.0906	0.153
Surfacing Equipment	2021	121	175	0.307112	0.258	3.09858	2.91895	0.005	0.145	0.134	469.1687	0.152
Surfacing Equipment	2021	176	250	0.245986	0.207	2.99364	1.21854	0.005	0.092	0.085	476.8023	0.154
Surfacing Equipment	2021	251	500	0.167588	0.141	1.75282	1.20226	0.005	0.064	0.058	471.7484	0.153
Surfacing Equipment	2021	501	750	0.148862	0.125	1.59712	0.99181	0.005	0.062	0.057	470.4087	0.152
Surfacing Equipment	2022	26	50	0.509163	0.428	3.9114	3.77243	0.006	0.154	0.142	535.8364	0.173
Surfacing Equipment	2022	51	120	0.34882	0.293	3.24974	3.40936	0.005	0.175	0.161	473.6362	0.153
Surfacing Equipment	2022	121	175	0.283918	0.239	2.70137	2.90957	0.005	0.13	0.12	469.1259	0.152
Surfacing Equipment	2022	176	250	0.233135	0.196	2.66709	1.21737	0.005	0.085	0.078	476.9511	0.154
Surfacing Equipment	2022	251	500	0.157417	0.132	1.5573	1.16047	0.005	0.057	0.053	470.5248	0.152
Surfacing Equipment	2022	501	750	0.136805	0.115	1.35503	0.98819	0.005	0.052	0.048	470.4004	0.152
Surfacing Equipment	2023	26	50	0.51987	0.437	3.92432	3.83184	0.006	0.155	0.143	535.9295	0.173
Surfacing Equipment	2023	51	120	0.321277	0.27	3.05811	3.39556	0.005	0.157	0.144	474.4698	0.153
Surfacing Equipment	2023	121	175	0.267066	0.224	2.45516	2.91383	0.005	0.119	0.11	470.0141	0.152
Surfacing Equipment	2023	176	250	0.22795	0.192	2.50162	1.21946	0.005	0.082	0.075	476.9606	0.154
Surfacing Equipment	2023	251	500	0.156473	0.131	1.47556	1.16329	0.005	0.056	0.051	470.3746	0.152
Surfacing Equipment	2023	501	750	0.119512	0.1	1.08063	0.98543	0.005	0.04	0.037	472.4466	0.153
Surfacing Equipment	2024	26	50	0.396453	0.333	3.72069	3.66193	0.006	0.116	0.107	536.0304	0.173
Surfacing Equipment	2024	51	120	0.29879	0.251	2.8828	3.3893	0.005	0.142	0.131	475.3806	0.154
Surfacing Equipment	2024	121	175	0.271298	0.228	2.46372	2.92962	0.005	0.12	0.111	470.0767	0.152
Surfacing Equipment	2024	176	250	0.209166	0.176	2.23638	1.18272	0.005	0.071	0.065	477.096	0.154
Surfacing Equipment	2024	251	500	0.159183	0.134	1.47769	1.16767	0.005	0.056	0.051	470.2521	0.152
Surfacing Equipment	2024	501	750	0.112194	0.094	0.94669	0.98493	0.005	0.034	0.032	472.9833	0.153
Surfacing Equipment	2025	26	50	0.279239	0.235	3.57642	3.53733	0.006	0.082	0.075	536.14	0.173
Surfacing Equipment	2025	51	120	0.276433	0.232	2.6591	3.38535	0.005	0.124	0.114	476.7656	0.154
Surfacing Equipment	2025	121	175	0.222452	0.187	1.9987	2.92602	0.005	0.094	0.087	471.0403	0.152
Surfacing Equipment	2025	176	250	0.176026	0.148	1.74736	1.14337	0.005	0.055	0.051	477.11	0.154
Surfacing Equipment	2025	251	500	0.152175	0.128	1.3268	1.16861	0.005	0.051	0.047	470.2827	0.152
Surfacing Equipment	2025	501	750	0.101486	0.085	0.76806	0.9776	0.005	0.027	0.025	470.5508	0.152
Surfacing Equipment	2030	26	50	0.988	0.518	3.4	4.295	0.007	0.075	0.075	568.299	0.046
Surfacing Equipment	2030	51	120	2.281	0.264	1.959	3.492	0.006	0.068	0.068	568.299	0.023
Surfacing Equipment	2030	121	175	2.286	0.197	0.939	3.071	0.006	0.043	0.043	568.299	0.017
Surfacing Equipment	2030	176	250	3.134	0.172	0.789	1.064	0.006	0.026	0.026	568.299	0.015
Surfacing Equipment	2030	251	500	5.062	0.169	0.738	1.032	0.005	0.025	0.025	568.299	0.015
Surfacing Equipment	2030	501	750	7.953	0.169	0.749	1.032	0.005	0.025	0.025	568.299	0.015
Surfacing Equipment	2035	26	50	0.836	0.439	3.193	4.221	0.007	0.041	0.041	568.299	0.039
Surfacing Equipment	2035	51	120	1.954	0.226	1.659	3.482	0.006	0.038	0.038	568.299	0.02
Surfacing Equipment	2035	121	175	1.887	0.162	0.567	3.072	0.006	0.025	0.025	568.299	0.014
Surfacing Equipment	2035	176	250	2.725	0.149	0.497	1.05	0.006	0.016	0.016	568.299	0.013
Surfacing Equipment	2035	251	500	4.436	0.148	0.471	1.018	0.005	0.016	0.016	568.299	0.013
Surfacing Equipment	2035	501	750	6.967	0.148	0.477	1.018	0.005	0.016	0.016	568.3	0.013
Surfacing Equipment	2040	26	50	0.753	0.395	3.114	4.183	0.007	0.025	0.025	568.299	0.035
Surfacing Equipment	2040	51	120	1.782	0.206	1.521	3.477	0.006	0.024	0.024	568.299	0.018
Surfacing Equipment	2040	121	175	1.691	0.146	0.397	3.073	0.006	0.017	0.017	568.299	0.013
Surfacing Equipment	2040	176	250	2.566	0.14	0.37	1.047	0.006	0.013	0.013	568.299	0.012
Surfacing Equipment	2040	251	500	4.197	0.14	0.358	1.015	0.005	0.012	0.012	568.299	0.012
Surfacing Equipment	2040	501	750	6.59	0.14	0.361	1.015	0.005	0.013	0.013	568.299	0.012
Sweepers/Scrubbers	1990	6	15	4.971	1.804	9.999	5	0.833	0.968	0.968	568.299	0.162
Sweepers/Scrubbers	1990	16	25	10.019	2.213	6.92	5	0.679	0.735	0.735	568.299	0.199
Sweepers/Scrubbers	1990	26	50	32.867	4.512	7.836	9.199	0.692	1.202	1.202	568.299	0.407
Sweepers/Scrubbers	1990	51	120	39.044	2.254	14.467	5.53	0.628	1.259	1.259	568.299	0.203
Sweepers/Scrubbers	1990	121	175	48.318	1.505	12.813	4.861	0.602	0.818	0.818	568.299	0.135
Sweepers/Scrubbers	1990	176	250	56.322	1.505	12.813	4.861	0.602	0.818	0.818	568.299	0.135
Sweepers/Scrubbers	2000	6	15	2.886	1.047	7.362	4.258	0.079	0.428	0.428	568.299	0.094
Sweepers/Scrubbers	2000	16	25	4.933	1.089	6.325	4.438	0.064	0.442	0.442	568.299	0.098
Sweepers/Scrubbers	2000	26	50	30.182	4.144	6.934	8.622	0.065	0.882	0.882	568.299	0.373
Sweepers/Scrubbers	2000	51	120	29.565	1.706	9.702	4.394	0.059	0.84	0.84	568.299	0.154
Sweepers/Scrubbers	2000	121	175	37.084	1.155	8.929	3.49	0.057	0.481	0.481	568.299	0.104
Sweepers/Scrubbers	2000	176	250	34.578	0.924	8.516	2.598	0.057	0.371	0.371	568.3	0.083
Sweepers/Scrubbers	2005	6	15	1.951	0.708	4.985	3.469	0.079	0.35	0.35	568.299	0.063
Sweepers/Scrubbers	2005	16	25	3.505	0.774	5.326	2.526	0.064	0.323	0.323	568.299	0.069
Sweepers/Scrubbers	2005	26	50	28.008	3.845	6.52	8.25	0.065	0.844	0.844	568.299	0.346
Sweepers/Scrubbers	2005	51	120	27.009	1.559	8.538	4.253	0.059	0.826	0.826	568.299	0.14
Sweepers/Scrubbers	2005	121	175	32.779	1.021	7.851	3.349	0.057	0.45	0.45	568.3	0.092
Sweepers/Scrubbers	2005	176	250	25.002	0.668	7.318	1.76	0.057	0.258	0.258	568.299	0.06
Sweepers/Scrubbers	2010	6	15	2.154395	1.81	5.8263	6.34286	0.005	0.615	0.566	583.6982	0.17
Sweepers/Scrubbers	2010	16	25	2.154395	1.81	5.8263	6.34286	0.005	0.615	0.566	583.6982	0.17

Sweepers/Scrubbers	2010	26	50	2.154395	1.81	5.8263	6.34286	0.005	0.615	0.566	583.6982	0.17
Sweepers/Scrubbers	2010	51	120	1.093749	0.919	7.68967	4.10149	0.005	0.657	0.604	526.7953	0.153
Sweepers/Scrubbers	2010	121	175	1.189152	0.999	10.3895	4.21032	0.005	0.578	0.532	525.6912	0.153
Sweepers/Scrubbers	2010	176	250	0.69332	0.583	7.47446	2.35018	0.005	0.319	0.294	522.3625	0.152
Sweepers/Scrubbers	2011	6	15	2.104606	1.768	5.80317	6.34227	0.005	0.606	0.557	582.239	0.17
Sweepers/Scrubbers	2011	16	25	2.104606	1.768	5.80317	6.34227	0.005	0.606	0.557	582.239	0.17
Sweepers/Scrubbers	2011	26	50	2.104606	1.768	5.80317	6.34227	0.005	0.606	0.557	582.239	0.17
Sweepers/Scrubbers	2011	51	120	1.070043	0.899	7.49949	4.08877	0.005	0.651	0.599	525.4783	0.153
Sweepers/Scrubbers	2011	121	175	1.134336	0.953	9.92737	4.14616	0.005	0.554	0.509	524.377	0.153
Sweepers/Scrubbers	2011	176	250	0.623199	0.524	7.01091	2.16425	0.005	0.284	0.261	521.0566	0.152
Sweepers/Scrubbers	2012	6	15	2.177617	1.83	5.85015	6.54958	0.005	0.621	0.571	580.7797	0.17
Sweepers/Scrubbers	2012	16	25	2.177617	1.83	5.85015	6.54958	0.005	0.621	0.571	580.7797	0.17
Sweepers/Scrubbers	2012	26	50	2.177617	1.83	5.85015	6.54958	0.005	0.621	0.571	580.7797	0.17
Sweepers/Scrubbers	2012	51	120	1.078889	0.907	7.50259	4.12474	0.005	0.659	0.606	524.1613	0.153
Sweepers/Scrubbers	2012	121	175	1.141423	0.959	9.95689	4.16243	0.005	0.558	0.513	523.0627	0.153
Sweepers/Scrubbers	2012	176	250	0.63315	0.532	7.05573	2.17716	0.005	0.286	0.264	519.7507	0.152
Sweepers/Scrubbers	2013	6	15	2.124198	1.785	5.78778	6.54294	0.005	0.608	0.559	577.8612	0.17
Sweepers/Scrubbers	2013	16	25	2.124198	1.785	5.78778	6.54294	0.005	0.608	0.559	577.8612	0.17
Sweepers/Scrubbers	2013	26	50	2.124198	1.785	5.78778	6.54294	0.005	0.608	0.559	577.8612	0.17
Sweepers/Scrubbers	2013	51	120	1.019559	0.857	7.14773	4.07918	0.005	0.626	0.576	521.5273	0.153
Sweepers/Scrubbers	2013	121	175	1.122038	0.943	9.76352	4.12302	0.005	0.547	0.503	520.4343	0.153
Sweepers/Scrubbers	2013	176	250	0.590836	0.496	6.66337	2.05413	0.005	0.263	0.242	517.1389	0.152
Sweepers/Scrubbers	2014	6	15	2.103399	1.767	5.75157	6.59249	0.005	0.603	0.555	574.9427	0.17
Sweepers/Scrubbers	2014	16	25	2.103399	1.767	5.75157	6.59249	0.005	0.603	0.555	574.9427	0.17
Sweepers/Scrubbers	2014	26	50	2.103399	1.767	5.75157	6.59249	0.005	0.603	0.555	574.9427	0.17
Sweepers/Scrubbers	2014	51	120	0.990916	0.833	6.93387	4.07085	0.005	0.61	0.562	518.8933	0.153
Sweepers/Scrubbers	2014	121	175	1.041854	0.875	9.10792	4.04161	0.005	0.503	0.463	517.8058	0.153
Sweepers/Scrubbers	2014	176	250	0.600544	0.505	6.70399	2.06593	0.005	0.265	0.244	514.5271	0.152
Sweepers/Scrubbers	2015	6	15	2.151059	1.807	5.77191	6.75408	0.005	0.611	0.562	569.1058	0.17
Sweepers/Scrubbers	2015	16	25	2.151059	1.807	5.77191	6.75408	0.005	0.611	0.562	569.1058	0.17
Sweepers/Scrubbers	2015	26	50	2.151059	1.807	5.77191	6.75408	0.005	0.611	0.562	569.1058	0.17
Sweepers/Scrubbers	2015	51	120	0.991855	0.833	6.8863	4.09682	0.005	0.61	0.561	513.6254	0.153
Sweepers/Scrubbers	2015	121	175	0.998266	0.839	8.69682	3.98239	0.005	0.479	0.441	512.5489	0.153
Sweepers/Scrubbers	2015	176	250	0.610252	0.513	6.7446	2.07774	0.005	0.268	0.246	509.3035	0.152
Sweepers/Scrubbers	2016	6	15	2.119969	1.781	5.72609	6.78514	0.005	0.603	0.555	563.2688	0.17
Sweepers/Scrubbers	2016	16	25	2.119969	1.781	5.72609	6.78514	0.005	0.603	0.555	563.2688	0.17
Sweepers/Scrubbers	2016	26	50	2.119969	1.781	5.72609	6.78514	0.005	0.603	0.555	563.2688	0.17
Sweepers/Scrubbers	2016	51	120	0.931404	0.783	6.45405	4.05916	0.005	0.571	0.525	508.3574	0.153
Sweepers/Scrubbers	2016	121	175	0.887319	0.746	7.78746	3.83865	0.005	0.419	0.385	507.292	0.153
Sweepers/Scrubbers	2016	176	250	0.61965	0.521	6.78244	2.08905	0.005	0.27	0.248	504.0799	0.152
Sweepers/Scrubbers	2017	6	15	2.037349	1.712	5.62558	6.7185	0.005	0.582	0.535	554.5133	0.17
Sweepers/Scrubbers	2017	16	25	2.037349	1.712	5.62558	6.7185	0.005	0.582	0.535	554.5133	0.17
Sweepers/Scrubbers	2017	26	50	2.037349	1.712	5.62558	6.7185	0.005	0.582	0.535	554.5133	0.17
Sweepers/Scrubbers	2017	51	120	0.857444	0.72	6.0202	4.01005	0.005	0.52	0.479	500.4555	0.153
Sweepers/Scrubbers	2017	121	175	0.845582	0.711	7.42433	3.78429	0.005	0.395	0.363	499.4066	0.153
Sweepers/Scrubbers	2017	176	250	0.610026	0.513	6.50894	2.08973	0.005	0.264	0.243	496.2444	0.152
Sweepers/Scrubbers	2018	6	15	1.838607	1.545	5.39866	6.4442	0.005	0.531	0.488	545.7578	0.17
Sweepers/Scrubbers	2018	16	25	1.838607	1.545	5.39866	6.4442	0.005	0.531	0.488	545.7578	0.17
Sweepers/Scrubbers	2018	26	50	1.838607	1.545	5.39866	6.4442	0.005	0.531	0.488	545.7578	0.17
Sweepers/Scrubbers	2018	51	120	0.713411	0.599	5.13595	3.88173	0.005	0.428	0.394	492.5536	0.153
Sweepers/Scrubbers	2018	121	175	0.700892	0.589	6.07101	3.58832	0.005	0.32	0.294	491.5213	0.153
Sweepers/Scrubbers	2018	176	250	0.415916	0.349	4.30158	1.60478	0.005	0.169	0.156	488.409	0.152
Sweepers/Scrubbers	2019	6	15	1.703052	1.431	5.22487	6.26782	0.005	0.491	0.452	537.0023	0.17
Sweepers/Scrubbers	2019	16	25	1.703052	1.431	5.22487	6.26782	0.005	0.491	0.452	537.0023	0.17
Sweepers/Scrubbers	2019	26	50	1.703052	1.431	5.22487	6.26782	0.005	0.491	0.452	537.0023	0.17
Sweepers/Scrubbers	2019	51	120	0.654062	0.55	4.77259	3.84602	0.005	0.387	0.356	484.6516	0.153
Sweepers/Scrubbers	2019	121	175	0.62277	0.523	5.30082	3.4491	0.005	0.277	0.255	483.6359	0.153
Sweepers/Scrubbers	2019	176	250	0.279258	0.235	2.86598	1.23013	0.005	0.099	0.091	480.5735	0.152
Sweepers/Scrubbers	2020	6	15	1.599203	1.344	5.09515	6.1554	0.005	0.463	0.426	525.3284	0.17
Sweepers/Scrubbers	2020	16	25	1.599203	1.344	5.09515	6.1554	0.005	0.463	0.426	525.3284	0.17
Sweepers/Scrubbers	2020	26	50	1.599203	1.344	5.09515	6.1554	0.005	0.463	0.426	525.3284	0.17
Sweepers/Scrubbers	2020	51	120	0.618762	0.52	4.4821	3.82752	0.005	0.36	0.331	474.1157	0.153
Sweepers/Scrubbers	2020	121	175	0.549287	0.462	4.60809	3.35909	0.005	0.237	0.218	473.1221	0.153
Sweepers/Scrubbers	2020	176	250	0.246498	0.207	2.4856	1.13655	0.005	0.079	0.073	470.1263	0.152
Sweepers/Scrubbers	2021	6	15	1.450842	1.219	4.84946	5.89996	0.005	0.412	0.379	525.3284	0.17
Sweepers/Scrubbers	2021	16	25	1.450842	1.219	4.84946	5.89996	0.005	0.412	0.379	525.3284	0.17
Sweepers/Scrubbers	2021	26	50	1.450842	1.219	4.84946	5.89996	0.005	0.412	0.379	525.3284	0.17
Sweepers/Scrubbers	2021	51	120	0.523878	0.44	3.96194	3.75746	0.005	0.291	0.268	474.1157	0.153
Sweepers/Scrubbers	2021	121	175	0.457963	0.385	3.70723	3.24726	0.005	0.187	0.172	473.1221	0.153
Sweepers/Scrubbers	2021	176	250	0.195441	0.164	1.75821	1.1084	0.005	0.055	0.051	470.1263	0.152
Sweepers/Scrubbers	2022	6	15	1.199805	1.008	4.49049	5.45118	0.005	0.335	0.308	525.3284	0.17
Sweepers/Scrubbers	2022	16	25	1.199805	1.008	4.49049	5.45118	0.005	0.335	0.308	525.3284	0.17
Sweepers/Scrubbers	2022	26	50	1.199805	1.008	4.49049	5.45118	0.005	0.335	0.308	525.3284	0.17
Sweepers/Scrubbers	2022	51	120	0.443216	0.372	3.47218	3.69196	0.005	0.232	0.214	474.1157	0.153
Sweepers/Scrubbers	2022	121	175	0.382446	0.321	3.00243	3.22176	0.005	0.145	0.133	473.1221	0.153
Sweepers/Scrubbers	2022	176	250	0.181362	0.152	1.60484	1.10147	0.005	0.05	0.046	470.1263	0.152
Sweepers/Scrubbers	2023	6	15	0.903476	0.759	4.12735	4.97095	0.005	0.248	0.229	525.3284	0.17
Sweepers/Scrubbers	2023	16	25	0.903476	0.759	4.12735	4.97095	0.005	0.248	0.229	525.3284	0.17
Sweepers/Scrubbers	2023	26	50	0.903476	0.759	4.12735	4.97095	0.005	0.248	0.229	525.3284	0.17
Sweepers/Scrubbers	2023	51	120	0.417244	0.351	3.28536	3.69499	0.005	0.21	0.193	474.1157	0.153
Sweepers/Scrubbers	2023	121	175	0.347747	0.292	2.60853	3.22298	0.005	0.126	0.116	473.1221	0.153
Sweepers/Scrubbers	2023	176	250	0.188622	0.158	1.61028	1.11413	0.005	0.05	0.046	470.1263	0.152
Sweepers/Scrubbers	2024	6	15	0.887865	0.746	4.0788	5.00321	0.005	0.239	0.219	525.3284	0.17
Sweepers/Scrubbers	2024	16	25	0.887865	0.746	4.0788	5.00321	0.005	0.239	0.219	525.3284	0.17
Sweepers/Scrubbers	2024	26	50	0.887865	0.746	4.0788	5.00321	0.005	0.239	0.219	525.3284	0.17
Sweepers/Scrubbers	2024	51	120	0.395131	0.332	3.09846	3.69288	0.005	0.188	0.173	474.1157	0.153
Sweepers/Scrubbers	2024	121	175	0.316819	0.266	2.2533	3.23374	0.005	0.107	0.099	473.1221	0.153
Sweepers/Scrubbers	2024	176	250	0.195631	0.164	1.61357	1.12729	0.005	0.051	0.046	470.1263	0.152
Sweepers/Scrubbers	2025	6	15	0.7								

Sweepers/Scrubbers	2025	16	25	0.740656	0.622	3.85568	4.76791	0.005	0.191	0.176	525.3284	0.17
Sweepers/Scrubbers	2025	26	50	0.740656	0.622	3.85568	4.76791	0.005	0.191	0.176	525.3284	0.17
Sweepers/Scrubbers	2025	51	120	0.360743	0.303	2.81733	3.66402	0.005	0.16	0.147	474.1157	0.153
Sweepers/Scrubbers	2025	121	175	0.25385	0.213	1.63811	3.201	0.005	0.072	0.066	473.1221	0.153
Sweepers/Scrubbers	2025	176	250	0.202235	0.17	1.61588	1.14005	0.005	0.051	0.047	470.1263	0.152
Sweepers/Scrubbers	2030	6	15	1.624	0.589	4.142	3.47	0.008	0.161	0.161	568.299	0.053
Sweepers/Scrubbers	2030	16	25	3.103	0.685	4.332	2.34	0.007	0.161	0.161	568.299	0.061
Sweepers/Scrubbers	2030	26	50	3.714	0.509	3.294	4.947	0.007	0.026	0.026	568.299	0.046
Sweepers/Scrubbers	2030	51	120	4.528	0.261	1.569	3.703	0.006	0.023	0.023	568.299	0.023
Sweepers/Scrubbers	2030	121	175	6.02	0.187	0.431	3.275	0.006	0.017	0.017	568.299	0.016
Sweepers/Scrubbers	2030	176	250	6.813	0.182	0.37	1.116	0.006	0.013	0.013	568.299	0.016
Sweepers/Scrubbers	2035	6	15	1.624	0.589	4.142	3.47	0.008	0.161	0.161	568.299	0.053
Sweepers/Scrubbers	2035	16	25	3.103	0.685	4.332	2.34	0.007	0.161	0.161	568.3	0.061
Sweepers/Scrubbers	2035	26	50	3.681	0.505	3.214	4.929	0.007	0.017	0.017	568.299	0.045
Sweepers/Scrubbers	2035	51	120	4.386	0.253	1.486	3.698	0.006	0.016	0.016	568.299	0.022
Sweepers/Scrubbers	2035	121	175	5.628	0.175	0.313	3.271	0.006	0.012	0.012	568.299	0.015
Sweepers/Scrubbers	2035	176	250	6.501	0.173	0.294	1.114	0.006	0.011	0.011	568.299	0.015
Sweepers/Scrubbers	2040	6	15	1.624	0.589	4.142	3.47	0.008	0.161	0.161	568.3	0.053
Sweepers/Scrubbers	2040	16	25	3.103	0.685	4.332	2.34	0.007	0.161	0.161	568.299	0.061
Sweepers/Scrubbers	2040	26	50	3.675	0.504	3.203	4.925	0.007	0.016	0.016	568.3	0.045
Sweepers/Scrubbers	2040	51	120	4.354	0.251	1.469	3.697	0.006	0.015	0.015	568.299	0.022
Sweepers/Scrubbers	2040	121	175	5.537	0.172	0.284	3.27	0.006	0.011	0.011	568.299	0.015
Sweepers/Scrubbers	2040	176	250	6.454	0.172	0.284	1.114	0.006	0.011	0.011	568.299	0.015
Tractors/Loaders/Backhoe	1990	16	25	5.699	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Tractors/Loaders/Backhoe	1990	26	50	23.587	4.787	7.939	9.698	0.871	1.267	1.267	568.299	0.431
Tractors/Loaders/Backhoe	1990	51	120	19.595	2.333	14.779	5.659	0.791	1.327	1.327	568.299	0.21
Tractors/Loaders/Backhoe	1990	121	175	28.833	1.751	14.021	5.008	0.758	0.974	0.974	568.299	0.158
Tractors/Loaders/Backhoe	1990	176	250	48.841	1.751	14.021	5.008	0.758	0.974	0.974	568.299	0.158
Tractors/Loaders/Backhoe	1990	251	500	86.854	1.551	13.298	10.967	0.758	0.834	0.834	568.3	0.139
Tractors/Loaders/Backhoe	1990	501	750	130.281	1.551	13.298	10.967	1.139	0.85	0.85	568.299	0.139
Tractors/Loaders/Backhoe	2000	16	25	5.225	2.029	6.391	4.66	0.065	0.57	0.57	568.299	0.183
Tractors/Loaders/Backhoe	2000	26	50	21.043	4.271	6.964	8.855	0.066	0.903	0.903	568.299	0.385
Tractors/Loaders/Backhoe	2000	51	120	14.597	1.738	9.784	4.448	0.06	0.862	0.862	568.299	0.156
Tractors/Loaders/Backhoe	2000	121	175	19.393	1.178	9.027	3.534	0.057	0.494	0.494	568.299	0.106
Tractors/Loaders/Backhoe	2000	176	250	26.283	0.942	8.625	2.634	0.057	0.38	0.38	568.299	0.085
Tractors/Loaders/Backhoe	2000	251	500	48.341	0.863	8.225	3.629	0.057	0.339	0.339	568.299	0.077
Tractors/Loaders/Backhoe	2000	501	750	72.512	0.863	8.225	3.629	0.059	0.339	0.339	568.299	0.077
Tractors/Loaders/Backhoe	2005	16	25	3.067	1.191	5.648	3.137	0.065	0.404	0.404	568.299	0.107
Tractors/Loaders/Backhoe	2005	26	50	18.069	3.667	6.405	8.018	0.066	0.819	0.819	568.299	0.33
Tractors/Loaders/Backhoe	2005	51	120	12.595	1.499	8.325	4.22	0.06	0.802	0.802	568.299	0.135
Tractors/Loaders/Backhoe	2005	121	175	16.035	0.974	7.629	3.341	0.057	0.432	0.432	568.3	0.087
Tractors/Loaders/Backhoe	2005	176	250	18.392	0.659	7.181	1.774	0.057	0.256	0.256	568.3	0.059
Tractors/Loaders/Backhoe	2005	251	500	32.511	0.58	6.451	1.993	0.057	0.23	0.23	568.299	0.052
Tractors/Loaders/Backhoe	2005	501	750	49.91	0.594	6.656	1.99	0.059	0.234	0.234	568.299	0.053
Tractors/Loaders/Backhoe	2010	16	25	1.894649	1.592	5.63221	5.95576	0.005	0.561	0.516	569.9866	0.166
Tractors/Loaders/Backhoe	2010	26	50	1.894649	1.592	5.63221	5.95576	0.005	0.561	0.516	569.9866	0.166
Tractors/Loaders/Backhoe	2010	51	120	0.792369	0.666	6.31224	3.83197	0.005	0.504	0.464	533.5879	0.155
Tractors/Loaders/Backhoe	2010	121	175	0.559066	0.47	5.68573	3.20391	0.005	0.285	0.263	521.9624	0.152
Tractors/Loaders/Backhoe	2010	176	250	0.408454	0.343	5.58586	1.44044	0.005	0.178	0.163	522.8516	0.152
Tractors/Loaders/Backhoe	2010	251	500	0.391383	0.329	5.18517	2.07689	0.005	0.172	0.158	526.5923	0.153
Tractors/Loaders/Backhoe	2010	501	750	0.330642	0.278	4.39795	1.80487	0.005	0.153	0.141	517.4169	0.151
Tractors/Loaders/Backhoe	2011	16	25	1.788969	1.503	5.58613	5.86306	0.005	0.54	0.497	569.4176	0.166
Tractors/Loaders/Backhoe	2011	26	50	1.788969	1.503	5.58613	5.86306	0.005	0.54	0.497	569.4176	0.166
Tractors/Loaders/Backhoe	2011	51	120	0.766159	0.644	6.12981	3.83083	0.005	0.491	0.451	531.2907	0.155
Tractors/Loaders/Backhoe	2011	121	175	0.544391	0.457	5.49667	3.21464	0.005	0.277	0.255	520.8772	0.152
Tractors/Loaders/Backhoe	2011	176	250	0.400263	0.336	5.38873	1.41416	0.005	0.172	0.158	521.7143	0.152
Tractors/Loaders/Backhoe	2011	251	500	0.383321	0.322	4.98779	2.01155	0.005	0.167	0.154	525.0356	0.153
Tractors/Loaders/Backhoe	2011	501	750	0.337174	0.283	4.35896	1.80098	0.005	0.153	0.14	516.0241	0.151
Tractors/Loaders/Backhoe	2012	16	25	1.778006	1.494	5.57167	5.92961	0.005	0.537	0.494	568.1171	0.166
Tractors/Loaders/Backhoe	2012	26	50	1.778006	1.494	5.57167	5.92961	0.005	0.537	0.494	568.1171	0.166
Tractors/Loaders/Backhoe	2012	51	120	0.765477	0.643	6.07938	3.85825	0.005	0.49	0.45	529.8013	0.155
Tractors/Loaders/Backhoe	2012	121	175	0.55208	0.464	5.48812	3.24733	0.005	0.279	0.257	519.5807	0.152
Tractors/Loaders/Backhoe	2012	176	250	0.408595	0.343	5.3794	1.42415	0.005	0.173	0.159	520.5233	0.152
Tractors/Loaders/Backhoe	2012	251	500	0.391545	0.329	4.9585	2.03631	0.005	0.168	0.154	523.6066	0.153
Tractors/Loaders/Backhoe	2012	501	750	0.34578	0.291	4.30593	1.81138	0.005	0.153	0.141	514.6158	0.151
Tractors/Loaders/Backhoe	2013	16	25	1.710175	1.437	5.50692	5.8983	0.005	0.52	0.478	566.4101	0.167
Tractors/Loaders/Backhoe	2013	26	50	1.710175	1.437	5.50692	5.8983	0.005	0.52	0.478	566.4101	0.167
Tractors/Loaders/Backhoe	2013	51	120	0.736849	0.619	5.88177	3.85259	0.005	0.468	0.431	526.7149	0.155
Tractors/Loaders/Backhoe	2013	121	175	0.53894	0.453	5.32658	3.25593	0.005	0.269	0.248	516.748	0.152
Tractors/Loaders/Backhoe	2013	176	250	0.404183	0.34	5.22143	1.40715	0.005	0.168	0.155	517.9916	0.152
Tractors/Loaders/Backhoe	2013	251	500	0.386263	0.325	4.77348	1.98237	0.005	0.162	0.149	520.6472	0.153
Tractors/Loaders/Backhoe	2013	501	750	0.357231	0.3	4.31599	1.8218	0.005	0.155	0.143	511.8955	0.151
Tractors/Loaders/Backhoe	2014	16	25	1.58953	1.336	5.36869	5.77182	0.005	0.488	0.449	564.0421	0.167
Tractors/Loaders/Backhoe	2014	26	50	1.58953	1.336	5.36869	5.77182	0.005	0.488	0.449	564.0421	0.167
Tractors/Loaders/Backhoe	2014	51	120	0.692813	0.582	5.58081	3.82724	0.005	0.438	0.403	523.0168	0.155
Tractors/Loaders/Backhoe	2014	121	175	0.503298	0.423	4.93788	3.23863	0.005	0.248	0.228	513.8903	0.152
Tractors/Loaders/Backhoe	2014	176	250	0.389056	0.327	4.92175	1.37555	0.005	0.159	0.146	515.1747	0.152
Tractors/Loaders/Backhoe	2014	251	500	0.371559	0.312	4.48819	1.87787	0.005	0.152	0.14	517.1237	0.153
Tractors/Loaders/Backhoe	2014	501	750	0.362599	0.305	4.24344	1.8331	0.005	0.154	0.141	511.3367	0.151
Tractors/Loaders/Backhoe	2015	16	25	1.555682	1.307	5.32019	5.79091	0.005	0.477	0.439	558.7085	0.167
Tractors/Loaders/Backhoe	2015	26	50	1.555682	1.307	5.32019	5.79091	0.005	0.477	0.439	558.7085	0.167
Tractors/Loaders/Backhoe	2015	51	120	0.677539	0.569	5.4221	3.83198	0.005	0.424	0.39	517.3652	0.154
Tractors/Loaders/Backhoe	2015	121	175	0.501434	0.421	4.83599	3.2559	0.005	0.244	0.225	508.6819	0.152
Tractors/Loaders/Backhoe	2015	176	250	0.387795	0.326	4.7831	1.37366	0.005	0.155	0.143	509.6269	0.152
Tractors/Loaders/Backhoe	2015	251	500	0.371246	0.312	4.34833	1.88403	0.005	0.149	0.137	511.8685	0.153
Tractors/Loaders/Backhoe	2015	501	750	0.36596	0.308	4.1848	1.823	0.005	0.152	0.14	506.1469	0.151
Tractors/Loaders/Backhoe	2016	16	25	1.488115	1.25	5.21373	5.74113	0.005	0.455	0.418	553.3996	0.167
Tractors/Loaders/Backhoe	2016	26	50	1.488115	1.25	5.21373	5.74113	0.005	0.455	0.418	553.3996	0.167
Tractors/Loaders/Backhoe	2016	51	120	0.640315	0.538	5.14235	3.81146	0.005	0.396	0.364	511.3456	0.154

Tractors/Loaders/Backhoe	2016	121	175	0.46319	0.389	4.37945	3.23229	0.005	0.222	0.204	502.6294	0.152
Tractors/Loaders/Backhoe	2016	176	250	0.369743	0.311	4.42611	1.34719	0.005	0.145	0.133	504.4014	0.152
Tractors/Loaders/Backhoe	2016	251	500	0.337794	0.284	3.7866	1.78642	0.005	0.131	0.121	505.2698	0.152
Tractors/Loaders/Backhoe	2016	501	750	0.357237	0.3	4.0216	1.67424	0.005	0.144	0.133	500.955	0.151
Tractors/Loaders/Backhoe	2017	16	25	1.421071	1.194	5.10958	5.68921	0.005	0.433	0.398	544.9286	0.167
Tractors/Loaders/Backhoe	2017	26	50	1.421071	1.194	5.10958	5.68921	0.005	0.433	0.398	544.9286	0.167
Tractors/Loaders/Backhoe	2017	51	120	0.595595	0.5	4.8087	3.7818	0.005	0.362	0.333	502.7952	0.154
Tractors/Loaders/Backhoe	2017	121	175	0.420865	0.354	3.87876	3.19961	0.005	0.197	0.181	493.912	0.151
Tractors/Loaders/Backhoe	2017	176	250	0.346619	0.291	4.04062	1.30369	0.005	0.132	0.121	496.8449	0.152
Tractors/Loaders/Backhoe	2017	251	500	0.323689	0.272	3.48988	1.73851	0.005	0.122	0.112	497.1129	0.152
Tractors/Loaders/Backhoe	2017	501	750	0.35268	0.296	3.86196	1.64567	0.005	0.139	0.128	492.9529	0.151
Tractors/Loaders/Backhoe	2018	16	25	1.180685	0.992	4.76441	5.31043	0.005	0.363	0.334	536.1115	0.167
Tractors/Loaders/Backhoe	2018	26	50	1.180685	0.992	4.76441	5.31043	0.005	0.363	0.334	536.1115	0.167
Tractors/Loaders/Backhoe	2018	51	120	0.5003	0.42	4.15444	3.69155	0.005	0.294	0.271	494.1237	0.154
Tractors/Loaders/Backhoe	2018	121	175	0.353485	0.297	3.16806	3.13727	0.005	0.16	0.147	485.7754	0.151
Tractors/Loaders/Backhoe	2018	176	250	0.308076	0.259	3.45965	1.24197	0.005	0.112	0.103	489.4562	0.152
Tractors/Loaders/Backhoe	2018	251	500	0.264454	0.222	2.66877	1.44545	0.005	0.092	0.085	486.2939	0.151
Tractors/Loaders/Backhoe	2018	501	750	0.322751	0.271	3.40235	1.60068	0.005	0.124	0.114	485.0099	0.151
Tractors/Loaders/Backhoe	2019	16	25	1.095082	0.92	4.60928	5.20327	0.005	0.33	0.304	527.6843	0.167
Tractors/Loaders/Backhoe	2019	26	50	1.095082	0.92	4.60928	5.20327	0.005	0.33	0.304	527.6843	0.167
Tractors/Loaders/Backhoe	2019	51	120	0.437701	0.368	3.69257	3.63777	0.005	0.247	0.227	485.8548	0.154
Tractors/Loaders/Backhoe	2019	121	175	0.321856	0.27	2.78412	3.21258	0.005	0.14	0.129	477.9151	0.151
Tractors/Loaders/Backhoe	2019	176	250	0.291458	0.245	3.14683	1.22027	0.005	0.102	0.094	481.4206	0.152
Tractors/Loaders/Backhoe	2019	251	500	0.245176	0.206	2.34458	1.38918	0.005	0.082	0.075	479.0826	0.152
Tractors/Loaders/Backhoe	2019	501	750	0.311873	0.262	3.12046	1.6025	0.005	0.117	0.107	478.9216	0.152
Tractors/Loaders/Backhoe	2020	16	25	0.987255	0.83	4.39784	5.03491	0.005	0.288	0.265	515.874	0.167
Tractors/Loaders/Backhoe	2020	26	50	0.987255	0.83	4.39784	5.03491	0.005	0.288	0.265	515.874	0.167
Tractors/Loaders/Backhoe	2020	51	120	0.393883	0.331	3.32571	3.60147	0.005	0.21	0.193	475.1543	0.154
Tractors/Loaders/Backhoe	2020	121	175	0.29217	0.246	2.41467	3.10518	0.005	0.122	0.112	467.5132	0.151
Tractors/Loaders/Backhoe	2020	176	250	0.268036	0.225	2.73794	1.19592	0.005	0.09	0.083	470.4998	0.152
Tractors/Loaders/Backhoe	2020	251	500	0.230511	0.194	2.07976	1.35815	0.005	0.073	0.067	468.2447	0.151
Tractors/Loaders/Backhoe	2020	501	750	0.318709	0.268	3.11926	1.60984	0.005	0.117	0.108	468.6602	0.152
Tractors/Loaders/Backhoe	2021	16	25	0.899672	0.756	4.22643	4.90172	0.005	0.254	0.234	515.1213	0.167
Tractors/Loaders/Backhoe	2021	26	50	0.899672	0.756	4.22643	4.90172	0.005	0.254	0.234	515.1213	0.167
Tractors/Loaders/Backhoe	2021	51	120	0.35209	0.296	2.995	3.57072	0.005	0.177	0.162	475.3621	0.154
Tractors/Loaders/Backhoe	2021	121	175	0.263016	0.221	2.06221	3.0907	0.005	0.104	0.096	467.5285	0.151
Tractors/Loaders/Backhoe	2021	176	250	0.249239	0.209	2.36922	1.18606	0.005	0.08	0.074	470.5716	0.152
Tractors/Loaders/Backhoe	2021	251	500	0.213479	0.179	1.776	1.34147	0.005	0.064	0.059	469.3025	0.152
Tractors/Loaders/Backhoe	2021	501	750	0.294477	0.247	2.75417	1.43254	0.005	0.104	0.096	466.4564	0.151
Tractors/Loaders/Backhoe	2022	16	25	0.818675	0.688	4.03024	4.75954	0.005	0.218	0.2	514.4613	0.166
Tractors/Loaders/Backhoe	2022	26	50	0.818675	0.688	4.03024	4.75954	0.005	0.218	0.2	514.4613	0.166
Tractors/Loaders/Backhoe	2022	51	120	0.309669	0.26	2.64718	3.53551	0.005	0.142	0.131	475.8975	0.154
Tractors/Loaders/Backhoe	2022	121	175	0.237945	0.2	1.75274	3.07944	0.005	0.089	0.082	467.8004	0.151
Tractors/Loaders/Backhoe	2022	176	250	0.222521	0.187	1.94251	1.16248	0.005	0.067	0.062	470.1236	0.152
Tractors/Loaders/Backhoe	2022	251	500	0.190771	0.16	1.43694	1.28026	0.005	0.053	0.049	469.2562	0.152
Tractors/Loaders/Backhoe	2022	501	750	0.276438	0.232	2.4532	1.35272	0.005	0.094	0.087	466.6327	0.151
Tractors/Loaders/Backhoe	2023	16	25	0.738634	0.621	3.85698	4.62935	0.005	0.185	0.17	513.7962	0.166
Tractors/Loaders/Backhoe	2023	26	50	0.738634	0.621	3.85698	4.62935	0.005	0.185	0.17	513.7962	0.166
Tractors/Loaders/Backhoe	2023	51	120	0.284572	0.239	2.42607	3.52504	0.005	0.12	0.11	476.4307	0.154
Tractors/Loaders/Backhoe	2023	121	175	0.219196	0.184	1.52095	3.0777	0.005	0.077	0.07	468.821	0.152
Tractors/Loaders/Backhoe	2023	176	250	0.201205	0.169	1.58768	1.14809	0.005	0.058	0.053	469.7518	0.152
Tractors/Loaders/Backhoe	2023	251	500	0.180818	0.152	1.24708	1.27923	0.005	0.047	0.043	469.4652	0.152
Tractors/Loaders/Backhoe	2023	501	750	0.278685	0.234	2.41861	1.36081	0.005	0.095	0.087	466.6756	0.151
Tractors/Loaders/Backhoe	2024	16	25	0.701609	0.59	3.76811	4.60899	0.005	0.166	0.153	513.8517	0.166
Tractors/Loaders/Backhoe	2024	26	50	0.701609	0.59	3.76811	4.60899	0.005	0.166	0.153	513.8517	0.166
Tractors/Loaders/Backhoe	2024	51	120	0.270597	0.227	2.28795	3.5318	0.005	0.105	0.097	476.7313	0.154
Tractors/Loaders/Backhoe	2024	121	175	0.209421	0.176	1.37643	3.08913	0.005	0.068	0.063	469.4029	0.152
Tractors/Loaders/Backhoe	2024	176	250	0.199431	0.168	1.49113	1.15125	0.005	0.054	0.05	469.9143	0.152
Tractors/Loaders/Backhoe	2024	251	500	0.178929	0.15	1.16321	1.277	0.005	0.044	0.041	470.0841	0.152
Tractors/Loaders/Backhoe	2024	501	750	0.262816	0.221	2.21548	1.31051	0.005	0.085	0.079	466.6381	0.151
Tractors/Loaders/Backhoe	2025	16	25	0.654585	0.55	3.66186	4.55974	0.005	0.145	0.133	513.8025	0.166
Tractors/Loaders/Backhoe	2025	26	50	0.654585	0.55	3.66186	4.55974	0.005	0.145	0.133	513.8025	0.166
Tractors/Loaders/Backhoe	2025	51	120	0.248412	0.209	2.10918	3.52242	0.005	0.085	0.079	477.188	0.154
Tractors/Loaders/Backhoe	2025	121	175	0.192617	0.162	1.18039	3.08323	0.005	0.058	0.054	469.3289	0.152
Tractors/Loaders/Backhoe	2025	176	250	0.183368	0.154	1.23458	1.14554	0.005	0.047	0.044	470.5976	0.152
Tractors/Loaders/Backhoe	2025	251	500	0.171862	0.144	1.04575	1.23405	0.005	0.039	0.036	470.9102	0.152
Tractors/Loaders/Backhoe	2025	501	750	0.222943	0.187	1.64868	1.26139	0.005	0.067	0.062	466.4517	0.151
Tractors/Loaders/Backhoe	2030	16	25	1.765	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Tractors/Loaders/Backhoe	2030	26	50	2.657	0.539	3.299	4.966	0.007	0.033	0.033	568.299	0.048
Tractors/Loaders/Backhoe	2030	51	120	2.285	0.272	1.624	3.705	0.006	0.03	0.03	568.299	0.024
Tractors/Loaders/Backhoe	2030	121	175	3.178	0.193	0.485	3.273	0.006	0.02	0.02	568.299	0.017
Tractors/Loaders/Backhoe	2030	176	250	5.112	0.183	0.418	1.115	0.006	0.014	0.014	568.299	0.016
Tractors/Loaders/Backhoe	2030	251	500	10.236	0.182	0.403	1.066	0.006	0.014	0.014	568.299	0.016
Tractors/Loaders/Backhoe	2030	501	750	15.363	0.182	0.407	1.066	0.006	0.014	0.014	568.299	0.016
Tractors/Loaders/Backhoe	2035	16	25	1.765	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Tractors/Loaders/Backhoe	2035	26	50	2.538	0.515	3.244	4.949	0.007	0.022	0.022	568.299	0.046
Tractors/Loaders/Backhoe	2035	51	120	2.17	0.258	1.521	3.703	0.006	0.02	0.02	568.299	0.023
Tractors/Loaders/Backhoe	2035	121	175	2.956	0.179	0.348	3.275	0.006	0.015	0.015	568.299	0.016
Tractors/Loaders/Backhoe	2035	176	250	4.945	0.177	0.331	1.115	0.006	0.012	0.012	568.299	0.016
Tractors/Loaders/Backhoe	2035	251	500	9.922	0.177	0.326	1.066	0.006	0.012	0.012	568.299	0.015
Tractors/Loaders/Backhoe	2035	501	750	14.886	0.177	0.327	1.066	0.006	0.012	0.012	568.299	0.015
Tractors/Loaders/Backhoe	2040	16	25	1.765	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Tractors/Loaders/Backhoe	2040	26	50	2.506	0.508	3.22	4.946	0.007	0.018	0.018	568.299	0.045
Tractors/Loaders/Backhoe	2040	51	120	2.135	0.254	1.485	3.703	0.006	0.016	0.016	568.299	0.022
Tractors/Loaders/Backhoe	2040	121	175	2.891	0.175	0.305	3.276	0.006	0.012	0.012	568.299	0.015
Tractors/Loaders/Backhoe	2040	176	250	4.877	0.174	0.297	1.116	0.006	0.011	0.011	568.3	0.015
Tractors/Loaders/Backhoe	2040	251	500	9.794	0.174	0.297	1.066	0.006	0.011	0.011	568.299	0.015
Tractors/Loaders/Backhoe	2040	501	750	14.69	0.174	0.297	1.066	0.006				

Trenchers	1990	16	25	18.341	2.213	6.919	4.999	0.855	0.741	0.741	568.3	0.199
Trenchers	1990	26	50	37.589	4.535	7.849	9.232	0.871	1.215	1.215	568.3	0.409
Trenchers	1990	51	120	37.519	2.296	14.752	5.621	0.791	1.284	1.284	568.299	0.207
Trenchers	1990	121	175	63.364	1.748	14.125	5.014	0.758	0.96	0.96	568.299	0.157
Trenchers	1990	176	250	98.152	1.748	14.125	5.014	0.758	0.96	0.96	568.299	0.157
Trenchers	1990	251	500	121.775	1.553	13.45	10.572	0.662	0.827	0.827	568.299	0.14
Trenchers	1990	501	750	229.57	1.553	13.45	10.572	1.018	0.843	0.843	568.299	0.14
Trenchers	2000	6	15	2.824	1.325	7.675	4.257	0.079	0.61	0.61	568.299	0.119
Trenchers	2000	16	25	15.815	1.908	6.326	4.438	0.065	0.555	0.555	568.299	0.172
Trenchers	2000	26	50	34.945	4.216	7.029	8.713	0.066	0.89	0.89	568.299	0.38
Trenchers	2000	51	120	30.939	1.893	10.98	4.777	0.06	0.882	0.882	568.299	0.17
Trenchers	2000	121	175	46.959	1.296	10.057	3.969	0.057	0.541	0.541	568.299	0.116
Trenchers	2000	176	250	64.645	1.151	9.8	3.402	0.057	0.474	0.474	568.299	0.103
Trenchers	2000	251	500	81.678	1.042	9.354	6.221	0.05	0.416	0.416	568.299	0.094
Trenchers	2000	501	750	153.98	1.042	9.354	6.221	0.052	0.416	0.416	568.299	0.094
Trenchers	2005	6	15	1.582	0.742	4.981	3.469	0.079	0.35	0.35	568.299	0.066
Trenchers	2005	16	25	7.043	0.849	5.321	2.519	0.065	0.333	0.333	568.3	0.076
Trenchers	2005	26	50	32.497	3.921	6.674	8.33	0.066	0.849	0.849	568.299	0.353
Trenchers	2005	51	120	27.751	1.698	9.727	4.526	0.06	0.839	0.839	568.299	0.153
Trenchers	2005	121	175	40.799	1.126	8.861	3.695	0.057	0.487	0.487	568.299	0.101
Trenchers	2005	176	250	51.63	0.92	8.545	2.668	0.057	0.379	0.379	568.299	0.083
Trenchers	2005	251	500	63.694	0.812	7.903	4.395	0.05	0.332	0.332	568.299	0.073
Trenchers	2005	501	750	121.568	0.822	8.023	4.387	0.052	0.333	0.333	568.299	0.074
Trenchers	2010	6	15	1.531711	1.287	5.52761	5.11336	0.005	0.509	0.468	586.297	0.171
Trenchers	2010	16	25	1.531711	1.287	5.52761	5.11336	0.005	0.509	0.468	586.297	0.171
Trenchers	2010	26	50	1.531711	1.287	5.52761	5.11336	0.005	0.509	0.468	586.297	0.171
Trenchers	2010	51	120	1.099287	0.924	7.99924	4.07421	0.005	0.62	0.571	529.306	0.154
Trenchers	2010	121	175	0.922781	0.775	8.65095	3.7406	0.005	0.441	0.406	519.6876	0.151
Trenchers	2010	176	250	0.705197	0.593	7.86432	2.36576	0.005	0.314	0.288	527.3537	0.154
Trenchers	2010	251	500	0.380701	0.32	4.85363	2.10547	0.005	0.176	0.162	523.7828	0.152
Trenchers	2010	501	750	0.194919	0.164	3.20501	1.33412	0.005	0.113	0.104	525.788	0.153
Trenchers	2011	6	15	1.520162	1.277	5.52336	5.14932	0.005	0.507	0.467	585.033	0.171
Trenchers	2011	16	25	1.520162	1.277	5.52336	5.14932	0.005	0.507	0.467	585.033	0.171
Trenchers	2011	26	50	1.520162	1.277	5.52336	5.14932	0.005	0.507	0.467	585.033	0.171
Trenchers	2011	51	120	1.045215	0.878	7.67483	4.02646	0.005	0.598	0.55	527.7187	0.154
Trenchers	2011	121	175	0.916044	0.77	8.56359	3.73004	0.005	0.438	0.403	518.4008	0.151
Trenchers	2011	176	250	0.655301	0.551	7.41222	2.19702	0.005	0.29	0.267	525.9543	0.153
Trenchers	2011	251	500	0.372561	0.313	4.66474	2.04569	0.005	0.171	0.158	522.8418	0.153
Trenchers	2011	501	750	0.180473	0.152	2.67369	1.33856	0.005	0.097	0.089	525.691	0.153
Trenchers	2012	6	15	1.545009	1.298	5.53504	5.24421	0.005	0.512	0.471	583.5639	0.171
Trenchers	2012	16	25	1.545009	1.298	5.53504	5.24421	0.005	0.512	0.471	583.5639	0.171
Trenchers	2012	26	50	1.545009	1.298	5.53504	5.24421	0.005	0.512	0.471	583.5639	0.171
Trenchers	2012	51	120	1.052636	0.885	7.69459	4.05076	0.005	0.604	0.556	526.3562	0.154
Trenchers	2012	121	175	0.907539	0.763	8.45762	3.7162	0.005	0.436	0.401	517.1147	0.151
Trenchers	2012	176	250	0.662356	0.557	7.44867	2.20863	0.005	0.293	0.27	524.572	0.153
Trenchers	2012	251	500	0.369046	0.31	4.58546	2.03349	0.005	0.168	0.155	521.6264	0.153
Trenchers	2012	501	750	0.135931	0.114	2.04792	0.95532	0.005	0.069	0.064	524.8533	0.154
Trenchers	2013	6	15	1.53809	1.292	5.51013	5.2883	0.005	0.509	0.469	580.7693	0.171
Trenchers	2013	16	25	1.53809	1.292	5.51013	5.2883	0.005	0.509	0.469	580.7693	0.171
Trenchers	2013	26	50	1.53809	1.292	5.51013	5.2883	0.005	0.509	0.469	580.7693	0.171
Trenchers	2013	51	120	1.010936	0.849	7.45031	4.02389	0.005	0.582	0.536	523.4236	0.154
Trenchers	2013	121	175	0.916392	0.77	8.49431	3.73732	0.005	0.441	0.406	514.53	0.151
Trenchers	2013	176	250	0.626949	0.527	7.03951	2.13383	0.005	0.276	0.254	520.4335	0.153
Trenchers	2013	251	500	0.376293	0.316	4.60225	2.04997	0.005	0.17	0.156	519.043	0.153
Trenchers	2013	501	750	0.144323	0.121	2.05561	0.96183	0.005	0.07	0.065	522.2778	0.154
Trenchers	2014	6	15	1.508934	1.268	5.45539	5.29329	0.005	0.501	0.46	577.7275	0.171
Trenchers	2014	16	25	1.508934	1.268	5.45539	5.29329	0.005	0.501	0.46	577.7275	0.171
Trenchers	2014	26	50	1.508934	1.268	5.45539	5.29329	0.005	0.501	0.46	577.7275	0.171
Trenchers	2014	51	120	0.973633	0.818	7.2172	3.99876	0.005	0.563	0.518	520.7658	0.154
Trenchers	2014	121	175	0.824366	0.693	7.69921	3.66799	0.005	0.395	0.364	512.1475	0.151
Trenchers	2014	176	250	0.591196	0.497	6.48427	2.07009	0.005	0.258	0.237	517.7188	0.153
Trenchers	2014	251	500	0.364023	0.306	4.37019	2.03515	0.005	0.161	0.148	513.7439	0.152
Trenchers	2014	501	750	0.140019	0.118	1.825	0.96403	0.005	0.061	0.056	519.6576	0.154
Trenchers	2015	6	15	1.498018	1.259	5.40567	5.32346	0.005	0.493	0.454	571.6674	0.171
Trenchers	2015	16	25	1.498018	1.259	5.40567	5.32346	0.005	0.493	0.454	571.6674	0.171
Trenchers	2015	26	50	1.498018	1.259	5.40567	5.32346	0.005	0.493	0.454	571.6674	0.171
Trenchers	2015	51	120	0.972367	0.817	7.17857	4.01434	0.005	0.562	0.517	515.3955	0.154
Trenchers	2015	121	175	0.829448	0.697	7.67382	3.68389	0.005	0.396	0.364	506.9434	0.151
Trenchers	2015	176	250	0.597101	0.502	6.50988	2.0797	0.005	0.26	0.239	512.4325	0.153
Trenchers	2015	251	500	0.370644	0.311	4.38344	2.05093	0.005	0.163	0.15	508.3296	0.152
Trenchers	2015	501	750	0.135272	0.114	1.62336	0.96532	0.005	0.053	0.049	514.4002	0.154
Trenchers	2016	6	15	1.450442	1.219	5.29818	5.28497	0.005	0.475	0.437	565.9942	0.171
Trenchers	2016	16	25	1.450442	1.219	5.29818	5.28497	0.005	0.475	0.437	565.9942	0.171
Trenchers	2016	26	50	1.450442	1.219	5.29818	5.28497	0.005	0.475	0.437	565.9942	0.171
Trenchers	2016	51	120	0.937737	0.788	6.90219	3.98822	0.005	0.541	0.498	509.9027	0.154
Trenchers	2016	121	175	0.693219	0.582	6.50303	3.50717	0.005	0.328	0.302	501.7809	0.151
Trenchers	2016	176	250	0.58008	0.487	6.31168	2.03007	0.005	0.251	0.231	507.1448	0.153
Trenchers	2016	251	500	0.351818	0.296	4.09912	1.96649	0.005	0.15	0.138	504.4103	0.152
Trenchers	2016	501	750	0.142468	0.12	1.63008	0.97148	0.005	0.054	0.05	509.1433	0.154
Trenchers	2017	6	15	1.367315	1.149	5.16614	5.19682	0.005	0.449	0.413	557.4601	0.171
Trenchers	2017	16	25	1.367315	1.149	5.16614	5.19682	0.005	0.449	0.413	557.4601	0.171
Trenchers	2017	26	50	1.367315	1.149	5.16614	5.19682	0.005	0.449	0.413	557.4601	0.171
Trenchers	2017	51	120	0.906302	0.762	6.67876	3.96827	0.005	0.523	0.481	501.9916	0.154
Trenchers	2017	121	175	0.638299	0.536	5.92725	3.43391	0.005	0.3	0.276	493.7642	0.151
Trenchers	2017	176	250	0.577948	0.486	6.19428	2.03655	0.005	0.25	0.23	499.2281	0.153
Trenchers	2017	251	500	0.315778	0.265	3.44157	1.96603	0.005	0.129	0.119	497.0197	0.152
Trenchers	2017	501	750	0.135465	0.114	1.42958	0.97168	0.005	0.046	0.042	501.1831	0.154
Trenchers	2018	6	15	1.236195	1.039	4.95997	5.01831	0.005	0.409	0.377	548.3607	0.171
Trenchers	2018	16	25	1.236195	1.039	4.95997	5.01831	0.005	0.409	0.377	548.3607	0.171

Trenchers	2018	26	50	1.236195	1.039	4.95997	5.01831	0.005	0.409	0.377	548.3607	0.171
Trenchers	2018	51	120	0.78315	0.658	5.91527	3.85487	0.005	0.45	0.414	493.715	0.154
Trenchers	2018	121	175	0.559787	0.47	5.12742	3.33134	0.005	0.261	0.24	485.9254	0.151
Trenchers	2018	176	250	0.498602	0.419	5.29554	1.84856	0.005	0.212	0.195	491.5649	0.153
Trenchers	2018	251	500	0.30464	0.256	3.21114	1.97444	0.005	0.121	0.112	489.6281	0.152
Trenchers	2018	501	750	0.111849	0.094	1.02523	0.96632	0.005	0.029	0.026	494.6426	0.154
Trenchers	2019	6	15	1.136688	0.955	4.78464	4.89183	0.005	0.377	0.347	539.1037	0.171
Trenchers	2019	16	25	1.136688	0.955	4.78464	4.89183	0.005	0.377	0.347	539.1037	0.171
Trenchers	2019	26	50	1.136688	0.955	4.78464	4.89183	0.005	0.377	0.347	539.1037	0.171
Trenchers	2019	51	120	0.751452	0.631	5.69508	3.83677	0.005	0.431	0.396	485.3635	0.154
Trenchers	2019	121	175	0.547248	0.46	4.95976	3.34151	0.005	0.255	0.234	478.1294	0.151
Trenchers	2019	176	250	0.481784	0.405	5.04653	1.81019	0.005	0.203	0.187	484.1167	0.153
Trenchers	2019	251	500	0.302803	0.254	3.12824	1.98689	0.005	0.118	0.109	482.1648	0.153
Trenchers	2019	501	750	0.09296	0.078	0.70662	0.95644	0.005	0.015	0.014	484.5422	0.153
Trenchers	2020	6	15	1.076913	0.905	4.67651	4.8331	0.005	0.356	0.328	527.0962	0.17
Trenchers	2020	16	25	1.076913	0.905	4.67651	4.8331	0.005	0.356	0.328	527.0962	0.17
Trenchers	2020	26	50	1.076913	0.905	4.67651	4.8331	0.005	0.356	0.328	527.0962	0.17
Trenchers	2020	51	120	0.726229	0.61	5.51952	3.83272	0.005	0.413	0.38	475.1265	0.154
Trenchers	2020	121	175	0.500709	0.421	4.46042	3.32968	0.005	0.228	0.21	467.7348	0.151
Trenchers	2020	176	250	0.466499	0.392	4.8091	1.77405	0.005	0.195	0.179	473.5951	0.153
Trenchers	2020	251	500	0.276702	0.233	2.775	1.85932	0.005	0.105	0.097	470.6367	0.152
Trenchers	2020	501	750	0.083454	0.07	0.56006	0.95004	0.005	0.009	0.008	472.6556	0.153
Trenchers	2021	6	15	0.962829	0.809	4.45891	4.66576	0.005	0.313	0.288	527.0165	0.17
Trenchers	2021	16	25	0.962829	0.809	4.45891	4.66576	0.005	0.313	0.288	527.0165	0.17
Trenchers	2021	26	50	0.962829	0.809	4.45891	4.66576	0.005	0.313	0.288	527.0165	0.17
Trenchers	2021	51	120	0.661739	0.556	5.10594	3.78912	0.005	0.371	0.341	475.287	0.154
Trenchers	2021	121	175	0.483838	0.407	4.27237	3.30363	0.005	0.219	0.201	467.7343	0.151
Trenchers	2021	176	250	0.42408	0.356	4.36036	1.66826	0.005	0.172	0.158	473.8538	0.153
Trenchers	2021	251	500	0.263326	0.221	2.49105	1.86493	0.005	0.1	0.092	470.701	0.152
Trenchers	2021	501	750	0.078358	0.066	0.47513	0.94677	0.005	0.009	0.008	472.5289	0.153
Trenchers	2022	6	15	0.859634	0.722	4.26873	4.51833	0.005	0.275	0.253	527.0258	0.17
Trenchers	2022	16	25	0.859634	0.722	4.26873	4.51833	0.005	0.275	0.253	527.0258	0.17
Trenchers	2022	26	50	0.859634	0.722	4.26873	4.51833	0.005	0.275	0.253	527.0258	0.17
Trenchers	2022	51	120	0.629528	0.529	4.91345	3.77843	0.005	0.348	0.32	475.3262	0.154
Trenchers	2022	121	175	0.470645	0.395	4.10333	3.31289	0.005	0.211	0.195	467.7337	0.151
Trenchers	2022	176	250	0.398562	0.335	3.85292	1.66329	0.005	0.16	0.148	473.8512	0.153
Trenchers	2022	251	500	0.252168	0.212	2.21226	1.87233	0.005	0.094	0.086	470.5845	0.152
Trenchers	2022	501	750	0.067683	0.057	0.30138	0.94489	0.005	0.009	0.008	474.2887	0.153
Trenchers	2023	6	15	0.763609	0.642	3.95873	4.30164	0.005	0.22	0.202	527.0954	0.17
Trenchers	2023	16	25	0.763609	0.642	3.95873	4.30164	0.005	0.22	0.202	527.0954	0.17
Trenchers	2023	26	50	0.763609	0.642	3.95873	4.30164	0.005	0.22	0.202	527.0954	0.17
Trenchers	2023	51	120	0.599816	0.504	4.70045	3.76842	0.005	0.326	0.3	475.6903	0.154
Trenchers	2023	121	175	0.427489	0.359	3.65725	3.29061	0.005	0.185	0.171	467.7332	0.151
Trenchers	2023	176	250	0.390278	0.328	3.7365	1.6386	0.005	0.155	0.143	473.8485	0.153
Trenchers	2023	251	500	0.236268	0.199	2.00504	1.72273	0.005	0.085	0.078	471.6125	0.153
Trenchers	2023	501	750	0.071688	0.06	0.30278	0.95111	0.005	0.009	0.008	474.4705	0.153
Trenchers	2024	6	15	0.714783	0.601	3.83415	4.23326	0.005	0.197	0.181	527.0216	0.17
Trenchers	2024	16	25	0.714783	0.601	3.83415	4.23326	0.005	0.197	0.181	527.0216	0.17
Trenchers	2024	26	50	0.714783	0.601	3.83415	4.23326	0.005	0.197	0.181	527.0216	0.17
Trenchers	2024	51	120	0.588274	0.494	4.59319	3.76854	0.005	0.318	0.292	475.6324	0.154
Trenchers	2024	121	175	0.432612	0.364	3.66715	3.31073	0.005	0.187	0.172	467.7326	0.151
Trenchers	2024	176	250	0.370794	0.312	3.48285	1.59847	0.005	0.145	0.134	473.8455	0.153
Trenchers	2024	251	500	0.228039	0.192	1.85871	1.66789	0.005	0.08	0.074	469.9942	0.152
Trenchers	2024	501	750	0.076605	0.064	0.30435	0.95838	0.005	0.009	0.008	474.4782	0.153
Trenchers	2025	6	15	0.645012	0.542	3.65681	4.11956	0.005	0.163	0.15	527.1603	0.17
Trenchers	2025	16	25	0.645012	0.542	3.65681	4.11956	0.005	0.163	0.15	527.1603	0.17
Trenchers	2025	26	50	0.645012	0.542	3.65681	4.11956	0.005	0.163	0.15	527.1603	0.17
Trenchers	2025	51	120	0.5433	0.457	4.279	3.73437	0.005	0.285	0.262	475.9014	0.154
Trenchers	2025	121	175	0.426125	0.358	3.54907	3.30907	0.005	0.179	0.165	467.732	0.151
Trenchers	2025	176	250	0.365033	0.307	3.31521	1.60076	0.005	0.144	0.132	473.9168	0.153
Trenchers	2025	251	500	0.227307	0.191	1.82613	1.67595	0.005	0.079	0.072	470.4394	0.152
Trenchers	2025	501	750	0.079299	0.067	0.30526	0.96233	0.005	0.009	0.008	474.4863	0.153
Trenchers	2030	6	15	1.409	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Trenchers	2030	16	25	5.681	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Trenchers	2030	26	50	7.055	0.851	3.835	5.208	0.007	0.144	0.144	568.299	0.076
Trenchers	2030	51	120	6.697	0.409	2.559	3.743	0.006	0.132	0.132	568.299	0.036
Trenchers	2030	121	175	10.904	0.3	1.529	3.273	0.006	0.08	0.08	568.3	0.027
Trenchers	2030	176	250	14.406	0.256	1.348	1.188	0.006	0.049	0.049	568.3	0.023
Trenchers	2030	251	500	19.534	0.249	1.231	1.209	0.005	0.046	0.046	568.299	0.022
Trenchers	2030	501	750	36.902	0.249	1.254	1.209	0.005	0.047	0.047	568.299	0.022
Trenchers	2035	6	15	1.409	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Trenchers	2035	16	25	5.681	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Trenchers	2035	26	50	5.645	0.681	3.548	5.055	0.007	0.084	0.084	568.299	0.061
Trenchers	2035	51	120	5.437	0.332	2.049	3.713	0.006	0.076	0.076	568.3	0.03
Trenchers	2035	121	175	8.756	0.241	0.966	3.264	0.006	0.048	0.048	568.299	0.021
Trenchers	2035	176	250	12.171	0.216	0.847	1.149	0.006	0.031	0.031	568.299	0.019
Trenchers	2035	251	500	16.707	0.213	0.79	1.126	0.005	0.029	0.029	568.299	0.019
Trenchers	2035	501	750	31.529	0.213	0.801	1.126	0.005	0.029	0.029	568.3	0.019
Trenchers	2040	6	15	1.409	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Trenchers	2040	16	25	5.681	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Trenchers	2040	26	50	4.961	0.598	3.374	4.98	0.007	0.052	0.052	568.299	0.054
Trenchers	2040	51	120	4.791	0.293	1.767	3.699	0.006	0.047	0.047	568.299	0.026
Trenchers	2040	121	175	7.533	0.207	0.639	3.26	0.006	0.03	0.03	568.3	0.018
Trenchers	2040	176	250	10.853	0.193	0.573	1.126	0.006	0.02	0.02	568.3	0.017
Trenchers	2040	251	500	15.011	0.191	0.542	1.081	0.005	0.02	0.02	568.3	0.017
Trenchers	2040	501	750	28.323	0.191	0.549	1.081	0.005	0.02	0.02	568.299	0.017
Welders	1990	6	15	4.525	1.804	9.999	4.999	1.018	0.974	0.974	568.299	0.162
Welders	1990	16	25	10.092	2.213	6.919	4.999	0.83	0.74	0.74	568.299	0.199
Welders	1990	26	50	40.899	3.899	7.611	8.078	0.846	1.085	1.085	568.3	0.351

Welders	1990	51	120	33.632	2.107	13.999	5.312	0.768	1.146	1.146	568.3	0.19
Welders	1990	121	175	57.219	1.442	12.598	4.703	0.736	0.761	0.761	568.299	0.13
Welders	1990	176	250	69.387	1.442	12.598	4.703	0.736	0.761	0.761	568.299	0.13
Welders	1990	251	500	88.323	1.304	12.141	8.704	0.642	0.672	0.672	568.3	0.117
Welders	2000	6	15	4.323	1.723	9.08	4.875	0.079	0.747	0.747	568.299	0.155
Welders	2000	16	25	9.556	2.095	6.405	4.783	0.065	0.569	0.569	568.299	0.189
Welders	2000	26	50	38.432	3.664	6.797	7.708	0.066	0.803	0.803	568.299	0.33
Welders	2000	51	120	27.201	1.704	10.046	4.433	0.06	0.791	0.791	568.3	0.153
Welders	2000	121	175	45.269	1.14	9.126	3.61	0.057	0.468	0.468	568.299	0.102
Welders	2000	176	250	45.901	0.954	8.783	2.869	0.057	0.384	0.384	568.299	0.086
Welders	2000	251	500	59.514	0.878	8.466	4.719	0.05	0.344	0.344	568.299	0.079
Welders	2005	6	15	3.497	1.394	7.817	4.38	0.079	0.621	0.621	568.299	0.125
Welders	2005	16	25	7.401	1.622	6.014	3.922	0.065	0.483	0.483	568.299	0.146
Welders	2005	26	50	34.243	3.264	6.342	7.144	0.066	0.746	0.746	568.299	0.294
Welders	2005	51	120	23.288	1.459	8.459	4.096	0.06	0.733	0.733	568.299	0.131
Welders	2005	121	175	37.837	0.953	7.736	3.26	0.057	0.405	0.405	568.299	0.086
Welders	2005	176	250	32.839	0.682	7.302	1.941	0.057	0.268	0.268	568.299	0.061
Welders	2005	251	500	41.097	0.606	6.755	2.566	0.05	0.241	0.241	568.299	0.054
Welders	2010	6	15	2.82	1.124	6.554	4.027	0.008	0.473	0.473	568.3	0.101
Welders	2010	16	25	5.78	1.267	5.477	3.309	0.007	0.384	0.384	568.299	0.114
Welders	2010	26	50	27.885	2.658	5.944	6.571	0.007	0.623	0.623	568.299	0.239
Welders	2010	51	120	18.341	1.149	6.999	3.928	0.006	0.61	0.61	568.299	0.103
Welders	2010	121	175	30.26	0.762	6.255	3.185	0.006	0.338	0.338	568.299	0.068
Welders	2010	176	250	23.908	0.496	5.857	1.433	0.006	0.189	0.189	568.299	0.044
Welders	2010	251	500	30.15	0.445	5.26	1.621	0.005	0.174	0.174	568.299	0.04
Welders	2011	6	15	2.677	1.067	6.283	3.952	0.008	0.441	0.441	568.299	0.096
Welders	2011	16	25	5.436	1.192	5.36	3.179	0.007	0.361	0.361	568.3	0.107
Welders	2011	26	50	26.104	2.488	5.85	6.392	0.007	0.593	0.593	568.299	0.224
Welders	2011	51	120	17.199	1.077	6.632	3.891	0.006	0.584	0.584	568.3	0.097
Welders	2011	121	175	28.559	0.719	5.91	3.173	0.006	0.325	0.325	568.299	0.064
Welders	2011	176	250	22.03	0.457	5.462	1.34	0.006	0.17	0.17	568.299	0.041
Welders	2011	251	500	27.869	0.411	4.886	1.473	0.005	0.157	0.157	568.299	0.037
Welders	2012	6	15	2.527	1.007	5.999	3.874	0.008	0.407	0.407	568.299	0.09
Welders	2012	16	25	5.076	1.113	5.239	3.043	0.007	0.337	0.337	568.299	0.1
Welders	2012	26	50	24.122	2.299	5.749	6.185	0.007	0.56	0.56	568.299	0.207
Welders	2012	51	120	15.992	1.001	6.232	3.852	0.006	0.549	0.549	568.299	0.09
Welders	2012	121	175	26.736	0.673	5.543	3.161	0.006	0.303	0.303	568.299	0.06
Welders	2012	176	250	20.583	0.427	5.087	1.281	0.006	0.154	0.154	568.299	0.038
Welders	2012	251	500	26.151	0.386	4.532	1.369	0.005	0.144	0.144	568.299	0.034
Welders	2013	6	15	2.378	0.948	5.716	3.796	0.008	0.373	0.373	568.299	0.085
Welders	2013	16	25	4.718	1.034	5.117	2.907	0.007	0.314	0.314	568.299	0.093
Welders	2013	26	50	22.037	2.101	5.526	5.967	0.007	0.517	0.517	568.299	0.189
Welders	2013	51	120	14.766	0.925	5.836	3.813	0.006	0.507	0.507	568.3	0.083
Welders	2013	121	175	24.884	0.627	5.195	3.151	0.006	0.279	0.279	568.299	0.056
Welders	2013	176	250	19.36	0.402	4.723	1.241	0.006	0.141	0.141	568.299	0.036
Welders	2013	251	500	24.728	0.365	4.191	1.291	0.005	0.131	0.131	568.299	0.032
Welders	2014	6	15	2.237	0.891	5.445	3.723	0.008	0.341	0.341	568.3	0.08
Welders	2014	16	25	4.381	0.96	5	2.78	0.007	0.291	0.291	568.299	0.086
Welders	2014	26	50	19.935	1.9	5.308	5.749	0.007	0.473	0.473	568.3	0.171
Welders	2014	51	120	13.552	0.849	5.481	3.774	0.006	0.464	0.464	568.299	0.076
Welders	2014	121	175	23.067	0.581	4.862	3.141	0.006	0.255	0.255	568.299	0.052
Welders	2014	176	250	18.135	0.376	4.297	1.207	0.006	0.128	0.128	568.299	0.034
Welders	2014	251	500	23.294	0.343	3.788	1.227	0.005	0.119	0.119	568.299	0.031
Welders	2015	6	15	2.109	0.84	5.196	3.658	0.008	0.311	0.311	568.299	0.075
Welders	2015	16	25	4.078	0.894	4.89	2.666	0.007	0.27	0.27	568.299	0.08
Welders	2015	26	50	17.994	1.715	5.113	5.562	0.007	0.43	0.43	568.3	0.154
Welders	2015	51	120	12.337	0.772	5.077	3.738	0.006	0.419	0.419	568.299	0.069
Welders	2015	121	175	21.139	0.532	4.408	3.133	0.006	0.23	0.23	568.299	0.048
Welders	2015	176	250	16.976	0.352	3.88	1.178	0.006	0.116	0.116	568.299	0.031
Welders	2015	251	500	21.953	0.324	3.398	1.176	0.005	0.108	0.108	568.299	0.029
Welders	2016	6	15	2.03	0.809	5.023	3.622	0.008	0.289	0.289	568.299	0.073
Welders	2016	16	25	3.903	0.855	4.803	2.604	0.007	0.255	0.255	568.299	0.077
Welders	2016	26	50	16.155	1.54	4.936	5.395	0.007	0.389	0.389	568.299	0.138
Welders	2016	51	120	11.165	0.699	4.692	3.705	0.006	0.375	0.375	568.3	0.063
Welders	2016	121	175	19.285	0.486	3.973	3.128	0.006	0.206	0.206	568.299	0.043
Welders	2016	176	250	15.901	0.33	3.481	1.153	0.006	0.104	0.104	568.299	0.029
Welders	2016	251	500	20.731	0.306	3.032	1.134	0.005	0.097	0.097	568.299	0.027
Welders	2017	6	15	1.973	0.786	4.887	3.599	0.008	0.272	0.272	568.299	0.07
Welders	2017	16	25	3.785	0.83	4.729	2.564	0.007	0.243	0.243	568.299	0.074
Welders	2017	26	50	14.392	1.372	4.768	5.239	0.007	0.35	0.35	568.299	0.123
Welders	2017	51	120	10.06	0.63	4.328	3.675	0.006	0.332	0.332	568.299	0.056
Welders	2017	121	175	17.561	0.442	3.562	3.124	0.006	0.183	0.183	568.299	0.039
Welders	2017	176	250	14.942	0.31	3.105	1.133	0.006	0.094	0.094	568.299	0.028
Welders	2017	251	500	19.705	0.29	2.713	1.102	0.005	0.088	0.088	568.299	0.026
Welders	2018	6	15	1.923	0.766	4.762	3.58	0.008	0.256	0.256	568.3	0.069
Welders	2018	16	25	3.684	0.807	4.661	2.531	0.007	0.232	0.232	568.299	0.072
Welders	2018	26	50	12.698	1.21	4.607	5.092	0.007	0.311	0.311	568.299	0.109
Welders	2018	51	120	9.016	0.564	3.98	3.648	0.006	0.29	0.29	568.299	0.05
Welders	2018	121	175	15.966	0.402	3.176	3.123	0.006	0.162	0.162	568.299	0.036
Welders	2018	176	250	14.068	0.292	2.751	1.118	0.006	0.084	0.084	568.299	0.026
Welders	2018	251	500	18.804	0.277	2.43	1.08	0.005	0.08	0.08	568.299	0.025
Welders	2019	6	15	1.877	0.748	4.647	3.562	0.008	0.241	0.241	568.299	0.067
Welders	2019	16	25	3.592	0.787	4.596	2.501	0.007	0.222	0.222	568.299	0.071
Welders	2019	26	50	11.071	1.055	4.449	4.95	0.007	0.273	0.273	568.299	0.095
Welders	2019	51	120	8.032	0.503	3.648	3.623	0.006	0.25	0.25	568.299	0.045
Welders	2019	121	175	14.693	0.37	2.832	3.122	0.006	0.143	0.143	568.3	0.033
Welders	2019	176	250	13.284	0.276	2.432	1.104	0.006	0.075	0.075	568.299	0.024
Welders	2019	251	500	17.937	0.264	2.163	1.065	0.005	0.072	0.072	568.3	0.023
Welders	2020	6	15	1.835	0.731	4.542	3.546	0.008	0.227	0.227	568.299	0.066



Welders	2020	16	25	3.507	0.769	4.538	2.473	0.007	0.212	0.212	568.299	0.069
Welders	2020	26	50	9.83	0.937	4.304	4.84	0.007	0.238	0.238	568.299	0.084
Welders	2020	51	120	7.278	0.455	3.351	3.605	0.006	0.216	0.216	568.299	0.041
Welders	2020	121	175	13.663	0.344	2.523	3.122	0.006	0.127	0.127	568.299	0.031
Welders	2020	176	250	12.577	0.261	2.143	1.093	0.006	0.066	0.066	568.299	0.023
Welders	2020	251	500	17.094	0.252	1.91	1.055	0.005	0.064	0.064	568.299	0.022
Welders	2021	6	15	1.8	0.717	4.462	3.531	0.008	0.214	0.214	568.299	0.064
Welders	2021	16	25	3.431	0.752	4.497	2.446	0.007	0.201	0.201	568.299	0.067
Welders	2021	26	50	8.704	0.829	4.133	4.708	0.007	0.203	0.203	568.299	0.074
Welders	2021	51	120	6.572	0.411	3.042	3.579	0.006	0.184	0.184	568.299	0.037
Welders	2021	121	175	12.512	0.315	2.189	3.112	0.006	0.11	0.11	568.299	0.028
Welders	2021	176	250	11.711	0.243	1.836	1.081	0.006	0.057	0.057	568.299	0.021
Welders	2021	251	500	15.998	0.236	1.642	1.044	0.005	0.055	0.055	568.299	0.021
Welders	2022	6	15	1.774	0.707	4.408	3.519	0.008	0.203	0.203	568.3	0.063
Welders	2022	16	25	3.374	0.739	4.47	2.426	0.007	0.193	0.193	568.299	0.066
Welders	2022	26	50	7.959	0.758	4.007	4.645	0.007	0.175	0.175	568.299	0.068
Welders	2022	51	120	6.112	0.382	2.808	3.57	0.006	0.16	0.16	568.299	0.034
Welders	2022	121	175	11.714	0.295	1.935	3.113	0.006	0.097	0.097	568.3	0.026
Welders	2022	176	250	11.128	0.231	1.598	1.074	0.006	0.05	0.05	568.299	0.02
Welders	2022	251	500	15.267	0.225	1.454	1.038	0.005	0.049	0.049	568.3	0.02
Welders	2023	6	15	1.751	0.698	4.359	3.508	0.008	0.194	0.194	568.3	0.063
Welders	2023	16	25	3.322	0.728	4.447	2.407	0.007	0.186	0.186	568.299	0.065
Welders	2023	26	50	7.318	0.697	3.891	4.596	0.007	0.151	0.151	568.299	0.062
Welders	2023	51	120	5.713	0.357	2.599	3.564	0.006	0.139	0.139	568.299	0.032
Welders	2023	121	175	11.013	0.277	1.726	3.115	0.006	0.085	0.085	568.299	0.025
Welders	2023	176	250	10.606	0.22	1.404	1.071	0.006	0.044	0.044	568.299	0.019
Welders	2023	251	500	14.602	0.215	1.289	1.034	0.005	0.042	0.042	568.299	0.019
Welders	2024	6	15	1.731	0.69	4.316	3.499	0.008	0.188	0.188	568.299	0.062
Welders	2024	16	25	3.276	0.718	4.426	2.39	0.007	0.181	0.181	568.299	0.064
Welders	2024	26	50	6.78	0.646	3.782	4.557	0.007	0.13	0.13	568.299	0.058
Welders	2024	51	120	5.366	0.336	2.43	3.56	0.006	0.12	0.12	568.299	0.03
Welders	2024	121	175	10.369	0.261	1.541	3.118	0.006	0.074	0.074	568.299	0.023
Welders	2024	176	250	10.107	0.21	1.234	1.068	0.006	0.038	0.038	568.299	0.018
Welders	2024	251	500	13.957	0.206	1.135	1.032	0.005	0.037	0.037	568.299	0.018
Welders	2025	6	15	1.713	0.683	4.278	3.491	0.008	0.183	0.183	568.3	0.061
Welders	2025	16	25	3.237	0.709	4.407	2.376	0.007	0.177	0.177	568.299	0.064
Welders	2025	26	50	6.315	0.602	3.676	4.524	0.007	0.112	0.112	568.299	0.054
Welders	2025	51	120	5.055	0.316	2.283	3.557	0.006	0.102	0.102	568.299	0.028
Welders	2025	121	175	9.743	0.245	1.365	3.121	0.006	0.063	0.063	568.299	0.022
Welders	2025	176	250	9.621	0.199	1.075	1.065	0.006	0.032	0.032	568.299	0.018
Welders	2025	251	500	13.325	0.196	0.99	1.029	0.005	0.031	0.031	568.299	0.017
Welders	2030	6	15	1.665	0.663	4.164	3.47	0.008	0.166	0.166	568.299	0.059
Welders	2030	16	25	3.133	0.687	4.347	2.34	0.007	0.165	0.165	568.299	0.061
Welders	2030	26	50	4.719	0.449	3.273	4.387	0.007	0.045	0.045	568.299	0.04
Welders	2030	51	120	3.827	0.239	1.707	3.535	0.006	0.04	0.04	568.299	0.021
Welders	2030	121	175	7.011	0.176	0.628	3.121	0.006	0.027	0.027	568.299	0.015
Welders	2030	176	250	7.829	0.162	0.525	1.063	0.006	0.017	0.017	568.299	0.014
Welders	2030	251	500	10.967	0.161	0.495	1.027	0.005	0.017	0.017	568.299	0.014
Welders	2035	6	15	1.659	0.661	4.143	3.469	0.008	0.162	0.162	568.299	0.059
Welders	2035	16	25	3.126	0.685	4.332	2.339	0.007	0.162	0.162	568.299	0.061
Welders	2035	26	50	4.262	0.406	3.147	4.349	0.007	0.022	0.022	568.299	0.036
Welders	2035	51	120	3.418	0.214	1.509	3.528	0.006	0.019	0.019	568.299	0.019
Welders	2035	121	175	6.087	0.153	0.387	3.121	0.006	0.015	0.015	568.299	0.013
Welders	2035	176	250	7.189	0.149	0.343	1.063	0.006	0.012	0.012	568.299	0.013
Welders	2035	251	500	10.118	0.149	0.339	1.027	0.005	0.012	0.012	568.299	0.013
Welders	2040	6	15	1.659	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Welders	2040	16	25	3.126	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Welders	2040	26	50	4.218	0.402	3.093	4.336	0.007	0.015	0.015	568.3	0.036
Welders	2040	51	120	3.322	0.208	1.447	3.524	0.006	0.014	0.014	568.299	0.018
Welders	2040	121	175	5.753	0.145	0.303	3.118	0.006	0.011	0.011	568.299	0.013
Welders	2040	176	250	6.911	0.143	0.287	1.062	0.006	0.01	0.01	568.3	0.012
Welders	2040	251	500	9.728	0.143	0.287	1.026	0.005	0.01	0.01	568.299	0.012

**Table 3.3 OFFROAD Default Horsepower and Load Factors**

<b>OFFROAD Equipment Type</b>	<b>Horsepower</b>	<b>Load Factor</b>
Aerial Lifts	63	0.31
Air Compressors	78	0.48
Bore/Drill Rigs	221	0.5
Cement and Mortar Mixers	9	0.56
Concrete/Industrial Saws	81	0.73
Cranes	231	0.29
Crawler Tractors	212	0.43
Crushing/Proc. Equipment	85	0.78
Dumpers/Tenders	16	0.38
Excavators	158	0.38
Forklifts	89	0.2
Generator Sets	84	0.74
Graders	187	0.41
Off-Highway Tractors	124	0.44
Off-Highway Trucks	402	0.38
Other Construction Equipment	172	0.42
Other General Industrial Equipment	88	0.34
Other Material Handling Equipment	168	0.4
Pavers	130	0.42
Paving Equipment	132	0.36
Plate Compactors	8	0.43
Pressure Washers	13	0.3
Pumps	84	0.74
Rollers	80	0.38
Rough Terrain Forklifts	100	0.4
Rubber Tired Dozers	247	0.4
Rubber Tired Loaders	203	0.36
Scrapers	367	0.48
Signal Boards	6	0.82
Skid Steer Loaders	65	0.37
Surfacing Equipment	263	0.3
Sweepers/Scrubbers	64	0.46
Tractors/Loaders/Backhoes	97	0.37
Trenchers	78	0.5
Welders	46	0.45

**Table 3.5 OFFROAD Emission Factor Based on Engine Tier (g/bhp-hr)**

<b>Tier</b>	<b>Low HP</b>	<b>High HP</b>	<b>CO</b>	<b>NOX</b>	<b>PM10</b>	<b>PM2.5</b>	<b>ROG</b>
Tier 1	25	49	4.1	5.26	0.48	0.48	1.74
Tier 1	50	74	6.9	6.54	0.552	0.552	1.19
Tier 1	75	119	6.9	6.54	0.552	0.552	1.19
Tier 1	120	174	6.9	6.54	0.274	0.274	0.82
Tier 1	175	299	6.9	5.93	0.108	0.108	0.38
Tier 1	300	599	6.9	5.93	0.108	0.108	0.38
Tier 1	600	750	6.9	5.93	0.108	0.108	0.38
Tier 1	751	2000	6.9	5.93	0.108	0.108	0.38
Tier 2	25	49	4.1	4.63	0.28	0.28	0.29
Tier 2	50	74	3.7	4.75	0.192	0.192	0.23
Tier 2	75	119	3.7	4.75	0.192	0.192	0.23
Tier 2	120	174	3.7	4.17	0.128	0.128	0.19
Tier 2	175	299	2.6	4.15	0.088	0.088	0.12
Tier 2	300	599	2.6	3.79	0.088	0.088	0.12
Tier 2	600	750	2.6	3.79	0.088	0.088	0.12
Tier 2	751	2000	2.6	3.79	0.088	0.088	0.12
Tier 3	25	49	4.1	4.63	0.28	0.28	0.29
Tier 3	50	74	3.7	2.74	0.192	0.192	0.12
Tier 3	75	119	3.7	2.74	0.192	0.192	0.12
Tier 3	120	174	3.7	2.32	0.112	0.112	0.12
Tier 3	175	299	2.6	2.32	0.088	0.088	0.12
Tier 3	300	599	2.6	2.32	0.088	0.088	0.12
Tier 3	600	750	2.6	2.32	0.088	0.088	0.12
Tier 3	751	2000	2.6	2.32	0.088	0.088	0.12
Tier 4 Interim	25	49	4.1	4.55	0.13	0.13	0.12
Tier 4 Interim	50	74	3.7	2.74	0.112	0.112	0.12
Tier 4 Interim	75	119	3.7	2.14	0.008	0.008	0.11
Tier 4 Interim	120	174	3.7	2.15	0.008	0.008	0.06
Tier 4 Interim	175	299	2.6	1.29	0.008	0.008	0.08
Tier 4 Interim	300	599	2.6	1.29	0.008	0.008	0.08
Tier 4 Interim	600	750	2.6	1.29	0.008	0.008	0.08
Tier 4 Interim	751	2000	2.6	2.24	0.048	0.048	0.12

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Tier 4 Final	25	49	4.1	2.75	0.01	0.01	0.12
Tier 4 Final	50	74	3.7	2.74	0.008	0.008	0.12
Tier 4 Final	75	119	3.7	0.26	0.008	0.008	0.06
Tier 4 Final	120	174	3.7	0.26	0.008	0.008	0.06
Tier 4 Final	175	299	2.2	0.26	0.008	0.008	0.06
Tier 4 Final	300	599	2.2	0.26	0.008	0.008	0.06
Tier 4 Final	600	750	2.2	0.26	0.008	0.008	0.06
Tier 4 Final	751	2000	2.6	2.24	0.016	0.016	0.06

**Source:**

ARB. 2011. The Carl Moyer Program Guidelines. Available at:

[http://www.arb.ca.gov/msprog/moyer/guidelines/2011gl/2011cmpgl\\_3\\_27\\_13.pdf](http://www.arb.ca.gov/msprog/moyer/guidelines/2011gl/2011cmpgl_3_27_13.pdf)

**Road Dust Emission Factors**

**Daily Paved Road Dust EF<sup>1</sup>**

$$E_{ext} = [ k (sL)^{0.91} \times (W)^{1.02} ]$$

EF<sub>paved</sub> Annual or other long-term average emission factor in the same units as k  
 k particle size multiplier for particle size range and units of interest  
 sL road surface silt loading (g/m<sup>2</sup>)  
 W average weight (tons) of all the vehicles raveling the road (2.4 tons)  
 P Number of "wet" days with at least 0.254 (0.01 in) of precipitation during the averaging period  
 N Number of days in the averaging period (e.g. 365 for annual, 91 for seasonal, 30 for monthly)

Parameters	PM10	PM2.5
k (g/VMT) <sup>2</sup>	0.997898	0.244939
sL (g/m <sup>2</sup> )	0.1	0.1
W (tons)	2.4	2.4
EF (g/mi)	3.00E-01	7.36E-02

- 1) CalEEMod User's Guide, Appendix A, p. 29
- 2) AP42: Chapter 13: Miscellaneous Sources, 13.2.1 Paved Roads, Table 13.2.1-1

**Daily Unpaved Road Dust EF<sup>1</sup> - Construction Sites**

$$EF_{dust,j} = \left( \frac{k(s/12)^1(S/30)^{0.5}}{(M/0.5)^{0.2}} - C \right)$$

k particle size multiplier for particle size range and units of interest  
 s surface material silt content (%)  
 M surface material moisture content (%)  
 S mean vehicle speed (mph)  
 C emission factor for 1980s vehicle fleet exhaust, brakewear and tire wear

Parameters	PM10	PM2.5
k (g/VMT) <sup>2</sup>	816.462	81.6462
s <sup>3</sup>	8.5	8.5
M	0.5	0.5
S	40	40 CalEEMod Default
C	0.213187	0.163292
EF (g/mi)	667.5816	66.61619

- 1) CalEEMod User's Guide, Appendix A, p. 29
- 2) AP42: Chapter 13: Miscellaneous Sources, 13.2.2 Unpaved Roads, Table 13.2.2-2
- 3) AP42: Chapter 13: Miscellaneous Sources, 13.2.2 Unpaved Roads, Table 13.2.2-1, "Construction sites"

**Daily Unpaved Road Dust EF<sup>1</sup> - Gravel Roads**

$$EF_{dust,j} = \left( \frac{k(s/12)^1(S/30)^{0.5}}{(M/0.5)^{0.2}} - C \right)$$

k particle size multiplier for particle size range and units of interest  
 s surface material silt content (%)  
 M surface material moisture content (%)  
 S mean vehicle speed (mph)  
 C emission factor for 1980s vehicle fleet exhaust, brakewear and tire wear

Parameters	PM10	PM2.5
k (g/VMT) <sup>2</sup>	816.462	81.6462
s <sup>3</sup>	6.4	6.4
M	0.5	0.5
S	40	40 Mitigated onsite speed of 15 mph for Gravel Roads
C	0.213187	0.163292
EF (g/mi)	502.597	50.11773

- 1) CalEEMod User's Guide, Appendix A, p. 29
- 2) AP42: Chapter 13: Miscellaneous Sources, 13.2.2 Unpaved Roads, Table 13.2.2-2

Vendor

**Speed**

5
10
15
20
25
30
35
40

Haul

**Speed**

5
10
15
20
25
30
35
40

Worker

**Speed**

5
10
15
20
25
30
35
40

3) AP42: Chapter 13: Miscellaneous Sources, 13.2.2 Unpaved Roads, Table 13.2.2-1, "Publicly Accessible Roads"

Project Name:MCWRA ILT Project SLOAPCD Portion - unmitigated  
 -Construction Days per week

5

4/17/2023 11/15/2024 415

Construction Schedule<sup>1</sup>

Phase feature <sup>5</sup>	Phase Name <sup>5</sup>	Combined Phase Name <sup>5</sup>	Code <sup>5</sup>	Start Date <sup>5</sup>	End Date <sup>5</sup>	# of Workdays <sup>5</sup>
Tunnel Intake Structure	Excavate and support for approach channel and intake structure	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	025	10/2/2023	12/1/2023	45
Tunnel Intake Structure	Construct Intake structure structural elements	Tunnel Intake Structure - Construct Intake structure structural elements	026	12/4/2023	6/28/2024	150
Tunnel Intake Structure	Install mechanical systems	Tunnel Intake Structure - Install mechanical systems	027	7/1/2024	8/9/2024	30
Tunnel Intake Structure	Construct Control Building	Tunnel Intake Structure - Construct Control Building	028	8/12/2024	9/20/2024	30
Tunnel Intake Structure	Install pipe connection from tunnel to intake and backfill	Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	029	11/18/2024	12/13/2024	20
Tunnel Intake Structure	Install fencing and security systems	Tunnel Intake Structure - Install fencing and security systems	030	1/13/2025	1/31/2025	15
Tunnel Intake Structure	Install electrical and control systems	Tunnel Intake Structure - Install electrical and control systems	031	12/16/2024	1/10/2025	20
Tunnel Intake Structure	Testing of control systems	Tunnel Intake Structure - Testing of control systems	032	1/13/2025	1/24/2025	10
Tunnel Intake Structure	Re-vegetation and site demob	Tunnel Intake Structure - Re-vegetation and site demob	033	2/3/2025	2/28/2025	20
Tunnel Intake Structure Portal	Upgrade access road from Nacimiento Reservoir Drive	Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	059	4/17/2023	5/26/2023	30
Tunnel Intake Structure Portal	Install erosion/sediment control and silt fencing	Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	060	5/29/2023	7/7/2023	30
Tunnel Intake Structure Portal	Grade and improve staging/laydown area	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	061	5/29/2023	6/9/2023	10
Tunnel Intake Structure Portal	Install buried power/fiber optic lines	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	062	4/17/2023	6/16/2023	45
Tunnel Intake Structure Portal	Install temporary utilities. Water, power, sewage Handling, communications	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	063	7/10/2023	8/18/2023	30
Tunnel Intake Structure Portal	TBM reception portal excavation and support	Tunnel Intake Structure Portal - TBM reception portal excavation and support	064	8/21/2023	9/29/2023	30
Tunnel Intake Structure Portal	Remove TBM	Tunnel Intake Structure Portal - Remove TBM	065	10/7/2024	11/15/2024	30

SOIL VOLUMES

Soil Export Tunnel Intake Structure

Parameter	Value
Total Export Volume (CY) <sup>1</sup>	76,327.00
Haul Truck Capacity (CY/truck) <sup>2</sup>	16.00
Haul Trucks Required	4,770.44
<b>Total One-Way Haul Trucks</b>	<b>9,542.00</b>

Soil Import Tunnel Intake Structure

Parameter	Value
Total Import Volume (CY) <sup>1</sup>	30,118.00
Haul Truck Capacity (CY/truck) <sup>2</sup>	16.00
Haul Trucks Required	1,882.38
<b>Total One-Way Haul Trucks</b>	<b>3,766.00</b>

Total additional import

Parameter	Value
Total One-Way Truck Trips	13,308.00

CONCRETE POUR

Concrete Volume - Intake Structure

Parameter	Value
Total Concrete Volume (CY) <sup>1</sup>	9,493.00
Max Daily Concrete Volume (CY) <sup>1</sup>	52.74
Concrete Truck Capacity (CY/truck) <sup>2</sup>	8.00
Max Daily Concrete Trucks	6.59
<b>Total One-Way Truck Trips</b>	<b>14.00</b>

Aggregate and Chipseal<sup>6</sup>

Aggregate - South Portal

Parameter	Value
Total Import Volume (CY) <sup>1</sup>	2,316.00
Haul Truck Capacity (CY/truck) <sup>2</sup>	16.00
Haul Trucks Required	144.75
<b>Total One-Way Haul Trucks</b>	<b>290.00</b>

Aggregate - South Portal

Parameter	Value
<b>Total One-Way Truck Trips</b>	<b>290.00</b>

Chip Seal/Paving

Chipseal amount - South Portal

Parameter	Value
Total Chipseal Volume (cubic yards) <sup>1</sup>	3,444.00
Total Chipseal Volume (square feet) <sup>1</sup>	93,000.00
Total Chipseal Volume (Gallons) <sup>7</sup>	1,395.00
Max Daily Chip Seal Gallons (CY) <sup>3</sup>	3,100.00
Chipseal Truck Capacity (Gallon/truck) <sup>8</sup>	600.00
Max Daily Chip Seal Trucks	6.00
<b>Total One-Way Truck Trips</b>	<b>12.00</b>

AMM GEN-8 Avoidance/Minimization Measure

Water 2x a day/ every four hours (unpaved roads) <sup>4</sup>	55%	
Street sweeping (paved roads) <sup>4</sup>	7%	
Cover storage piles (material handling) <sup>4</sup>	90%	
	<b>MITIGATION MEASURES - DUST</b>	
Water Truck/Watering PM Reduction <sup>4</sup>	reduction	
Every three hours + 12% moisture	69%	
Every two hours	74%	
Gravel Road /Trackout for connection to paved roads	46%	
Chemical Dust Suppression (unpaved roads) <sup>4</sup> pg6-11	84%	
	<b>ONSITE VEHICLE SPEED</b>	
SLO Region Default	32.40	mph
15 mph mitigation	15.00	mph
	<b>Offroad engine Emission Reduction</b>	
SLOAPCD BACT	Tier 4 Final for equip. over 50hp	

Vendor Truck Trips<sup>8</sup>

Parameter	Value
Daily Vendor Trips <sup>9</sup>	8.00

Sources

- 1 Project Description
- 2 Concrete Truck Capacity
- 3 worker trips
- 4 [https://www.env.nm.gov/wp-content/uploads/sites/2/2017/02/WRAP\\_FDHandbook\\_Rev\\_06.pdf](https://www.env.nm.gov/wp-content/uploads/sites/2/2017/02/WRAP_FDHandbook_Rev_06.pdf)
- 5 Saved project files
- 6 Chip sealing trailers, trucks and chip spreaders 518-218-7676 (pavementgroup.com)
- 7 Asphalt Sealcoating and Crack Filling Calculators | Asphalt Sealcoating Direct
- 8 ILT Data Needs - Vendor Truck info
- 9 CalEEMod User guide Page 36

Total # of One-Way Worker Trips/day (Roundtrip) <sup>3</sup>	Total # of One-Way Vendor Trips/day (Roundtrip)	Total # of One-Way Haul Trucks Trips (Roundtrip)	Total One-Way Haul Truck Trips/day (Roundtrip)	Offsite Trip Length (mi)			Onsite Trip Length (mi)			Vehicle Class		
				Worker	Vendor	Haul	ONSITE (Worker)	ONSITE (Vendor)	ONSITE (Haul)	Worker	Vendor	Haul
16	8	9542	214	20.95	20.95	5.55	0.14	0.14	1.51	LD_Mix	HDT_Mix	HHDT
18	28	3766	26	20.95	20.95	27.95	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
4	8	0	0	20.95	20.95	0.00	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
6	8	0	0	20.95	20.95	0.00	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
8	8	0	0	20.95	20.95	0.00	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
6	8	0	0	20.95	20.95	0.00	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
6	8	0	0	20.95	20.95	0.00	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
6	0	0	0	20.95	20.95	0.00	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
8	10	0	0	20.95	20.95	27.95	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
8	22	290	10	20.95	20.95	27.95	1.09	1.09	1.09	LD_Mix	HDT_Mix	HHDT
8	8	0	0	20.95	20.95	0.95	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
10	10	0	0	20.95	20.95	0.95	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
6	8	0	0	20.95	20.95	0.95	1.09	1.09	1.09	LD_Mix	HDT_Mix	HHDT
6	12	0	0	20.95	20.95	0.95	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
8	8	0	0	20.95	20.95	27.95	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
56	0	0	0	20.95	20.95	0.95	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT

LD\_Mix LDA, LDT1, LDT2  
HDT\_Mix T6 Instate Construction Heavy/T7 Single Construction  
HHDT T7 Single Construction

Trip Lengths

Location	feet		miles	Source
Outlet Staging area to Energy Dissipation Structure - MBARD	737	0.14		Waypoint/PD
Tunnel opening to Soil Disposal Area -MBARD	2000	0.38		Waypoint/PD
Length of the Energy Dissipation/Site Access Road - MBARD	1600	0.30		Waypoint/PD
Length of the ATV Trail - MBARD	3045	0.58		Waypoint/PD
Spillway Work Staging Area to Work Area - MBARD	2750	0.52		Waypoint/PD
Width of Spillway area - MBARD	1800	0.34		Waypoint/PD
Outlet Staging Area Length - MBARD	450	0.09		Waypoint/PD
Intake Staging Area Length - SLOAPCD	750	0.14		Waypoint/PD
Length of Road from Nacimiento Lake Drive to Intake Structure - SLOAPCD	5000	0.95		Waypoint/PD
Vault Site Access Road - MBARD	6600	1.25		Waypoint/PD
Width of Soil disposal area - MBARD	800	0.15		Waypoint/PD
Length of Tunnel within SLOAPCD (underground)	9410	1.78		Google Earth
Distance to Paso Robles Landfill	-	27.00		PD
Distance from Nacimiento Lake Drive to Vault site access Road		4.60		Google Earth
Vault access Road to Soil disposal Area	7220	1.37		Waypoint/PD



Offroad Equipment (Fossil Fuel) Inventory

Code	Phase	Equipment Name	General Equipment Category	#/day	Hrs/Day	# of Equipment	Fuel Type	Engine Horsepower (if known)
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	513
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Compactor, Cat 816, 25ton	Other Construction Equipment	45	10	2	Diesel	220
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Mine Truck 20ton/15cy	Off-Highway Trucks	45	10	2	Diesel	214
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Pile Hammer	Bore/Drill Rigs	45	10	1	Diesel	40
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	246
026	Tunnel Intake Structure - Construct Intake structure structural elements	Concrete Pump Truck	--	17	10	2	Diesel	500
026	Tunnel Intake Structure - Construct Intake structure structural elements	Concrete Truck	--	17	4	5	Diesel	300
026	Tunnel Intake Structure - Construct Intake structure structural elements	Pickup	--	45	10	3	--	350
027	Tunnel Intake Structure - Install mechanical systems	Pickup	--	10	10	1	--	350
028	Tunnel Intake Structure - Construct Control Building	Pickup	--	30	10	1	--	350
028	Tunnel Intake Structure - Construct Control Building	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	246
029	Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	Pickup	--	20	10	1	--	350
030	Tunnel Intake Structure - Install fencing and security systems	Pickup	--	15	10	1	--	350
031	Tunnel Intake Structure - Install electrical and control systems	Pickup	--	20	10	1	--	350
032	Tunnel Intake Structure - Testing of control systems	Pickup	--	10	10	1	--	350
033	Tunnel Intake Structure - Re-vegetation and site demob	Pickup	--	10	10	1	--	350
033	Tunnel Intake Structure - Re-vegetation and site demob	Water Truck	--	10	10	1	diesel	350
059	Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	Pickup	--	15	10	1	--	350
059	Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	Pile Hammer	Crushing/Proc. Equipment	15	10	1	diesel	40
060	Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	Pickup	Pickup	10	10	1	--	350
060	Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	Water Truck	--	10	10	1	Diesel	350
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Dozer Cat D6/5.6cy	Rubber Tired Dozers	10	10	1	Diesel	145
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Mine Truck 20ton/15cy	Off-Highway Trucks	10	10	1	Diesel	214
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Water Truck	--	10	10	1	diesel	350
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	10	10	1	Diesel	246
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	513
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Compactor, Cat 816, 25ton	Other Construction Equipment	45	10	2	Diesel	220
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Mine Truck 20ton/15cy	Off-Highway Trucks	45	10	2	Diesel	214
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	246
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	513
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Compactor, Cat 816, 25ton	Other Construction Equipment	30	10	2	Diesel	220
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Mine Truck 20ton/15cy	Off-Highway Trucks	30	10	2	Diesel	214
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	246
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Backhoe Cat 375, 176k/5cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	273
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Crawler Crane 100ton/200'	Cranes	30	10	1	Diesel	265
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Excavator >0.5cy	Excavators	30	10	1	Diesel	100
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Hydraulic Crane 40ton/105'	Cranes	30	10	1	Diesel	152
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Mine Truck 20ton/15cy	Off-Highway Trucks	30	10	1	Diesel	214
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	246
065	Tunnel Intake Structure Portal - Remove TBM	500 Ton Crane	Cranes	30	24	1	Diesel	1325
065	Tunnel Intake Structure Portal - Remove TBM	Compressor, Stationary 1200cfm	Air Compressors	30	24	1	Electric	350
065	Tunnel Intake Structure Portal - Remove TBM	Crawler Crane 100ton/200'	Cranes	30	24	1	Diesel	265
065	Tunnel Intake Structure Portal - Remove TBM	EPBM and Backup 14'9"	Bore/Drill Rigs	30	24	1	Electric	1800
065	Tunnel Intake Structure Portal - Remove TBM	Flat Car, Rail	Other Material Handling Equipment	30	24	1	--	0
065	Tunnel Intake Structure Portal - Remove TBM	Hydraulic Crane 20ton/60'	Cranes	30	24	1	Diesel	130
065	Tunnel Intake Structure Portal - Remove TBM	Locomotive 12ton/120hp	Other Material Handling Equipment	30	24	1	Diesel	120
065	Tunnel Intake Structure Portal - Remove TBM	Pump, trash 200gpm/100ft head	Other Construction Equipment	30	24	1	Electric	10
065	Tunnel Intake Structure Portal - Remove TBM	Ventilation Fan 40hp	Other Construction Equipment	30	24	1	Electric	40
065	Tunnel Intake Structure Portal - Remove TBM	Water Treatment Plant	Other Construction Equipment	30	24	1	Electric	200
065	Tunnel Intake Structure Portal - Remove TBM	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	24	1	Diesel	246

Notes:

1. Equipment that will not be modeled.
2. Offroad construction equipment is listed.
3. Onroad equipment is listed.
4. Electric equipment is listed.

SLOAPCD + Tunneling - Offroad Only Equipment

Code	Phase	Equipment Name	General Equipment Category	#/day	Hrs/Day	# of Equipment	Fuel Type	Engine Horsepower
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	513
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Compactor, Cat 816, 25ton	Other Construction Equipment	45	10	2	Diesel	220
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Mine Truck 20ton/15cy	Off-Highway Trucks	45	10	2	Diesel	214
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Pile Hammer	Bore/Drill Rigs	45	10	1	Diesel	40
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	246
028	Tunnel Intake Structure - Construct Control Building	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	246
059	Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	Pile Hammer	Crushing/Proc. Equipment	15	10	1	diesel	40
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Dozer Cat D6/5.6cy	Rubber Tired Dozers	10	10	1	Diesel	145
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Mine Truck 20ton/15cy	Off-Highway Trucks	10	10	1	Diesel	214
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	10	10	1	Diesel	246
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	513
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Compactor, Cat 816, 25ton	Other Construction Equipment	45	10	2	Diesel	220
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Mine Truck 20ton/15cy	Off-Highway Trucks	45	10	2	Diesel	214
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	246
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	513
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Compactor, Cat 816, 25ton	Other Construction Equipment	30	10	2	Diesel	220
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Mine Truck 20ton/15cy	Off-Highway Trucks	30	10	2	Diesel	214
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	246
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Backhoe Cat 375, 176k/5cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	273
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Crawler Crane 100ton/200'	Cranes	30	10	1	Diesel	265
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Excavator >0.5cy	Excavators	30	10	1	Diesel	100
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Hydraulic Crane 40ton/105'	Cranes	30	10	1	Diesel	152
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Mine Truck 20ton/15cy	Off-Highway Trucks	30	10	1	Diesel	214
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	246
065	Tunnel Intake Structure Portal - Remove TBM	500 Ton Crane	Cranes	30	24	1	Diesel	1325
065	Tunnel Intake Structure Portal - Remove TBM	Crawler Crane 100ton/200'	Cranes	30	24	1	Diesel	265
065	Tunnel Intake Structure Portal - Remove TBM	Flat Car, Rail	Other Material Handling Equipment	30	24	1	--	0
065	Tunnel Intake Structure Portal - Remove TBM	Hydraulic Crane 20ton/60'	Cranes	30	24	1	Diesel	130
065	Tunnel Intake Structure Portal - Remove TBM	Locomotive 12ton/120hp	Other Material Handling Equipment	30	24	1	Diesel	120
065	Tunnel Intake Structure Portal - Remove TBM	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	24	1	Diesel	246

**Vehicle Inventory - Onroad Equipment**

Code	Phase	Equipment Name	General Equipment Category	#/day	Hrs/Day	# of Equipment	Fuel Type	Engine Horsepower (if known)
026	Tunnel Intake Structure - Construct Intake structure structural elements	Concrete Pump Truck	--	17	10	2	Diesel	500
026	Tunnel Intake Structure - Construct Intake structure structural elements	Concrete Truck	--	17	4	5	Diesel	300
026	Tunnel Intake Structure - Construct Intake structure structural elements	Pickup	--	45	10	3	--	350
027	Tunnel Intake Structure - Install mechanical systems	Pickup	--	10	10	1	--	350
028	Tunnel Intake Structure - Construct Control Building	Pickup	--	30	10	1	--	350
029	Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	Pickup	--	20	10	1	--	350
030	Tunnel Intake Structure - Install fencing and security systems	Pickup	--	15	10	1	--	350
031	Tunnel Intake Structure - Install electrical and control systems	Pickup	--	20	10	1	--	350
032	Tunnel Intake Structure - Testing of control systems	Pickup	--	10	10	1	--	350
033	Tunnel Intake Structure - Re-vegetation and site demob	Pickup	--	10	10	1	--	350
033	Tunnel Intake Structure - Re-vegetation and site demob	Water Truck	--	10	10	1	diesel	350
059	Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	Pickup	--	15	10	1	--	350
060	Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	Pickup	Pickup	10	10	1	--	350
060	Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	Water Truck	--	10	10	1	Diesel	350
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Water Truck	--	10	10	1	diesel	350

1. This equipment would just be used to calculate vendor truck trips. Pickup trucks are accounted in the worker trips.

**Offroad Equipment (Electric) Inventory**

1 hp = 0.7456999 kilowatts

Code	Phase	equipment Name	Category	Days	Hours per day	Number	Fuel Type	Horsepower	Kilowatts	Kilowatt Hours (day)	Kilowatt Hours (total)
065	Tunnel Intake Structure Portal - Remove TBM	Compressor, Stationary 1200cfm	Air Compressors	30	24	1	Electric	350	260.99495	6263.878908	187916.3672
065	Tunnel Intake Structure Portal - Remove TBM	EPBM and Backup 14'9"	Bore/Drill Rigs	30	24	1	Electric	1800	1342.2598	32214.23438	966427.0315
065	Tunnel Intake Structure Portal - Remove TBM	Pump, trash 200gpm/100ft head	Other Construction Equipment	30	24	1	Electric	10	7.4569987	178.9679688	5369.039064
065	Tunnel Intake Structure Portal - Remove TBM	Ventilation Fan 40hp	Other Construction Equipment	30	24	1	Electric	40	29.827995	715.8718752	21476.15626
065	Tunnel Intake Structure Portal - Remove TBM	Water Treatment Plant	Other Construction Equipment	30	24	1	Electric	200	149.13997	3579.359376	107380.7813

0

1. Provided by the contractor. Assumed 100% load factor to calculate kilowatt hours.

Total kWh 1288569.375

Regional Emissions Summary - lbs/day

Phase Name	Start Date	End Date	# of Workdays	Daily Emissions (lb/day)									Daily Emissions (lb/day)			Total MT					
				ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e	
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	5.33	62.13	67.61	0.17	306.75	2.34	309.09	32.64	2.15	34.79	16964.70	3.18	1.56	346.28	0.06	0.03	357.38	
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	1.57	7.55	2.51	0.05	10.89	0.08	10.97	3.29	0.07	3.37	4985.34	0.02	0.75	339.20	0.00	0.05	354.47	
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	0.05	0.83	0.40	0.01	1.78	0.01	1.79	0.64	0.01	0.65	598.55	0.00	0.09	8.14	0.00	0.00	8.50	
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	0.52	5.44	7.63	0.02	2.07	0.22	2.29	0.89	0.20	1.09	1585.16	0.31	0.13	21.57	0.00	0.00	22.21	
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	0.08	0.86	0.67	0.01	2.37	0.01	2.38	1.14	0.01	1.15	658.49	0.01	0.09	5.97	0.00	0.00	6.22	
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	0.06	0.80	0.51	0.01	2.07	0.01	2.08	0.88	0.01	0.89	621.38	0.00	0.09	4.23	0.00	0.00	4.40	
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	0.06	0.85	0.54	0.01	2.07	0.01	2.08	0.89	0.01	0.90	628.52	0.00	0.09	5.70	0.00	0.00	5.94	
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	0.04	0.03	0.37	0.00	0.88	0.00	0.88	0.74	0.00	0.74	88.44	0.00	0.00	0.40	0.00	0.00	0.41	
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	0.08	1.01	0.67	0.01	2.67	0.01	2.68	1.16	0.01	1.17	784.09	0.01	0.11	7.11	0.00	0.00	7.41	
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	0.59	5.99	3.81	0.03	41.11	0.13	41.25	10.93	0.13	11.06	3166.63	0.03	0.44	40.43	0.00	0.01	42.19	
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	0.08	0.90	0.71	0.01	2.37	0.01	2.38	1.15	0.01	1.16	665.75	0.01	0.09	9.06	0.00	0.00	9.43	
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	1.42	13.59	12.43	0.03	6.64	0.57	7.22	3.33	0.53	3.86	3246.76	0.79	0.22	14.73	0.00	0.00	15.12	
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	4.81	46.70	61.41	0.11	14.47	2.24	16.71	6.51	2.05	8.56	10174.71	3.08	0.53	207.68	0.06	0.01	212.48	
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	4.81	47.09	61.46	0.11	2.67	2.24	4.91	0.97	2.06	3.03	10423.11	3.08	0.57	141.84	0.04	0.01	145.19	
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2.37	23.38	24.54	0.05	2.37	1.02	3.39	1.15	0.94	2.09	5191.05	1.47	0.30	70.64	0.02	0.00	72.35	
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	9.45	93.79	68.46	0.18	8.20	3.98	12.18	6.98	3.69	10.66	16931.99	6.37	0.90	230.41	0.09	0.01	236.24	
<b>Max Daily (lb/day)</b>	0			9.45	93.79	74.56	0.18	306.75	3.98	309.09	32.64	3.69	34.79							Total	1499.94
SLOAPCD Regional Thresholds (Daily Thresholds)				137				No				No				No					
Exceeds Threshold?				No				No				No				No					

Row Labels	Daily Emissions (lb/day)														
	Max of VOC	Max of NOX	Max of CO	Max of SOX	Max of Fugitive PM10	Max of Exhaust PM10	Max of Total PM10	Max of Fugitive PM2.5	Max of Exhaust PM2.5	Max of Total PM2.5					
2023	6.28	61.71	74.34	0.17	306.15	2.81	308.48	32.56	2.58	34.71					
2024	9.45	93.79	68.46	0.18	10.89	3.98	12.18	6.98	3.69	10.66					
2025	0.09	0.62	0.82	0.00	2.35	0.01	2.36	1.55	0.01	1.55					
<b>Max Daily (lbs/day)</b>	9.45	93.79	74.34	0.18	306.15	3.98	308.48	32.56	3.69	34.71					
SLOAPCD Regional Thresholds (Daily Thresholds)				137				7				--			
				No				No				No			

Total GHG Emission Per Construction feature								
Phase Name	Start Date	End Date	# of Workdays	CO2 (MT)	CH4 (MT)	N2O (MT)	CO2e (MT)	
Tunnel Intake Structure	10/2/23	2/28/25	370	738.6	0.1	0.1	766.9	
Tunnel Intake Structure Portal	4/17/23	11/15/24	415	714.8	0.2	0.0	733.0	

Regional Emissions Summary - Tons per Quarter

Regional Maximums (Tons per Quarter)

Row Labels	Quarters	Sum of VOC Tons	Sum of NOx Tons	Sum of CO tons	Sum of SOX tons	Sum of Fugitive PM10 Tons	Sum of Exhaust PM10 Ton	Sum of Total PM10 Tons	Sum of Fugitive PM2.5 Tons	Sum of Exhaust PM2.5 Tons	Sum of Total PM2.5 Tons	Sum of ROG + NOx
2023	Qtr2	0.1247	1.2025	1.5071	0.0030	0.9015	0.0552	0.9567	0.3306	0.0508	0.3814	1.3272
2023	Qtr3	0.1078	1.0518	1.2906	0.0024	0.0710	0.0489	0.1200	0.0335	0.0449	0.0784	1.1596
2023	Qtr4	0.1354	1.4640	1.5446	0.0043	6.9972	0.0533	7.0505	0.7656	0.0490	0.8147	1.5994
2024	Qtr1	0.0509	0.2454	0.0815	0.0015	0.3540	0.0025	0.3565	0.1070	0.0024	0.1094	0.2963
2024	Qtr2	0.0509	0.2454	0.0815	0.0015	0.3540	0.0025	0.3565	0.1070	0.0024	0.1094	0.2963
2024	Qtr3	0.0082	0.0819	0.1184	0.0002	0.0399	0.0033	0.0432	0.0208	0.0030	0.0239	0.0901
2024	Qtr4	0.1428	1.4139	1.0358	0.0027	0.1495	0.0598	0.2093	0.1203	0.0554	0.1756	1.5567
2025	Qtr1	0.0015	0.0113	0.0131	0.0001	0.0420	0.0001	0.0422	0.0240	0.0001	0.0241	0.0127
2025	Qtr2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2025	Qtr3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2025	Qtr4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Regional Emissions Summary - Quarterly

Quarters	Sum of VOC Tons	Sum of NOx Tons	Sum of CO tons	Sum of SOX tons	Sum of Fugitive PM10 Tons	Sum of Exhaust PM10 Ton	Sum of Total PM10 Tons	Sum of Fugitive PM2.5 Tons	Sum of Exhaust PM2.5 Tons	Sum of Total PM2.5 Tons	Sum of ROG + NOx
Q2 2023	0.1	1.2	1.5	0.0	0.9	0.1	1.0	0.3	0.1	0.4	1.3
Q3 2023	0.1	1.1	1.3	0.0	0.1	0.0	0.1	0.0	0.0	0.1	1.2
Q4 2023	0.1	1.5	1.5	0.0	7.0	0.1	7.1	0.8	0.0	0.8	1.6
Q1 2024	0.1	0.2	0.1	0.0	0.4	0.0	0.4	0.1	0.0	0.1	0.3
Q2 2024	0.1	0.2	0.1	0.0	0.4	0.0	0.4	0.1	0.0	0.1	0.3
Q3 2024	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Q4 2024	0.1	1.4	1.0	0.0	0.1	0.1	0.2	0.1	0.1	0.2	1.6
Q1 2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Q2 2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Q3 2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Q4 2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.1	1.5	1.5	0.0	7.0	0.1	7.1	0.8	0.1	0.8	1.6
SLOAPCD Threshold Tier 1	-	-	-	-	2.50	-	-	-	0.13	-	2.50
Exceed Threshold?	No	No	No	No	Yes	No	No	No	No	No	No
SLOAPCD Threshold Tier 2	-	-	-	-	2.5	-	-	-	0.32	-	6.30
Exceed Threshold?	No	No	No	No	Yes	No	No	No	No	No	No

Offroad Equipment

Phase Name	Start	End	# of Workdays	First Year of CSTN	EF Year	Equipment Type	# of Equipment	hours/day	HP	LF	ROG	NOX	CO	SOX
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	2023	Tractors/Loaders/Backhoes	2	10	513	0.37	0.24	2.43	3.53	0.01
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	2023	Other Construction Equipment	2	10	220	0.42	0.27	2.70	3.14	0.01
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	2023	Off-Highway Trucks	2	10	214	0.38	0.19	1.32	1.22	0.01
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	2023	Bore/Drill Rigs	1	10	40	0.5	0.11	1.05	1.04	0.01
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	2023	Tractors/Loaders/Backhoes	2	10	246	0.37	0.24	2.43	3.53	0.01
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	2024	Tractors/Loaders/Backhoes	1	10	246	0.37	0.23	2.29	3.53	0.01
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	15	2023	2023	Crushing/Proc. Equipment	1	10	40	0.78	0.39	2.55	3.70	0.01
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	2023	Rubber Tired Dozers	1	10	145	0.4	0.39	4.09	1.78	0.01
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	2023	Off-Highway Trucks	1	10	214	0.38	0.19	1.32	1.22	0.01
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37	0.24	2.43	3.53	0.01
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	2023	Tractors/Loaders/Backhoes	2	10	513	0.37	0.24	2.43	3.53	0.01
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	2023	Other Construction Equipment	2	10	220	0.42	0.27	2.70	3.14	0.01
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	2023	Off-Highway Trucks	2	10	214	0.38	0.19	1.32	1.22	0.01
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	2023	Tractors/Loaders/Backhoes	2	10	246	0.37	0.24	2.43	3.53	0.01
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	2023	Tractors/Loaders/Backhoes	2	10	513	0.37	0.24	2.43	3.53	0.01
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	2023	Other Construction Equipment	2	10	220	0.42	0.27	2.70	3.14	0.01
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	2023	Off-Highway Trucks	2	10	214	0.38	0.19	1.32	1.22	0.01
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	2023	Tractors/Loaders/Backhoes	2	10	246	0.37	0.24	2.43	3.53	0.01
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	2023	Tractors/Loaders/Backhoes	1	10	273	0.37	0.24	2.43	3.53	0.01
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	2023	Cranes	1	10	265	0.29	0.30	3.23	1.55	0.01
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	2023	Excavators	1	10	100	0.38	0.18	1.46	3.08	0.01
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	2023	Cranes	1	10	152	0.29	0.30	3.23	1.55	0.01
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	2023	Off-Highway Trucks	1	10	214	0.38	0.19	1.32	1.22	0.01
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37	0.24	2.43	3.53	0.01
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	2024	Cranes	1	24	1325	0.29	0.28	2.97	1.50	0.01
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	2024	Cranes	1	24	265	0.29	0.28	2.97	1.50	0.01
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	2024	Other Material Handling Equipment	1	24	0	0.4	0.21	1.64	3.18	0.01
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	2024	Cranes	1	24	130	0.29	0.28	2.97	1.50	0.01
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	2024	Other Material Handling Equipment	1	24	120	0.4	0.21	1.64	3.18	0.01
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	2024	Tractors/Loaders/Backhoes	1	24	246	0.37	0.23	2.29	3.53	0.01

Offroad Equipment

Phase Name	Emission Factor (g/bhp-hr)									Emissions (lb/day)									
	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00	0.12	0.12	0.00	0.11	0.11	476.43	0.15	0.02	2.00	20.30	29.50	0.04	0.00	1.00	1.00	0.00	0.92	0.92
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00	0.14	0.14	0.00	0.13	0.13	469.56	0.15	0.02	1.11	10.99	12.80	0.02	0.00	0.57	0.57	0.00	0.53	0.53
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00	0.05	0.05	0.00	0.04	0.04	475.05	0.15	0.02	0.67	4.75	4.38	0.02	0.00	0.17	0.17	0.00	0.16	0.16
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00	0.03	0.03	0.00	0.03	0.03	469.71	0.15	0.02	0.05	0.46	0.46	0.00	0.00	0.01	0.01	0.00	0.01	0.01
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00	0.12	0.12	0.00	0.11	0.11	476.43	0.15	0.02	0.96	9.74	14.15	0.02	0.00	0.48	0.48	0.00	0.44	0.44
Tunnel Intake Structure - Construct Control Building	0.00	0.11	0.11	0.00	0.10	0.10	476.73	0.15	0.02	0.46	4.59	7.09	0.01	0.00	0.21	0.21	0.00	0.19	0.19
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	0.00	0.13	0.13	0.00	0.13	0.13	568.30	0.03	0.03	0.26	1.76	2.55	0.00	0.00	0.09	0.09	0.00	0.09	0.09
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.00	0.18	0.18	0.00	0.17	0.17	474.60	0.15	0.02	0.50	5.23	2.28	0.01	0.00	0.24	0.24	0.00	0.22	0.22
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.00	0.05	0.05	0.00	0.04	0.04	475.05	0.15	0.02	0.34	2.37	2.19	0.01	0.00	0.09	0.09	0.00	0.08	0.08
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.00	0.12	0.12	0.00	0.11	0.11	476.43	0.15	0.02	0.48	4.87	7.07	0.01	0.00	0.24	0.24	0.00	0.22	0.22
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.00	0.12	0.12	0.00	0.11	0.11	476.43	0.15	0.02	2.00	20.30	29.50	0.04	0.00	1.00	1.00	0.00	0.92	0.92
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.00	0.14	0.14	0.00	0.13	0.13	469.56	0.15	0.02	1.11	10.99	12.80	0.02	0.00	0.57	0.57	0.00	0.53	0.53
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.00	0.05	0.05	0.00	0.04	0.04	475.05	0.15	0.02	0.67	4.75	4.38	0.02	0.00	0.17	0.17	0.00	0.16	0.16
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.00	0.12	0.12	0.00	0.11	0.11	476.43	0.15	0.02	0.96	9.74	14.15	0.02	0.00	0.48	0.48	0.00	0.44	0.44
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.00	0.12	0.12	0.00	0.11	0.11	476.43	0.15	0.02	2.00	20.30	29.50	0.04	0.00	1.00	1.00	0.00	0.92	0.92
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.00	0.14	0.14	0.00	0.13	0.13	469.56	0.15	0.02	1.11	10.99	12.80	0.02	0.00	0.57	0.57	0.00	0.53	0.53
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.00	0.05	0.05	0.00	0.04	0.04	475.05	0.15	0.02	0.67	4.75	4.38	0.02	0.00	0.17	0.17	0.00	0.16	0.16
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.00	0.12	0.12	0.00	0.11	0.11	476.43	0.15	0.02	0.96	9.74	14.15	0.02	0.00	0.48	0.48	0.00	0.44	0.44
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00	0.12	0.12	0.00	0.11	0.11	476.43	0.15	0.02	0.53	5.40	7.85	0.01	0.00	0.27	0.27	0.00	0.24	0.24
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00	0.14	0.14	0.00	0.12	0.12	472.97	0.15	0.02	0.50	5.47	2.63	0.01	0.00	0.23	0.23	0.00	0.21	0.21
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00	0.07	0.07	0.00	0.07	0.07	472.28	0.15	0.02	0.15	1.23	2.58	0.00	0.00	0.06	0.06	0.00	0.06	0.06
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00	0.14	0.14	0.00	0.12	0.12	472.97	0.15	0.02	0.29	3.14	1.51	0.00	0.00	0.13	0.13	0.00	0.12	0.12
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00	0.05	0.05	0.00	0.04	0.04	475.05	0.15	0.02	0.34	2.37	2.19	0.01	0.00	0.09	0.09	0.00	0.08	0.08
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00	0.12	0.12	0.00	0.11	0.11	476.43	0.15	0.02	0.48	4.87	7.07	0.01	0.00	0.24	0.24	0.00	0.22	0.22
Tunnel Intake Structure Portal - Remove TBM	0.00	0.12	0.12	0.00	0.11	0.11	472.96	0.15	0.02	5.71	60.30	30.54	0.10	0.00	2.50	2.50	0.00	2.32	2.32
Tunnel Intake Structure Portal - Remove TBM	0.00	0.12	0.12	0.00	0.11	0.11	472.96	0.15	0.02	1.14	12.06	6.11	0.02	0.00	0.50	0.50	0.00	0.46	0.46
Tunnel Intake Structure Portal - Remove TBM	0.00	0.09	0.09	0.00	0.08	0.08	472.22	0.15	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Remove TBM	0.00	0.12	0.12	0.00	0.11	0.11	472.96	0.15	0.02	0.56	5.92	3.00	0.01	0.00	0.25	0.25	0.00	0.23	0.23
Tunnel Intake Structure Portal - Remove TBM	0.00	0.09	0.09	0.00	0.08	0.08	472.22	0.15	0.02	0.53	4.16	8.08	0.01	0.00	0.22	0.22	0.00	0.21	0.21
Tunnel Intake Structure Portal - Remove TBM	0.00	0.11	0.11	0.00	0.10	0.10	476.73	0.15	0.02	1.09	11.02	17.01	0.02	0.00	0.51	0.51	0.00	0.47	0.47



Offroad Equipment

Phase Name				Total MT			
	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	3987.36	1.29	0.18	81.39	0.03	0.00	83.16
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	1913.06	0.62	0.09	39.05	0.01	0.00	39.90
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	1703.34	0.55	0.08	34.77	0.01	0.00	35.53
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	207.11	0.07	0.01	4.23	0.00	0.00	4.32
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	1912.07	0.62	0.09	39.03	0.01	0.00	39.88
Tunnel Intake Structure - Construct Control Building	956.64	0.31	0.04	13.02	0.00	0.00	13.30
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	390.90	0.02	0.02	2.66	0.00	0.00	2.70
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	606.86	0.20	0.03	2.75	0.00	0.00	2.81
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	851.67	0.28	0.04	3.86	0.00	0.00	3.95
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	956.03	0.31	0.04	4.34	0.00	0.00	4.43
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	3987.36	1.29	0.18	81.39	0.03	0.00	83.16
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	1913.06	0.62	0.09	39.05	0.01	0.00	39.90
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	1703.34	0.55	0.08	34.77	0.01	0.00	35.53
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	1912.07	0.62	0.09	39.03	0.01	0.00	39.88
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	3987.36	1.29	0.18	54.26	0.02	0.00	55.44
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	1913.06	0.62	0.09	26.03	0.01	0.00	26.60
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	1703.34	0.55	0.08	23.18	0.01	0.00	23.68
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	1912.07	0.62	0.09	26.02	0.01	0.00	26.59
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1060.96	0.34	0.05	14.44	0.00	0.00	14.75
Tunnel Intake Structure Portal - TBM reception portal excavation and support	801.34	0.26	0.04	10.90	0.00	0.00	11.14
Tunnel Intake Structure Portal - TBM reception portal excavation and support	395.66	0.13	0.02	5.38	0.00	0.00	5.50
Tunnel Intake Structure Portal - TBM reception portal excavation and support	459.64	0.15	0.02	6.25	0.00	0.00	6.39
Tunnel Intake Structure Portal - TBM reception portal excavation and support	851.67	0.28	0.04	11.59	0.00	0.00	11.84
Tunnel Intake Structure Portal - TBM reception portal excavation and support	956.03	0.31	0.04	13.01	0.00	0.00	13.29
Tunnel Intake Structure Portal - Remove TBM	9615.89	3.11	0.44	130.85	0.04	0.01	133.70
Tunnel Intake Structure Portal - Remove TBM	1923.18	0.62	0.09	26.17	0.01	0.00	26.74
Tunnel Intake Structure Portal - Remove TBM	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Remove TBM	943.45	0.31	0.04	12.84	0.00	0.00	13.12
Tunnel Intake Structure Portal - Remove TBM	1199.31	0.39	0.06	16.32	0.01	0.00	16.68
Tunnel Intake Structure Portal - Remove TBM	2295.93	0.74	0.11	31.24	0.01	0.00	31.92

Offroad Equipment - Energy Consumption

Phase	Start Date	equipment Name	Category	Year	Days	Hours per day	Number	Fuel Type	Horsepower	Kilowatts	Kilowatt Hours (day)	Kilowatt Hours (total)	lbs of CO2 per day				Total MT			
													CO2	CH4	N2O	CO2e	CO2	CH4	N2O	CO2e
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	Compressor, Stationary 1200cfm	Air compressors	2024	30	24	1	Electric	350	261	6264	187916	16.79	0.17	0.02	27.19	0.23	0.00	0.00	0.37
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	EPBM and Backup 14'9"	Air compressors	2024	30	24	1	Electric	1800	1342	32214	966427	86.33	0.87	0.11	139.81	1.17	0.01	0.00	1.90
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	Pump, trash 200gpm/100ft head	Air compressors	2024	30	24	1	Electric	10	7	179	5369	0.48	0.00	0.00	0.78	0.01	0.00	0.00	0.01
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	Ventilation Fan 40hp	Air compressors	2024	30	24	1	Electric	40	30	716	21476	1.92	0.02	0.00	3.11	0.03	0.00	0.00	0.04
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	Water Treatment Plant	Air compressors	2024	30	24	1	Electric	200	149	3579	107381	9.59	0.10	0.01	15.53	0.13	0.00	0.00	0.21

Notes:

PG&E 2019 CO2 (lbs per MWh) delivered rate 2.68  
 GHG Intensity Factor lb CH4/MWh (Statewide EF's for 2024) 0.03  
 GHG Intensity Factor lb N2O/MWh (Statewide EF's for 2024) 0.00

Source:

1. [https://www.pgecorp.com/corp\\_responsibility/reports/2021/assets/PGE\\_CRSR\\_2021.pdf](https://www.pgecorp.com/corp_responsibility/reports/2021/assets/PGE_CRSR_2021.pdf)

Truck Loading Fugitive Dust Emissions

Phase Name	Start Date	End Date	Total Days	Year	Total CY	Tons/CY	Throughput (tons)	Truck Loading EF (lb/ton throughput)						Emissions (lb/day) <sup>1</sup>					
								PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	66794	1.2642	84438.72	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.02		0.02	0.00		0.00
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	26362	1.2642	33325.95	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0	1.2642	0.00	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0	1.2642	0.00	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0	1.2642	0.00	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0	1.2642	0.00	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0	1.2642	0.00	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	1.2642	0.00	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0	1.2642	0.00	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	2030	1.2642	2566.26	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0	1.2642	0.00	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0	1.2642	0.00	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0	1.2642	0.00	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0	1.2642	0.00	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0	1.2642	0.00	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	1.2642	0.00	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00

Demolition Fugitive Dust Emissions - No Structures to be Demolished on SLOAPCD Side

Phase Name	Start Date	End Date	Total Days	Year	Demo Debris Weight (tons)	Demo EF (lb/ton throughput)						Emissions (lb/day)					
						PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00

**Bulldozing Fugitive Dust Emissions**

Phase Name	Start	End	# of Workdays	First Year of		# of Equipment	hours/day
				CSTN	Equipment Type		
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Tractors/Loaders/Backhoes	2	10
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Other Construction Equipment	2	10
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Off-Highway Trucks	2	10
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Bore/Drill Rigs	1	10
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Tractors/Loaders/Backhoes	2	10
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	Tractors/Loaders/Backhoes	1	10
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	15	2023	Crushing/Proc. Equipment	1	10
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	Rubber Tired Dozers	1	10
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	Off-Highway Trucks	1	10
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	Tractors/Loaders/Backhoes	1	10
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	Tractors/Loaders/Backhoes	2	10
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	Other Construction Equipment	2	10
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	Off-Highway Trucks	2	10
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	Tractors/Loaders/Backhoes	2	10
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	Tractors/Loaders/Backhoes	2	10
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	Other Construction Equipment	2	10
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	Off-Highway Trucks	2	10
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	Tractors/Loaders/Backhoes	2	10
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Tractors/Loaders/Backhoes	1	10
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Cranes	1	10
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Excavators	1	10
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Cranes	1	10
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Off-Highway Trucks	1	10
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Tractors/Loaders/Backhoes	1	10
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Cranes	1	24
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Cranes	1	24
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Other Material Handling Equipment	1	24
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Cranes	1	24
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Other Material Handling Equipment	1	24
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Tractors/Loaders/Backhoes	1	24

Dust Reduction % 55%

Bulldozing Fugitive Dust Emissions Phase Name	Emission Factor (lb/hr)						Emissions (lb/day) <sup>1</sup>					
	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Construct Control Building	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.75		0.75	0.41		0.41	3.39		3.39	1.86		1.86
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00

Grading Fugitive Dust Emissions

Phase Name	Start	End	# of Workdays	First Year of CSTN	Equipment Type	# of Equipment	Equipment Usage (hours/day)	Acres per 8-hr day	Scaling Factor	Acres per day	Daily VMT
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Tractors/Loaders/Backhoes	2	10	0	8	0.000	0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Other Construction Equipment	2	10	0	8	0.000	0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Off-Highway Trucks	2	10	0	8	0.000	0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Bore/Drill Rigs	1	10	0	8	0.000	0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Tractors/Loaders/Backhoes	2	10	0	8	0.000	0.000
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	Tractors/Loaders/Backhoes	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	15	2023	Crushing/Proc. Equipment	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	Rubber Tired Dozers	1	10	0.5	8	0.625	0.430
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	Off-Highway Trucks	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	Tractors/Loaders/Backhoes	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	Tractors/Loaders/Backhoes	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	Other Construction Equipment	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	Off-Highway Trucks	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	Tractors/Loaders/Backhoes	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	Tractors/Loaders/Backhoes	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	Other Construction Equipment	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	Off-Highway Trucks	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	Tractors/Loaders/Backhoes	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Tractors/Loaders/Backhoes	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Cranes	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Excavators	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Cranes	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Off-Highway Trucks	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Tractors/Loaders/Backhoes	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Cranes	1	24	0	8	0.000	0.000
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Cranes	1	24	0	8	0.000	0.000
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Other Material Handling Equipment	1	24	0	8	0.000	0.000
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Cranes	1	24	0	8	0.000	0.000
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Other Material Handling Equipment	1	24	0	8	0.000	0.000
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Tractors/Loaders/Backhoes	1	24	0	8	0.000	0.000

Grading Fugitive Dust Emissions	Emission Factor (lb/VMT)						Emissions (lb/day)					
	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure - Construct Control Building	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	1.543		1.543	0.167		0.167	0.298		0.298	0.032		0.032
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Remove TBM	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Remove TBM	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Remove TBM	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Remove TBM	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Remove TBM	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Remove TBM	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000



Worker Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi) <sup>1</sup>	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	16	0.14	0.020	0.097	1.269	0.003	942.782	0.005	942.787	391.076	0.005	391.080	0.008	0.029	0.000
Tunnel Intake Structure - Construct intake structure structural elements	12/4/2023	6/28/2024	150	2023	18	0.14	0.020	0.097	1.269	0.003	942.782	0.005	942.787	391.076	0.005	391.080	0.008	0.029	0.000
Tunnel Intake Structure - Install mechanical systems	7/1/2024	8/9/2024	30	2024	4	0.14	0.018	0.088	1.184	0.003	942.782	0.005	942.787	386.396	0.004	386.400	0.007	0.026	0.000
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	6	0.14	0.018	0.088	1.184	0.003	942.782	0.005	942.787	386.396	0.004	386.400	0.007	0.026	0.000
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/2024	12/13/2024	20	2024	8	0.14	0.018	0.088	1.184	0.003	942.782	0.005	942.787	386.396	0.004	386.400	0.007	0.026	0.000
Tunnel Intake Structure - Install fencing and security systems	1/13/2025	1/31/2025	15	2025	6	0.14	0.016	0.079	1.110	0.003	942.782	0.005	942.787	381.649	0.004	381.653	0.007	0.023	0.000
Tunnel Intake Structure - Install electrical and control systems	12/16/2024	1/10/2025	20	2024	6	0.14	0.018	0.088	1.184	0.003	942.782	0.005	942.787	386.396	0.004	386.400	0.007	0.026	0.000
Tunnel Intake Structure - Testing of control systems	1/13/2025	1/24/2025	10	2025	6	0.14	0.016	0.079	1.110	0.003	942.782	0.005	942.787	381.649	0.004	381.653	0.007	0.023	0.000
Tunnel Intake Structure - Re-vegetation and site demob	2/3/2025	2/28/2025	20	2025	8	0.14	0.016	0.079	1.110	0.003	942.782	0.005	942.787	381.649	0.004	381.653	0.007	0.023	0.000
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	30	2023	8	1.09	0.020	0.097	1.269	0.003	942.782	0.005	942.787	391.076	0.005	391.080	0.008	0.029	0.000
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/2023	7/7/2023	30	2023	8	0.14	0.020	0.097	1.269	0.003	942.782	0.005	942.787	391.076	0.005	391.080	0.008	0.029	0.000
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	10	0.14	0.020	0.097	1.269	0.003	942.782	0.005	942.787	391.076	0.005	391.080	0.008	0.029	0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	6	1.09	0.020	0.097	1.269	0.003	942.782	0.005	942.787	391.076	0.005	391.080	0.008	0.029	0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	6	0.14	0.020	0.097	1.269	0.003	942.782	0.005	942.787	391.076	0.005	391.080	0.008	0.029	0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	8	0.14	0.020	0.097	1.269	0.003	942.782	0.005	942.787	391.076	0.005	391.080	0.008	0.029	0.000
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	56	0.14	0.018	0.088	1.184	0.003	942.782	0.005	942.787	386.396	0.004	386.400	0.007	0.026	0.000

Worker Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi) <sup>1</sup>	Non-Running Emission Factors (g/trip) <sup>1</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	16	0.14	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure - Construct intake structure structural elements	12/4/2023	6/28/2024	150	2023	18	0.14	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure - Install mechanical systems	7/1/2024	8/9/2024	30	2024	4	0.14	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	6	0.14	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/2024	12/13/2024	20	2024	8	0.14	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Install fencing and security systems	1/13/2025	1/31/2025	15	2025	6	0.14	1.444	0.361	4.427	0.001	0.000	0.002	0.002	0.000	0.002	0.002	80.445	0.092	0.037
Tunnel Intake Structure - Install electrical and control systems	12/16/2024	1/10/2025	20	2024	6	0.14	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Testing of control systems	1/13/2025	1/24/2025	10	2025	6	0.14	1.444	0.361	4.427	0.001	0.000	0.002	0.002	0.000	0.002	0.002	80.445	0.092	0.037
Tunnel Intake Structure - Re-vegetation and site demob	2/3/2025	2/28/2025	20	2025	8	0.14	1.444	0.361	4.427	0.001	0.000	0.002	0.002	0.000	0.002	0.002	80.445	0.092	0.037
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	30	2023	8	1.09	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/2023	7/7/2023	30	2023	8	0.14	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	10	0.14	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	6	1.09	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Install temporary utilities, Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	6	0.14	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	8	0.14	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	56	0.14	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038

Worker Onsite	Emissions (lb/day)																			Total MT				
	Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi) <sup>1</sup>	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	16	0.14	0.06	0.01	0.18	0.00	2.13	0.00	2.13	1.96	0.00	1.96	2.95	0.00	0.00	0.06	0.00	0.00	0.07
	Tunnel Intake Structure - Construct intake structure structural elements	12/4/2023	6/28/2024	150	2023	18	0.14	0.06	0.02	0.20	0.00	2.39	0.00	2.39	2.20	0.00	2.20	3.32	0.00	0.00	0.23	0.00	0.00	0.26
	Tunnel Intake Structure - Install mechanical systems	7/1/2024	8/9/2024	30	2024	4	0.14	0.01	0.00	0.04	0.00	0.53	0.00	0.53	0.48	0.00	0.48	0.72	0.00	0.00	0.01	0.00	0.00	0.01
	Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	6	0.14	0.02	0.01	0.06	0.00	0.80	0.00	0.80	0.73	0.00	0.73	1.09	0.00	0.00	0.01	0.00	0.00	0.02
	Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/2024	12/13/2024	20	2024	8	0.14	0.03	0.01	0.09	0.00	1.06	0.00	1.06	0.97	0.00	0.97	1.45	0.00	0.00	0.01	0.00	0.00	0.02
	Tunnel Intake Structure - Install fencing and security systems	1/13/2025	1/31/2025	15	2025	6	0.14	0.02	0.00	0.06	0.00	0.80	0.00	0.80	0.72	0.00	0.72	1.06	0.00	0.00	0.01	0.00	0.00	0.01
	Tunnel Intake Structure - Install electrical and control systems	12/16/2024	1/10/2025	20	2024	6	0.14	0.02	0.01	0.06	0.00	0.80	0.00	0.80	0.73	0.00	0.73	1.09	0.00	0.00	0.01	0.00	0.00	0.01
	Tunnel Intake Structure - Testing of control systems	1/13/2025	1/24/2025	10	2025	6	0.14	0.02	0.00	0.06	0.00	0.80	0.00	0.80	0.72	0.00	0.72	1.06	0.00	0.00	0.00	0.00	0.00	0.01
	Tunnel Intake Structure - Re-vegetation and site demob	2/3/2025	2/28/2025	20	2025	8	0.14	0.03	0.01	0.08	0.00	1.06	0.00	1.06	0.96	0.00	0.96	1.42	0.00	0.00	0.01	0.00	0.00	0.02
	Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	30	2023	8	1.09	0.03	0.01	0.11	0.00	8.15	0.00	8.15	7.51	0.00	7.51	1.48	0.00	0.00	0.02	0.00	0.00	0.02
	Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/2023	7/7/2023	30	2023	8	0.14	0.03	0.01	0.09	0.00	1.06	0.00	1.06	0.98	0.00	0.98	1.48	0.00	0.00	0.02	0.00	0.00	0.02
	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	10	0.14	0.03	0.01	0.11	0.00	1.33	0.00	1.33	1.22	0.00	1.22	1.84	0.00	0.00	0.01	0.00	0.00	0.01
	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	6	1.09	0.02	0.01	0.08	0.00	6.11	0.00	6.11	5.63	0.00	5.63	1.11	0.00	0.00	0.02	0.00	0.00	0.03
	Tunnel Intake Structure Portal - Install temporary utilities, Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	6	0.14	0.02	0.01	0.07	0.00	0.80	0.00	0.80	0.73	0.00	0.73	1.11	0.00	0.00	0.02	0.00	0.00	0.02
	Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	8	0.14	0.03	0.01	0.09	0.00	1.06	0.00	1.06	0.98	0.00	0.98	1.48	0.00	0.00	0.02	0.00	0.00	0.02
	Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	56	0.14	0.19	0.05	0.60	0.00	7.44	0.00	7.44	6.78	0.00	6.78	10.13	0.01	0.00	0.14	0.00	0.00	0.16

Worker Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	16	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure - Construct intake structure structural elements	12/4/2023	6/28/2024	150	2023	18	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure - Install mechanical systems	7/1/2024	8/9/2024	30	2024	4	20.9469697	0.017	0.089	0.987	0.003	0.315	0.002	0.316	0.078	0.001	0.079	316.640	0.004	0.007
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	6	20.9469697	0.017	0.089	0.987	0.003	0.315	0.002	0.316	0.078	0.001	0.079	316.640	0.004	0.007
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/2024	12/13/2024	20	2024	8	20.9469697	0.017	0.089	0.987	0.003	0.315	0.002	0.316	0.078	0.001	0.079	316.640	0.004	0.007
Tunnel Intake Structure - Install fencing and security systems	1/13/2025	1/31/2025	15	2025	6	20.9469697	0.016	0.081	0.923	0.003	0.315	0.001	0.316	0.078	0.001	0.079	311.517	0.004	0.007
Tunnel Intake Structure - Install electrical and control systems	12/16/2024	1/10/2025	20	2024	6	20.9469697	0.017	0.089	0.987	0.003	0.315	0.002	0.316	0.078	0.001	0.079	316.640	0.004	0.007
Tunnel Intake Structure - Testing of control systems	1/13/2025	1/24/2025	10	2025	6	20.9469697	0.016	0.081	0.923	0.003	0.315	0.001	0.316	0.078	0.001	0.079	311.517	0.004	0.007
Tunnel Intake Structure - Re-vegetation and site demob	2/3/2025	2/28/2025	20	2025	8	20.9469697	0.016	0.081	0.923	0.003	0.315	0.001	0.316	0.078	0.001	0.079	311.517	0.004	0.007
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	30	2023	8	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/2023	7/7/2023	30	2023	8	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	10	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	6	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	6	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	8	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	56	20.9469697	0.017	0.089	0.987	0.003	0.315	0.002	0.316	0.078	0.001	0.079	316.640	0.004	0.007

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Worker Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	16	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure - Construct intake structure structural elements	12/4/2023	6/28/2024	150	2023	18	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure - Install mechanical systems	7/1/2024	8/9/2024	30	2024	4	20.9469697	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	6	20.9469697	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/2024	12/13/2024	20	2024	8	20.9469697	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Install fencing and security systems	1/13/2025	1/31/2025	15	2025	6	20.9469697	1.444	0.361	4.427	0.001	0.000	0.002	0.002	0.000	0.002	0.002	80.445	0.092	0.037
Tunnel Intake Structure - Install electrical and control systems	12/16/2024	1/10/2025	20	2024	6	20.9469697	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Testing of control systems	1/13/2025	1/24/2025	10	2025	6	20.9469697	1.444	0.361	4.427	0.001	0.000	0.002	0.002	0.000	0.002	0.002	80.445	0.092	0.037
Tunnel Intake Structure - Re-vegetation and site demob	2/3/2025	2/28/2025	20	2025	8	20.9469697	1.444	0.361	4.427	0.001	0.000	0.002	0.002	0.000	0.002	0.002	80.445	0.092	0.037
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	30	2023	8	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/2023	7/7/2023	30	2023	8	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	10	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	6	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	6	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	8	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	56	20.9469697	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Worker Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day)											Total MT					
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	16	20.9469697	0.07	0.09	0.96	0.00	0.22	0.00	0.22	0.06	0.00	0.06	240.64	0.01	0.01	4.91	0.00	0.00	4.96
Tunnel Intake Structure - Construct intake structure structural elements	12/4/2023	6/28/2024	150	2023	18	20.9469697	0.08	0.10	1.08	0.00	0.24	0.00	0.24	0.06	0.00	0.07	270.72	0.01	0.01	18.42	0.00	0.00	18.60
Tunnel Intake Structure - Install mechanical systems	7/1/2024	8/9/2024	30	2024	4	20.9469697	0.02	0.02	0.22	0.00	0.05	0.00	0.05	0.01	0.00	0.01	59.21	0.00	0.00	0.81	0.00	0.00	0.81
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	6	20.9469697	0.02	0.03	0.34	0.00	0.08	0.00	0.08	0.02	0.00	0.02	88.82	0.00	0.00	1.21	0.00	0.00	1.22
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/2024	12/13/2024	20	2024	8	20.9469697	0.03	0.04	0.45	0.00	0.11	0.00	0.11	0.03	0.00	0.03	118.43	0.00	0.00	1.07	0.00	0.00	1.08
Tunnel Intake Structure - Install fencing and security systems	1/13/2025	1/31/2025	15	2025	6	20.9469697	0.02	0.03	0.31	0.00	0.08	0.00	0.08	0.02	0.00	0.02	87.38	0.00	0.00	0.59	0.00	0.00	0.60
Tunnel Intake Structure - Install electrical and control systems	12/16/2024	1/10/2025	20	2024	6	20.9469697	0.02	0.03	0.34	0.00	0.08	0.00	0.08	0.02	0.00	0.02	88.82	0.00	0.00	0.81	0.00	0.00	0.81
Tunnel Intake Structure - Testing of control systems	1/13/2025	1/24/2025	10	2025	6	20.9469697	0.02	0.03	0.31	0.00	0.08	0.00	0.08	0.02	0.00	0.02	87.38	0.00	0.00	0.40	0.00	0.00	0.40
Tunnel Intake Structure - Re-vegetation and site demob	2/3/2025	2/28/2025	20	2025	8	20.9469697	0.03	0.04	0.42	0.00	0.11	0.00	0.11	0.03	0.00	0.03	116.51	0.00	0.00	1.06	0.00	0.00	1.07
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	30	2023	8	20.9469697	0.03	0.04	0.48	0.00	0.11	0.00	0.11	0.03	0.00	0.03	120.32	0.00	0.00	1.64	0.00	0.00	1.65
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/2023	7/7/2023	30	2023	8	20.9469697	0.03	0.04	0.48	0.00	0.11	0.00	0.11	0.03	0.00	0.03	120.32	0.00	0.00	1.64	0.00	0.00	1.65
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	10	20.9469697	0.04	0.05	0.60	0.00	0.14	0.00	0.14	0.04	0.00	0.04	150.40	0.00	0.00	0.68	0.00	0.00	0.69
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	6	20.9469697	0.03	0.03	0.36	0.00	0.08	0.00	0.08	0.02	0.00	0.02	90.24	0.00	0.00	1.84	0.00	0.00	1.86
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	6	20.9469697	0.03	0.03	0.36	0.00	0.08	0.00	0.08	0.02	0.00	0.02	90.24	0.00	0.00	1.23	0.00	0.00	1.24
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	8	20.9469697	0.03	0.04	0.48	0.00	0.11	0.00	0.11	0.03	0.00	0.03	120.32	0.00	0.00	1.64	0.00	0.00	1.65
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	56	20.9469697	0.23	0.28	3.13	0.01	0.76	0.00	0.76	0.20	0.00	0.21	828.99	0.02	0.02	11.28	0.00	0.00	11.38

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Vendor Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi) <sup>1</sup>	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	8	0.14	0.024	2.221	0.142	0.013	942.876	0.013	942.889	94.169	0.013	94.182	1411.688	0.001	0.222
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	28	0.14	0.024	2.221	0.142	0.013	942.876	0.013	942.889	94.169	0.013	94.182	1411.688	0.001	0.222
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	8	0.14	0.022	2.082	0.133	0.013	942.876	0.012	942.888	94.169	0.011	94.181	1396.751	0.001	0.220
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	8	0.14	0.022	2.082	0.133	0.013	942.876	0.012	942.888	94.169	0.011	94.181	1396.751	0.001	0.220
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	8	0.14	0.022	2.082	0.133	0.013	942.876	0.012	942.888	94.169	0.011	94.181	1396.751	0.001	0.220
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	8	0.14	0.020	1.935	0.124	0.013	942.876	0.011	942.886	94.169	0.010	94.179	1381.164	0.001	0.218
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	8	0.14	0.022	2.082	0.133	0.013	942.876	0.012	942.888	94.169	0.011	94.181	1396.751	0.001	0.220
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.14	0.020	1.935	0.124	0.013	942.876	0.011	942.886	94.169	0.010	94.179	1381.164	0.001	0.218
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	10	0.14	0.020	1.935	0.124	0.013	942.876	0.011	942.886	94.169	0.010	94.179	1381.164	0.001	0.218
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	22	1.09	0.024	2.221	0.142	0.013	942.876	0.013	942.889	94.169	0.013	94.182	1411.688	0.001	0.222
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	8	0.14	0.024	2.221	0.142	0.013	942.876	0.013	942.889	94.169	0.013	94.182	1411.688	0.001	0.222
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	10	0.14	0.024	2.221	0.142	0.013	942.876	0.013	942.889	94.169	0.013	94.182	1411.688	0.001	0.222
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	8	1.09	0.024	2.221	0.142	0.013	942.876	0.013	942.889	94.169	0.013	94.182	1411.688	0.001	0.222
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	12	0.14	0.024	2.221	0.142	0.013	942.876	0.013	942.889	94.169	0.013	94.182	1411.688	0.001	0.222
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	8	0.14	0.024	2.221	0.142	0.013	942.876	0.013	942.889	94.169	0.013	94.182	1411.688	0.001	0.222
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.14	0.022	2.082	0.133	0.013	942.876	0.012	942.888	94.169	0.011	94.181	1396.751	0.001	0.220

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Vendor Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi) <sup>1</sup>	Non-Running Emission Factors (g/trip) <sup>2</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	8	0.14	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	28	0.14	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	8	0.14	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	8	0.14	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	8	0.14	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	8	0.14	0.182	5.021	2.801	0.005	0.000	0.003	0.003	0.000	0.002	0.002	496.226	0.008	0.078
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	8	0.14	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.14	0.182	5.021	2.801	0.005	0.000	0.003	0.003	0.000	0.002	0.002	496.226	0.008	0.078
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	10	0.14	0.182	5.021	2.801	0.005	0.000	0.003	0.003	0.000	0.002	0.002	496.226	0.008	0.078
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	22	1.09	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	8	0.14	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	10	0.14	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	8	1.09	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Install temporary utilities: Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	12	0.14	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	8	0.14	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.14	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area



Vendor Onsite	Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi) <sup>1</sup>	Emissions (lb/day) <sup>2</sup>											Total MT					
								ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	8	0.14	0.00	0.09	0.05	0.00	1.06	0.00	1.06	0.11	0.00	0.11	12.59	0.00	0.00	0.26	0.00	0.00	0.27
	Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	28	0.14	0.01	0.32	0.17	0.00	3.72	0.00	3.72	0.37	0.00	0.37	44.08	0.00	0.01	3.00	0.00	0.00	3.14
	Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	8	0.14	0.00	0.09	0.05	0.00	1.06	0.00	1.06	0.11	0.00	0.11	12.40	0.00	0.00	0.17	0.00	0.00	0.18
	Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	8	0.14	0.00	0.09	0.05	0.00	1.06	0.00	1.06	0.11	0.00	0.11	12.40	0.00	0.00	0.17	0.00	0.00	0.18
	Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	8	0.14	0.00	0.09	0.05	0.00	1.06	0.00	1.06	0.11	0.00	0.11	12.40	0.00	0.00	0.11	0.00	0.00	0.12
	Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	8	0.14	0.00	0.09	0.05	0.00	1.06	0.00	1.06	0.11	0.00	0.11	12.21	0.00	0.00	0.08	0.00	0.00	0.09
	Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	8	0.14	0.00	0.09	0.05	0.00	1.06	0.00	1.06	0.11	0.00	0.11	12.40	0.00	0.00	0.11	0.00	0.00	0.12
	Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	10	0.14	0.00	0.12	0.06	0.00	1.33	0.00	1.33	0.13	0.00	0.13	15.27	0.00	0.00	0.14	0.00	0.00	0.15
	Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	22	1.09	0.01	0.35	0.14	0.00	22.07	0.00	22.07	2.20	0.00	2.21	97.97	0.00	0.02	1.33	0.00	0.00	1.40
	Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	8	0.14	0.00	0.09	0.05	0.00	1.06	0.00	1.06	0.11	0.00	0.11	12.59	0.00	0.00	0.17	0.00	0.00	0.18
	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	10	0.14	0.00	0.11	0.06	0.00	1.33	0.00	1.33	0.13	0.00	0.13	15.74	0.00	0.00	0.07	0.00	0.00	0.07
	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	8	1.09	0.00	0.13	0.05	0.00	8.15	0.00	8.15	0.81	0.00	0.81	36.17	0.00	0.01	0.74	0.00	0.00	0.77
	Tunnel Intake Structure Portal - Install temporary utilities: Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	12	0.14	0.00	0.14	0.07	0.00	1.59	0.00	1.59	0.16	0.00	0.16	18.89	0.00	0.00	0.26	0.00	0.00	0.27
	Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	8	0.14	0.00	0.09	0.05	0.00	1.06	0.00	1.06	0.11	0.00	0.11	12.59	0.00	0.00	0.17	0.00	0.00	0.18
	Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Vendor Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	8	20.9	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	28	20.9	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	8	20.9	0.026	1.702	0.106	0.013	0.386	0.021	0.407	0.101	0.020	0.122	1400.228	0.001	0.221
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	8	20.9	0.026	1.702	0.106	0.013	0.386	0.021	0.407	0.101	0.020	0.122	1400.228	0.001	0.221
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	8	20.9	0.026	1.702	0.106	0.013	0.386	0.021	0.407	0.101	0.020	0.122	1400.228	0.001	0.221
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	8	20.9	0.023	1.595	0.098	0.013	0.385	0.020	0.405	0.101	0.019	0.120	1385.789	0.001	0.218
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	8	20.9	0.026	1.702	0.106	0.013	0.386	0.021	0.407	0.101	0.020	0.122	1400.228	0.001	0.221
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	20.9	0.023	1.595	0.098	0.013	0.385	0.020	0.405	0.101	0.019	0.120	1385.789	0.001	0.218
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	10	20.9	0.023	1.595	0.098	0.013	0.385	0.020	0.405	0.101	0.019	0.120	1385.789	0.001	0.218
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	22	20.9	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	8	20.9	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	10	20.9	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	8	20.9	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	12	20.9	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	8	20.9	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	20.9	0.026	1.702	0.106	0.013	0.386	0.021	0.407	0.101	0.020	0.122	1400.228	0.001	0.221

- 1) Accounts for all exhaust and evaporative processes
- 2) Off-site would only be cement trips

Vendor Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	8	20.9	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	28	20.9	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	8	20.9	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	8	20.9	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	8	20.9	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	8	20.9	0.182	5.021	2.801	0.005	0.000	0.003	0.003	0.000	0.002	0.002	496.226	0.008	0.078
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	8	20.9	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	20.9	0.182	5.021	2.801	0.005	0.000	0.003	0.003	0.000	0.002	0.002	496.226	0.008	0.078
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	10	20.9	0.182	5.021	2.801	0.005	0.000	0.003	0.003	0.000	0.002	0.002	496.226	0.008	0.078
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	22	20.9	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	8	20.9	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	10	20.9	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	8	20.9	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	12	20.9	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	8	20.9	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	20.9	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080

1) Accounts for all exhaust and evaporative processes  
 2) Off-site would only be cement trips

Vendor Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day)												Total MT				
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	8	20.9	0.01	0.75	0.09	0.01	0.13	0.01	0.14	0.04	0.01	0.05	531.36	0.00	0.08	10.85	0.00	0.00	11.36
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	28	20.9	0.05	2.64	0.32	0.02	0.46	0.03	0.49	0.13	0.03	0.16	1859.76	0.00	0.29	126.54	0.00	0.02	132.48
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	8	20.9	0.01	0.72	0.09	0.00	0.13	0.01	0.14	0.04	0.01	0.04	526.21	0.00	0.08	7.16	0.00	0.00	7.50
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	8	20.9	0.01	0.72	0.09	0.00	0.13	0.01	0.14	0.04	0.01	0.04	526.21	0.00	0.08	7.16	0.00	0.00	7.50
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	8	20.9	0.01	0.72	0.09	0.00	0.13	0.01	0.14	0.04	0.01	0.04	526.21	0.00	0.08	4.77	0.00	0.00	5.00
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	8	20.9	0.01	0.68	0.09	0.00	0.13	0.01	0.14	0.04	0.01	0.04	520.72	0.00	0.08	3.54	0.00	0.00	3.71
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	8	20.9	0.01	0.72	0.09	0.00	0.13	0.01	0.14	0.04	0.01	0.04	526.21	0.00	0.08	4.77	0.00	0.00	5.00
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	20.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	10	20.9	0.01	0.85	0.11	0.01	0.17	0.01	0.17	0.05	0.01	0.06	650.90	0.00	0.10	5.90	0.00	0.00	6.18
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	22	20.9	0.04	2.04	0.25	0.01	0.36	0.02	0.38	0.10	0.02	0.12	1439.10	0.00	0.23	19.58	0.00	0.00	20.50
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	8	20.9	0.01	0.75	0.09	0.01	0.13	0.01	0.14	0.04	0.01	0.05	531.36	0.00	0.08	7.23	0.00	0.00	7.57
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	10	20.9	0.02	0.94	0.11	0.01	0.17	0.01	0.18	0.05	0.01	0.06	664.20	0.00	0.10	3.01	0.00	0.00	3.15
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	8	20.9	0.01	0.75	0.09	0.01	0.13	0.01	0.14	0.04	0.01	0.05	531.36	0.00	0.08	10.85	0.00	0.00	11.36
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	12	20.9	0.02	1.13	0.14	0.01	0.20	0.01	0.21	0.06	0.01	0.07	797.04	0.00	0.13	10.85	0.00	0.00	11.36
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	8	20.9	0.01	0.75	0.09	0.01	0.13	0.01	0.14	0.04	0.01	0.05	531.36	0.00	0.08	7.23	0.00	0.00	7.57
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	20.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1) Accounts for all exhaust and evaporative processes  
 2) Off-site would only be cement trips

Haul Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	214	1.51	0.02	3.35	0.17	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1775.96	0.00	0.28
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	26	0.14	0.02	3.35	0.17	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1775.96	0.00	0.28
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0	0.14	0.02	3.17	0.16	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1750.26	0.00	0.28
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0	0.14	0.02	3.17	0.16	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1750.26	0.00	0.28
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0	0.14	0.02	3.17	0.16	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1750.26	0.00	0.28
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0	0.14	0.02	2.96	0.15	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1723.24	0.00	0.27
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0	0.14	0.02	3.17	0.16	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1750.26	0.00	0.28
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.14	0.02	2.96	0.15	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1723.24	0.00	0.27
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0	0.14	0.02	2.96	0.15	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1723.24	0.00	0.27
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	10	1.09	0.02	3.35	0.17	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1775.96	0.00	0.28
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0	0.14	0.02	3.35	0.17	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1775.96	0.00	0.28
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0	0.14	0.02	3.35	0.17	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1775.96	0.00	0.28
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0	1.09	0.02	3.35	0.17	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1775.96	0.00	0.28
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0	0.14	0.02	3.35	0.17	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1775.96	0.00	0.28
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0	0.14	0.02	3.35	0.17	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1775.96	0.00	0.28
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.14	0.02	3.17	0.16	0.02	942.93	0.01	942.94	94.19	0.01	94.20	1750.26	0.00	0.28

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Haul Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	214	1.51	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	26	0.14	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0	0.14	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0	0.14	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0	0.14	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0	0.14	0.34	7.24	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	797.13	0.02	0.13
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0	0.14	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.14	0.34	7.24	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	797.13	0.02	0.13
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0	0.14	0.34	7.24	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	797.13	0.02	0.13
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	10	1.09	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0	0.14	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0	0.14	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0	1.09	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0	0.14	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0	0.14	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.14	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Haul Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day) <sup>2</sup>												Total MT				
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	214	1.51	0.18	5.68	2.45	0.02	302.18	0.01	302.19	30.18	0.01	30.19	1655.68	0.01	0.26	33.80	0.00	0.01	35.39
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	26	0.14	0.02	0.43	0.28	0.00	3.45	0.00	3.46	0.35	0.00	0.35	61.96	0.00	0.01	4.22	0.00	0.00	4.41
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	10	1.09	0.01	0.23	0.11	0.00	10.19	0.00	10.19	1.02	0.00	1.02	60.91	0.00	0.01	0.83	0.00	0.00	0.87
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0	1.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Haul Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	214	5.5	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	26	27.9	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0	0.0	0.02	2.18	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1661.67	0.00	0.26
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0	0.0	0.02	2.18	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1661.67	0.00	0.26
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0	0.0	0.02	2.18	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1661.67	0.00	0.26
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0	0.0	0.02	2.07	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1637.28	0.00	0.26
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0	0.0	0.02	2.18	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1661.67	0.00	0.26
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.0	0.02	2.07	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1637.28	0.00	0.26
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0	27.9	0.02	2.07	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1637.28	0.00	0.26
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	10	27.9	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0	0.9	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0	0.9	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0	0.9	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0	0.9	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0	27.9	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.9	0.02	2.18	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1661.67	0.00	0.26

1) Accounts for all exhaust and evaporative processes  
 2) Soil Import only. Soil export would be kept on-site.



Haul Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>													
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	214	5.5	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	26	27.9	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0	0.0	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0	0.0	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0	0.0	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0	0.0	0.34	7.24	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	797.13	0.02	0.13
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0	0.0	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.0	0.34	7.24	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	797.13	0.02	0.13
Tunnel Intake Structure - Re-vegetation and site demob	2/13/25	2/28/25	20	2025	0	27.9	0.34	7.24	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	797.13	0.02	0.13
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	10	27.9	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0	0.9	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0	0.9	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0	0.9	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0	0.9	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0	27.9	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.9	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13

1) Accounts for all exhaust and evaporative processes  
 2) Soil Import only. Soil export would be kept on-site.

Haul Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day)													Total MT			
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	214	5.5	0.22	9.26	2.59	0.05	1.01	0.07	1.08	0.29	0.07	0.36	4798.54	0.01	0.76	97.95	0.00	0.02	102.55
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	26	27.9	0.05	4.05	0.44	0.03	0.62	0.04	0.66	0.18	0.04	0.22	2745.50	0.00	0.43	186.80	0.00	0.03	195.58
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0	27.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	10	27.9	0.02	1.56	0.17	0.01	0.24	0.02	0.25	0.07	0.02	0.08	1055.96	0.00	0.17	14.37	0.00	0.00	15.04
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0	0.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0	0.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0	0.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0	0.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0	27.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1) Accounts for all exhaust and evaporative processes  
 2) Soil Import only. Soil export would be kept on-site.

Architectural Coating Emissions

Phase Name	Coating Type	SF	Residential Interior EF	Residential Interior Area (SF)	Residential Exterior EF	Residential Exterior Area	Non-Residential Interior EF	Non-Residential Interior Area (SF)	Non-Residential Exterior EF	Non-Residential Exterior Area	Grout EF	Grout Area	Total Emissions (lbs)
Tunnel Intake Structure - Excavate and support for approach channel and intake structure			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure - Construct Intake structure structural elements	Non-Residential	20,736	100	0	100	0	101	31104	101	10368	51	0.00	194.01
Tunnel Intake Structure - Install mechanical systems			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure - Construct Control Building			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure - Install fencing and security systems			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure - Install electrical and control systems			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure - Testing of control systems			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure - Re-vegetation and site demob			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure Portal - Remove TBM			100	0	100	0	100	0	100	0	50	0.00	0.00

Combined Phase Name5	Start Date5	End Date5	# of Workdays5	Emissions (lb/day)
				ROG
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45.00	0.00
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150.00	1.29
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30.00	0.00
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30.00	0.00
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20.00	0.00
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15.00	0.00
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20.00	0.00
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10.00	0.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20.00	0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30.00	0.00
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30.00	0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10.00	0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45.00	0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30.00	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30.00	0.00
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30.00	0.00

**Paving Off-Gassing Emissions**

Phase Name	Acres	Off-Gassing EF (lb/acre)	Total Emissions (lbs)
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	2.11	2.62	5.53
	0.00	2.62	0.00
	0.00	2.62	0.00

Combined Phase Name5	Start Date5	End Date5	# of Workdays5	Emissions (lb/day)
				ROG
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45.00	0.00
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150.00	0.00
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30.00	0.00
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30.00	0.00
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20.00	0.00
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15.00	0.00
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20.00	0.00
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10.00	0.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20.00	0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30.00	0.18
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30.00	0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10.00	0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45.00	0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30.00	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30.00	0.00
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30.00	0.00

**Mechanical or Explosive Dismemberment**

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

EF emission factor (lb/ton)  
 k particle size multiplier, AP-42 default for PM10: 0.35; PM2.5: 0.053  
 U mean wind speed, m/s to mph  
 M material moisture content (%), AP-42 Default: 2

Parameter	PM10	PM2.5	CalEEMod Wind Speed (m/s)
	Value	Value	3.2 CEC forecast zone 4
k (unitless)	0.35	0.053	<--confirm these parameters for location
U (m/s to mph)	7.16	7.16	<--confirm these parameters for location
M (%)	2	2	<--confirm these parameters for location
<b>EF (lb/ton)</b>	<b>1.79E-03</b>	<b>2.70E-04</b>	

**Debris Loading**

$$EF_L = k \times EF_{L-TSP}$$

EF<sub>L</sub> emission factor (lb/ton)  
 k particle size multiplier, AP-42 default for PM10: 0.35; PM2.5: 0.053

Default EF<sub>L-TSP</sub> 0.058

lb/ton of debris	
PM10	PM2.5
0.0203	0.003074

**Total DEMO EF**

lb/ton of debris	
PM10	PM2.5
2.21E-02	3.34E-03

**Mechanical or Explosive Dismemberment**

Based on the MRI report, there is no AP-42 emission factor data available for this mechanical or explosive dismemberment. Thus, the emission factor for dismemberment and collapse of a structure is calculated using the following AP-42 equation for batch drop operations:

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

Where:

- EF<sub>D</sub> = emission factor (lb PM/ton of debris)
- EF<sub>D-PM10</sub> = 0.0011 lb PM<sub>10</sub>/ton of debris
- EF<sub>D-PM2.5</sub> = 0.00017 lb PM<sub>2.5</sub>/ton of debris
- k = particle size multiplier. The AP-42 default value for PM<sub>10</sub> is 0.35 and that for PM<sub>2.5</sub> is 0.053.
- U = mean wind speed. The program selects the default mean wind speed based on the wind speed (m/s) provided on the project characteristics screen.
- M = material moisture content. The program uses 2% as the default based on the MRI report.

The dust emissions are calculated by multiplying the above emission factors with the total weight of building waste using the following equation:

$$E_D = EF_D \times W$$

Where:

- E<sub>D</sub> = emissions (lb of PM)
- EF<sub>D</sub> = emission factor (lb of PM/ton of debris)
- W = building waste (ton of debris)

<sup>10</sup> Midwest Research Institute. 1988. Gap Filling PM10 Emission Factors for Selected Open Area Dust Sources.

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**Debris Loading**

The dust emission factor of PM<sub>10</sub> and PM<sub>2.5</sub> in pounds per ton building waste is estimated based on the measured total suspended particulates (TSP) emission factor using the following equation:

$$EF_L = k \times EF_{L-TSP}$$

Where:

- EF<sub>L</sub> = emission factor (lb/ton)
- k = particle size multiplier. The AP-42 default value for PM<sub>10</sub> is 0.35 and that for PM<sub>2.5</sub> is 0.053.

The default value for EF<sub>L-TSP</sub> is 0.058 lb/ton, the average of the two TSP factor (i.e. 0.053 and 0.063 lb/ton) measured from two tests of the filling of trucks with crushed limestone using a front-end loader.

The dust emissions from debris loading are then calculated following the same methodology used for mechanical and or explosive dismemberment:

$$E_L = EF_L \times SF \times 0.046(\text{ton} / \text{ft}^2)$$

Where:

- E<sub>L</sub> = emissions (lb)
- EF<sub>L</sub> = emission factor (lb/ton)
- SF = building square footage (ft<sup>2</sup>)

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Truck Loading Emissions

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

- EF emission factor (lb/ton)
- k particle size multiplier, AP-42 default for PM10: 0.35; PM2.5: 0.053
- U mean wind speed, m/s to mph
- M material moisture content (%), AP-42 Default: 12

Parameter	CalEEMod Wind Speed (m/s)		Changes based on Project Location
	PM10	PM2.5	3.2 CEC forecast zone 4
k (unitless)	0.35	0.053	<--confirm these parameters for location
U (m/s to mph)	7.16	7.16	<--confirm these parameters for location
M (%)	14	14	MJA, DRAFT - Preliminary Geotechnical Design Recommendations, February 2019.
EF (lb/ton)	1.17E-04	1.77E-05	

**Emissions** **E=EF x TP**

- EF Emission factor (lb/ton)
- TP Throughput (tons)
- CY 95186 <--Enter in Project Value
- tons/CY 1.2641662
- TP 120330.92
- # of days with truck loading #REF! <--Enter in Project Value

**Truck Loading**

Processes such as truck dumping on the pile or loading out from the pile to a truck with a front-end loader also cause fugitive dust emissions. The program calculates these emissions using the methodology described in Section 13.2, Introduction to Fugitive Dust Sources, of USEPA AP-42. The emission factor that is based on the material moisture content and mean wind speed is calculated using the following formula:

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

Where:

EF = emission factor (lb/ton)

K = particle size multiplier. The AP-42 default value for PM<sub>10</sub> is 0.35 and that for PM<sub>2.5</sub> is 0.053

U = mean wind speed. The program selects wind speed based on the value listed on the Project Characteristics screen. It has been converted internally to miles per hour.

M = material moisture content (%). The moisture contents of different materials are listed in Table 13.2.4-1 of AP-42. The program uses the moisture content of cover (12%) as default.

The fugitive dust emissions are calculated by multiplying the emission factor with the throughput of loaded and unloaded material that is entered by the user.

$$E = EF \times TP$$

Where:

E = emissions (lb)

EF = emission factor (lb/ton)

TP = throughput of loaded and unloaded materials (ton)

CalEEMod assumes that 1.2641662 tons per cubic yard based on a bulk density of 1.5 grams per cubic centimeter. Typical soil densities range from about 1.25 to about 1.6 and 1.5 is the approximate density of a silty loam soil which is relatively common in most other parts of the state. The density reported above does not account for watering to suppress dust, it only accounts for natural moisture.

13.2.4.2

EMISSION FACTORS

Table 13.2.4-1. TYPICAL SILT AND MOISTURE CONTENTS OF MATERIALS AT VARIOUS INDUSTRIES\*

Industry	No. Of Facilities	Material	Silt Content (%)			Moisture Content (%)		
			No. Of Samples	Range	Mean	No. Of Samples	Range	Mean
Iron and steel production	9	Pellet ore	13	1.3 - 13	4.3	11	0.64 - 4.0	2.2
		Lump ore	9	2.8 - 19	9.5	6	1.6 - 8.0	5.4
		Coal	12	2.0 - 7.7	4.6	11	2.8 - 11	4.8
		Slag	3	3.0 - 7.3	5.3	3	0.25 - 2.0	0.92
		Flue dust	3	2.7 - 23	13	1	—	7
		Coke breeze	2	4.4 - 5.4	4.9	2	6.4 - 9.2	7.8
		Blended ore	1	—	15	1	—	6.6
		Sinter	1	—	0.7	0	—	—
		Limestone	3	0.4 - 2.3	1.0	2	ND	0.2
		Crushed limestone	2	1.3 - 1.9	1.6	2	0.3 - 1.1	0.7
Stone quarrying and processing	2	Various limestone products	8	0.8 - 14	3.9	8	0.46 - 5.0	2.1
		Pellets	9	2.2 - 5.4	3.4	7	0.05 - 2.0	0.9
Taconite mining and processing	1	Tailings	2	ND	11	1	—	0.4
		Coal	15	3.4 - 16	6.2	7	2.8 - 20	6.9
Western surface coal mining	4	Overburden	15	3.8 - 15	7.5	0	—	—
		Exposed ground	3	5.1 - 21	15	3	0.8 - 6.4	3.4
		Coal (as received)	60	0.6 - 4.8	2.2	59	2.7 - 7.4	4.5
Coal-fired power plant	1	Sand	1	—	2.6	1	—	7.4
		Slag	2	3.0 - 4.7	3.8	2	2.3 - 4.9	3.6
Municipal solid waste landfills	4	Cover	5	5.0 - 16	9.0	5	8.9 - 16	12
		Clay/dirt mix	1	—	9.2	1	—	14
		Clay	2	4.5 - 7.4	6.0	2	8.9 - 11	10
		Fly ash	4	78 - 81	80	4	26 - 29	27
		Misc. fill materials	1	—	12	1	—	11

\* References 1-10. ND = no data.

11/

**Bulldozing Emissions**

$$EF_{TSP} = \frac{C_{TSP} \times S^{1.2}}{M^{1.3}}, \text{ and } EF_{PM_{2.5}} = EF_{TSP} \times F_{PM_{2.5}}$$

$$EF_{PM_{15}} = \frac{C_{PM_{15}} \times S^{1.5}}{M^{1.4}}, \text{ and } EF_{PM_{10}} = EF_{PM_{15}} \times F_{PM_{10}}$$

- EF emission factor (lb/hr)
- C arbitrary coefficient use by AP-42
- M material moisture content (%)
- S material silt content (%)
- F scaling factor

C <sub>TSP</sub> (unitless)	5.7
C <sub>PM15</sub> (unitless)	1
M(%)	7.9
s (%)	6.9
F <sub>PM10</sub> (unitless)	0.75
F <sub>PM2.5</sub> (unitless)	0.105

EF <sub>TSP</sub>	3.941
EF <sub>PM15</sub>	1.004

**Emission Factors (lb/hr)**

EF <sub>PM10</sub>	<b>0.753</b> Emission Factor Method Confirmed with comparison to CalEEMod outputs
EF <sub>PM2.5</sub>	<b>0.414</b> Emission Factor Method Confirmed with comparison to CalEEMod outputs

Emissions= EF x Hr	
# of hours per day	8
# of Bulldozers	1

Source	lb/day	
	PM10	PM2.5
Bulldozing Emissions	6.022	3.310

**Bulldozing**

Similar to the grading equipment passes emission estimation, the bulldozing emission factors for PM<sub>10</sub> and PM<sub>2.5</sub> are scaled from those of PM<sub>15</sub> and TSP. Based on Section 11.9 of AP-42, the dust emission factor for bulldozing is calculated using the following equations:

$$EF_{TSP} = \frac{C_{TSP} \times S^{1.2}}{M^{1.3}}, \text{ and } EF_{PM_{2.5}} = EF_{TSP} \times F_{PM_{2.5}}$$

$$EF_{PM_{15}} = \frac{C_{PM_{15}} \times S^{1.5}}{M^{1.4}}, \text{ and } EF_{PM_{10}} = EF_{PM_{15}} \times F_{PM_{10}}$$

Where:

- EF = emission factor (lb/hr)
- C = arbitrary coefficient used by AP-42
- M = material moisture content (%)
- S = material silt content (%)
- F = scaling factor

C, M, s, and F vary depending on the bulldozed material. The following table summarizes the constants for overburden<sup>8</sup> presented in AP-42<sup>9</sup>.

**Bulldozing Fugitive Emission Factors**

Constant	Overburden
C <sub>TSP</sub>	5.7
C <sub>PM15</sub>	1.0
M	7.9%
s	6.9%
F <sub>PM10</sub>	0.75
F <sub>PM2.5</sub>	0.105

The program uses the constants associated with overburden as default for calculation of bulldozing dust emissions since overburden more closely models the bulldozed materials during the development construction. The dust emissions are calculated by multiplying the emission factor with the hours of operation for the dozers listed in the equipment list using the formula below:

$$E = EF \times Hr$$

Where:

- E = emissions (lb)
- EF = emission factor (lb/hr)
- Hr = hours of operation

<sup>8</sup> The earth that is between the topsoil and the coal seam (USEPA AP-42).

<sup>9</sup> Tables 11.9-1 and 11.9-3 of USEPA AP-42



**Grading Emissions**

EFPM15

$$EF_{PM15} = 0.051 \times (S)^{2.0}, \text{ and } EF_{PM10} = EF_{PM15} \times F_{PM10}$$

$$EF_{TSP} = 0.04 \times (S)^{2.5}, \text{ and } EF_{PM2.5} = EF_{TSP} \times F_{PM2.5}$$

EF Emission Factor (lb/VMT)  
 S mean vehicle speed (mph), AP-42 Default: 7.1 mph  
 F<sub>PM2.5</sub> PM2.5 scaling factor, AP-42 default: 0.031  
 F<sub>PM10</sub> PM10 scaling factor, AP-42 default: 0.6

S	7.1
F <sub>PM2.5</sub>	0.031
F <sub>PM10</sub>	0.6
EF <sub>PM15</sub>	2.57
EF <sub>TSP</sub>	5.37
Emission factor (lb/VMT)	
EF <sub>PM10</sub>	1.543
EF <sub>PM2.5</sub>	0.167

**Emissions= EF x VMT**

VMT:

A<sub>site</sub> acreage of grading site  
 W<sub>b</sub> Width of blade, default: 12 feet  
 Feet/acre conversion 43560  
 feet/mile conversion 5280  
 Acres per 8-hr day amount of acres graded per day, see calc below

Parameters:	Value
A <sub>site</sub>	4.3
W <sub>b</sub>	12
Feet/acre conversion	43560
feet/mile conversion	5280
Acres per 8-hr day	1.5
VMT	1.03125

**Acres per 8-hr day**

Equipment Type	Acres/8-hr day	# of equipment	Equipment Hours per day	Scaling Factor	Acres per day
Crawler Tractors	0.5		8	8	0
Graders	0.5		8	8	0
Rubber Tired Dozers	0.5	3	8	8	1.5
Scrapers	1		8	8	0

Equipment Type	Acres/8hr-day
Crawler Tractors	0.5
Graders	0.5
Rubber Tired Dozers	0.5
Scrapers	1

The grading dust emissions are calculated by multiplying the emission factors with the total vehicle miles traveled (VMT) for the grading equipment (i.e., grader). The VMT are estimated based on the dimensions of the grading area and the blade width of the grading equipment.

$$E = EF \times VMT, \text{ and}$$

$$VMT = As / Wb \times 43,560(\text{sqft} / \text{acre}) / 5,280(\text{ft} / \text{mile})$$

Where:

E: emissions (lb)  
 EF: emission factor (lb/VMT)  
 VMT: vehicle miles traveled (mile)  
 As: the acreage of the grading site (acre)  
 W<sub>b</sub>: Blade width of the grading equipment. The program uses a default blade width of 12 ft. based on Caterpillar's 140 Motor Grader<sup>7</sup>.

Note that the dimensions (e.g., length and width) of the grading site have no impact on the calculation, only the total area to be graded. In order to properly grade a piece of land multiple passes with equipment may be required. The acres is based on the equipment list and days in grading or site preparation phase according to the anticipated maximum number of acres a given piece of equipment can pass over in an 8-hour workday. The equipment-specific grading rates are given in the following table as determined by SCAQMD in consultation with building estimator references.

Source	lb/day	
	PM10	PM2.5
Grading Emissions	1.59E+00	1.72E-01

Calculation Method Confirmed with comparison to CalEEMod outputs

Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	NOX	CO	SO2	PM10	PM2.5	CO2	CH4
Aerial Lifts	1990	6	15	5.436	1.804	9.999	4.999	0.833	0.968	0.968	568.299	0.162
Aerial Lifts	1990	16	25	8.446	2.213	6.92	5	0.679	0.735	0.735	568.299	0.199
Aerial Lifts	1990	26	50	22.237	3.256	7.372	6.91	0.692	0.948	0.948	568.299	0.293
Aerial Lifts	1990	51	120	25.547	1.927	13.323	5.026	0.628	1.005	1.005	568.299	0.173
Aerial Lifts	1990	251	500	90.051	1.214	11.7	6.888	0.525	0.605	0.605	568.299	0.109
Aerial Lifts	1990	501	750	162.768	1.214	11.7	6.887	0.538	0.605	0.605	568.299	0.109
Aerial Lifts	2000	6	15	4.911	1.629	8.804	4.729	0.079	0.737	0.737	568.299	0.147
Aerial Lifts	2000	16	25	7.927	2.077	6.401	4.749	0.064	0.569	0.569	568.299	0.187
Aerial Lifts	2000	26	50	21.066	3.084	6.596	6.643	0.065	0.711	0.711	568.3	0.278
Aerial Lifts	2000	51	120	20.809	1.569	9.602	4.216	0.059	0.705	0.705	568.299	0.141
Aerial Lifts	2000	251	500	60.706	0.819	8.191	3.931	0.049	0.31	0.31	568.3	0.073
Aerial Lifts	2000	501	750	109.732	0.819	8.191	3.931	0.051	0.31	0.31	568.299	0.073
Aerial Lifts	2005	6	15	2.733	0.907	5.927	3.649	0.079	0.424	0.424	568.3	0.081
Aerial Lifts	2005	16	25	5.948	1.558	5.978	3.804	0.064	0.474	0.474	568.299	0.14
Aerial Lifts	2005	26	50	18.56	2.717	6.139	6.122	0.065	0.657	0.657	568.299	0.245
Aerial Lifts	2005	51	120	17.765	1.34	8.079	3.898	0.059	0.651	0.651	568.299	0.12
Aerial Lifts	2005	251	500	41.275	0.556	6.521	2.307	0.049	0.217	0.217	568.299	0.05
Aerial Lifts	2005	501	750	76.693	0.572	6.666	2.307	0.051	0.219	0.219	568.299	0.051
Aerial Lifts	2010	6	15	0.646663	0.543	4.927	3.62771	0.005	0.322	0.296	583.4159	0.17
Aerial Lifts	2010	16	25	0.646663	0.543	4.927	3.62771	0.005	0.322	0.296	583.4159	0.17
Aerial Lifts	2010	26	50	0.646663	0.543	4.927	3.62771	0.005	0.322	0.296	583.4159	0.17
Aerial Lifts	2010	51	120	0.478206	0.402	5.13121	3.35167	0.005	0.329	0.303	524.5713	0.153
Aerial Lifts	2010	251	500	0.542967	0.456	7.02372	1.70527	0.005	0.22	0.202	524.505	0.153
Aerial Lifts	2010	501	750	54.853	0.409	5.216	1.535	0.005	0.16	0.16	568.299	0.036
Aerial Lifts	2011	6	15	0.492997	0.414	4.84101	3.43961	0.005	0.274	0.253	581.9574	0.17
Aerial Lifts	2011	16	25	0.492997	0.414	4.84101	3.43961	0.005	0.274	0.253	581.9574	0.17
Aerial Lifts	2011	26	50	0.492997	0.414	4.84101	3.43961	0.005	0.274	0.253	581.9574	0.17
Aerial Lifts	2011	51	120	0.406188	0.341	4.72007	3.31532	0.005	0.287	0.264	523.2599	0.153
Aerial Lifts	2011	251	500	0.547278	0.46	7.05257	1.71344	0.005	0.222	0.204	523.1938	0.153
Aerial Lifts	2011	501	750	50.06	0.373	4.839	1.402	0.005	0.144	0.144	568.299	0.033
Aerial Lifts	2012	6	15	0.448839	0.377	4.66755	3.41137	0.005	0.247	0.227	580.4989	0.17
Aerial Lifts	2012	16	25	0.448839	0.377	4.66755	3.41137	0.005	0.247	0.227	580.4989	0.17
Aerial Lifts	2012	26	50	0.448839	0.377	4.66755	3.41137	0.005	0.247	0.227	580.4989	0.17
Aerial Lifts	2012	51	120	0.348327	0.293	4.38748	3.28979	0.005	0.251	0.231	521.9485	0.153
Aerial Lifts	2012	251	500	0.551589	0.463	7.08141	1.72161	0.005	0.225	0.207	521.8825	0.153
Aerial Lifts	2012	501	750	46.364	0.346	4.488	1.307	0.005	0.131	0.131	568.299	0.031
Aerial Lifts	2013	6	15	0.365114	0.307	4.33199	3.29997	0.005	0.196	0.18	577.5818	0.17
Aerial Lifts	2013	16	25	0.365114	0.307	4.33199	3.29997	0.005	0.196	0.18	577.5818	0.17
Aerial Lifts	2013	26	50	0.365114	0.307	4.33199	3.29997	0.005	0.196	0.18	577.5818	0.17
Aerial Lifts	2013	51	120	0.288639	0.243	3.92887	3.25075	0.005	0.202	0.186	519.3256	0.153
Aerial Lifts	2013	251	500	0.277309	0.233	4.58384	0.97787	0.005	0.1	0.092	519.26	0.153
Aerial Lifts	2013	501	750	43.268	0.322	4.155	1.237	0.005	0.119	0.119	568.299	0.029
Aerial Lifts	2014	6	15	0.309966	0.26	4.09559	3.23337	0.005	0.158	0.145	574.6647	0.17
Aerial Lifts	2014	16	25	0.309966	0.26	4.09559	3.23337	0.005	0.158	0.145	574.6647	0.17
Aerial Lifts	2014	26	50	0.309966	0.26	4.09559	3.23337	0.005	0.158	0.145	574.6647	0.17
Aerial Lifts	2014	51	120	0.240786	0.202	3.37278	3.2195	0.005	0.161	0.148	516.7028	0.153
Aerial Lifts	2014	251	500	0.281092	0.236	4.60231	0.98271	0.005	0.101	0.093	516.6375	0.153
Aerial Lifts	2014	501	750	40.165	0.299	3.761	1.178	0.005	0.109	0.109	568.299	0.027
Aerial Lifts	2015	6	15	0.295589	0.248	3.93284	3.23342	0.005	0.136	0.125	568.8305	0.17
Aerial Lifts	2015	16	25	0.295589	0.248	3.93284	3.23342	0.005	0.136	0.125	568.8305	0.17
Aerial Lifts	2015	26	50	0.295589	0.248	3.93284	3.23342	0.005	0.136	0.125	568.8305	0.17
Aerial Lifts	2015	51	120	0.226785	0.191	3.1134	3.21782	0.005	0.143	0.132	511.457	0.153
Aerial Lifts	2015	251	500	0.284874	0.239	4.62077	0.98755	0.005	0.102	0.094	511.3924	0.153
Aerial Lifts	2015	501	750	37.246	0.278	3.38	1.13	0.005	0.098	0.098	568.299	0.025
Aerial Lifts	2016	6	15	0.271111	0.228	3.67571	3.19737	0.005	0.105	0.096	562.9964	0.17
Aerial Lifts	2016	16	25	0.271111	0.228	3.67571	3.19737	0.005	0.105	0.096	562.9964	0.17
Aerial Lifts	2016	26	50	0.271111	0.228	3.67571	3.19737	0.005	0.105	0.096	562.9964	0.17
Aerial Lifts	2016	51	120	0.196986	0.166	2.72218	3.20103	0.005	0.112	0.103	506.2113	0.153
Aerial Lifts	2016	251	500	0.288656	0.243	4.63924	0.99238	0.005	0.103	0.095	506.1474	0.153
Aerial Lifts	2016	501	750	34.529	0.257	3.015	1.089	0.005	0.088	0.088	568.299	0.023
Aerial Lifts	2017	6	15	0.248829	0.209	3.46956	3.16913	0.005	0.079	0.073	554.2451	0.17
Aerial Lifts	2017	16	25	0.248829	0.209	3.46956	3.16913	0.005	0.079	0.073	554.2451	0.17
Aerial Lifts	2017	26	50	0.248829	0.209	3.46956	3.16913	0.005	0.079	0.073	554.2451	0.17
Aerial Lifts	2017	51	120	0.169799	0.143	2.36368	3.18429	0.005	0.083	0.077	498.3428	0.153
Aerial Lifts	2017	251	500	0.292438	0.246	4.6577	0.99722	0.005	0.105	0.096	498.2798	0.153
Aerial Lifts	2017	501	750	32.148	0.239	2.68	1.059	0.005	0.079	0.079	568.299	0.021
Aerial Lifts	2018	6	15	0.216292	0.182	3.2101	3.11639	0.005	0.054	0.05	545.4939	0.17
Aerial Lifts	2018	16	25	0.216292	0.182	3.2101	3.11639	0.005	0.054	0.05	545.4939	0.17
Aerial Lifts	2018	26	50	0.216292	0.182	3.2101	3.11639	0.005	0.054	0.05	545.4939	0.17
Aerial Lifts	2018	51	120	0.145088	0.122	2.0636	3.16685	0.005	0.057	0.052	490.4742	0.153
Aerial Lifts	2018	251	500	0.074117	0.062	0.63368	0.93655	0.005	0.009	0.008	490.4122	0.153
Aerial Lifts	2018	501	750	30.169	0.225	2.385	1.037	0.005	0.071	0.071	568.299	0.02
Aerial Lifts	2019	6	15	0.204518	0.172	3.07945	3.11451	0.005	0.042	0.038	536.7427	0.17
Aerial Lifts	2019	16	25	0.204518	0.172	3.07945	3.11451	0.005	0.042	0.038	536.7427	0.17
Aerial Lifts	2019	26	50	0.204518	0.172	3.07945	3.11451	0.005	0.042	0.038	536.7427	0.17
Aerial Lifts	2019	51	120	0.14071	0.118	1.97658	3.17254	0.005	0.049	0.045	482.6056	0.153
Aerial Lifts	2019	251	500	0.077988	0.066	0.63586	0.94139	0.005	0.009	0.008	482.5446	0.153
Aerial Lifts	2019	501	750	28.429	0.212	2.117	1.023	0.005	0.064	0.064	568.299	0.019
Aerial Lifts	2020	6	15	0.199447	0.168	2.95486	3.09942	0.005	0.031	0.028	525.0743	0.17
Aerial Lifts	2020	16	25	0.199447	0.168	2.95486	3.09942	0.005	0.031	0.028	525.0743	0.17
Aerial Lifts	2020	26	50	0.199447	0.168	2.95486	3.09942	0.005	0.031	0.028	525.0743	0.17
Aerial Lifts	2020	51	120	0.136778	0.115	1.86859	3.1768	0.005	0.042	0.038	472.1142	0.153
Aerial Lifts	2020	251	500	0.081859	0.069	0.63803	0.94623	0.005	0.009	0.008	472.0545	0.153
Aerial Lifts	2020	501	750	26.846	0.2	1.868	1.013	0.005	0.057	0.057	568.299	0.018
Aerial Lifts	2021	6	15	0.196174	0.165	2.92238	3.11369	0.005	0.027	0.024	525.0743	0.17
Aerial Lifts	2021	16	25	0.196174	0.165	2.92238	3.11369	0.005	0.027	0.024	525.0743	0.17

Year	Year	Horsepower	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	TOG
2018	Aerial Lifts	63	0.12	2.06	3.17	0.01	0.00	0.06	0.06	0.00	0.05	0.05	490.47	0.15	0.02	0.15
2018	Air Compressors	78	0.60	4.05	3.74	0.01	0.00	0.30	0.30	0.00	0.30	0.30	568.30	0.05	0.03	10.22
2018	Bore/Drill Rigs	221	0.16	2.15	1.07	0.01	0.00	0.06	0.06	0						

Aerial Lifts	2021	26	50	0.196174	0.165	2.92238	3.11369	0.005	0.027	0.024	525.0743	0.17	Other General Industrial Equipment	2020	88	0.45	4.06	3.77	0.01	0.00	0.30	0.30	0.00	0.27	0.27	470.00	0.15	0.02	0.53
Aerial Lifts	2021	51	120	0.129509	0.109	1.74368	3.17624	0.005	0.033	0.031	472.1142	0.153	Other Material Handling Equipment	2020	168	0.25	2.37	3.17	0.01	0.00	0.12	0.12	0.00	0.11	0.11	472.22	0.15	0.02	0.30
Aerial Lifts	2021	251	500	0.08573	0.072	0.64021	0.95107	0.005	0.009	0.008	472.0545	0.153	Pavers	2020	130	0.27	2.92	3.01	0.01	0.00	0.14	0.14	0.00	0.13	0.13	472.77	0.15	0.02	0.32
Aerial Lifts	2021	501	750	25.065	0.187	1.61	1.004	0.005	0.05	0.05	568.299	0.016	Paving Equipment	2020	132	0.25	2.55	3.02	0.01	0.00	0.13	0.13	0.00	0.12	0.12	470.74	0.15	0.02	0.29
Aerial Lifts	2022	6	15	0.192664	0.162	2.90676	3.11231	0.005	0.024	0.022	525.0743	0.17	Plate Compactors	2020	8	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.03	0.79
Aerial Lifts	2022	16	25	0.192664	0.162	2.90676	3.11231	0.005	0.024	0.022	525.0743	0.17	Pressure Washers	2020	13	0.65	4.52	3.55	0.01	0.00	0.21	0.21	0.00	0.21	0.21	568.30	0.06	0.03	1.78
Aerial Lifts	2022	26	50	0.192664	0.162	2.90676	3.11231	0.005	0.024	0.022	525.0743	0.17	Pumps	2020	84	0.39	3.22	3.43	0.01	0.00	0.19	0.19	0.00	0.19	0.19	568.30	0.03	0.03	8.83
Aerial Lifts	2022	51	120	0.124613	0.105	1.62659	3.17602	0.005	0.03	0.028	472.1142	0.153	Rollers	2020	80	0.39	3.88	3.53	0.01	0.00	0.25	0.25	0.00	0.23	0.23	473.86	0.15	0.02	0.46
Aerial Lifts	2022	251	500	0.089601	0.075	0.64238	0.95591	0.005	0.009	0.008	472.0545	0.153	Rough Terrain Forklifts	2020	100	0.19	2.45	3.26	0.01	0.00	0.10	0.10	0.00	0.09	0.09	472.98	0.15	0.02	0.23
Aerial Lifts	2022	501	750	23.788	0.177	1.424	0.998	0.005	0.044	0.044	568.299	0.016	Rubber Tired Dozers	2020	247	0.62	6.50	2.37	0.01	0.00	0.32	0.32	0.00	0.29	0.29	474.79	0.15	0.02	0.74
Aerial Lifts	2023	6	15	0.19346	0.163	2.89722	3.12196	0.005	0.023	0.021	525.0743	0.17	Rubber Tired Loaders	2020	203	0.29	3.42	1.27	0.01	0.00	0.11	0.11	0.00	0.10	0.10	469.51	0.15	0.02	0.35
Aerial Lifts	2023	16	25	0.19346	0.163	2.89722	3.12196	0.005	0.023	0.021	525.0743	0.17	Scrapers	2020	367	0.32	3.78	2.40	0.01	0.00	0.15	0.15	0.00	0.14	0.14	472.18	0.15	0.02	0.38
Aerial Lifts	2023	26	50	0.19346	0.163	2.89722	3.12196	0.005	0.023	0.021	525.0743	0.17	Signal Boards	2020	6	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.03	1.04
Aerial Lifts	2023	51	120	0.119594	0.1	1.5481	3.17029	0.005	0.027	0.025	472.1142	0.153	Skid Steer Loaders	2020	65	0.19	2.50	3.28	0.01	0.00	0.11	0.11	0.00	0.10	0.10	471.91	0.15	0.02	0.22
Aerial Lifts	2023	251	500	0.093472	0.079	0.64456	0.96074	0.005	0.009	0.008	472.0545	0.153	Surfacing Equipment	2020	263	0.15	1.84	1.22	0.01	0.00	0.07	0.07	0.00	0.06	0.06	471.63	0.15	0.02	0.17
Aerial Lifts	2023	501	750	22.675	0.169	1.265	0.995	0.005	0.038	0.038	568.299	0.015	Sweepers/Scrubbers	2020	64	0.52	4.48	3.83	0.01	0.00	0.36	0.36	0.00	0.33	0.33	474.12	0.15	0.02	0.62
Aerial Lifts	2024	6	15	0.188737	0.159	2.88821	3.11285	0.005	0.022	0.02	525.0743	0.17	Tractors/Loaders/Backhoes	2020	97	0.33	3.33	3.60	0.01	0.00	0.21	0.21	0.00	0.19	0.19	475.15	0.15	0.02	0.39
Aerial Lifts	2024	16	25	0.188737	0.159	2.88821	3.11285	0.005	0.022	0.02	525.0743	0.17	Trenchers	2020	78	0.61	5.52	3.83	0.01	0.00	0.41	0.41	0.00	0.38	0.38	475.13	0.15	0.02	0.73
Aerial Lifts	2024	26	50	0.188737	0.159	2.88821	3.11285	0.005	0.022	0.02	525.0743	0.17	Welders	2020	46	0.94	4.30	4.84	0.01	0.00	0.24	0.24	0.00	0.24	0.24	568.30	0.08	0.03	9.83
Aerial Lifts	2024	51	120	0.119572	0.1	1.52789	3.17255	0.005	0.026	0.024	472.1142	0.153	Aerial Lifts	2021	63	0.11	1.74	3.18	0.01	0.00	0.03	0.03	0.00	0.03	0.03	472.11	0.15	0.02	0.13
Aerial Lifts	2024	251	500	0.097343	0.082	0.64674	0.96558	0.005	0.009	0.009	472.0545	0.153	Air Compressors	2021	78	0.44	3.08	3.67	0.01	0.00	0.19	0.19	0.00	0.19	0.19	568.30	0.04	0.03	7.50
Aerial Lifts	2024	501	750	21.618	0.161	1.115	0.991	0.005	0.033	0.033	568.299	0.014	Bore/Drill Rigs	2021	221	0.13	1.55	1.06	0.01	0.00	0.05	0.05	0.00	0.04	0.04	467.99	0.15	0.02	0.16
Aerial Lifts	2025	6	15	0.182854	0.154	2.87882	3.08837	0.005	0.021	0.019	525.0743	0.17	Cement and Mortar Mixers	2021	9	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.03	1.08
Aerial Lifts	2025	16	25	0.182854	0.154	2.87882	3.08837	0.005	0.021	0.019	525.0743	0.17	Concrete/Industrial Saws	2021	81	0.37	2.91	3.52	0.01	0.00	0.17	0.17	0.00	0.17	0.17	568.30	0.03	0.03	3.72
Aerial Lifts	2025	26	50	0.182854	0.154	2.87882	3.08837	0.005	0.021	0.019	525.0743	0.17	Cranes	2021	231	0.35	4.10	1.68	0.01	0.00	0.17	0.17	0.00	0.15	0.15	472.91	0.15	0.02	0.42
Aerial Lifts	2025	51	120	0.117586	0.099	1.51077	3.16742	0.005	0.026	0.024	472.1142	0.153	Crawler Tractors	2021	212	0.34	4.33	1.51	0.01	0.00	0.16	0.16	0.00	0.15	0.15	472.92	0.15	0.02	0.41
Aerial Lifts	2025	251	500	0.101214	0.085	0.64891	0.97042	0.005	0.009	0.009	472.0545	0.153	Crushing/Proc. Equipment	2021	85	0.44	2.99	3.71	0.01	0.00	0.18	0.18	0.00	0.18	0.18	568.30	0.04	0.03	2.18
Aerial Lifts	2025	501	750	20.597	0.153	0.974	0.989	0.005	0.028	0.028	568.299	0.013	Dumpers/Tenders	2021	16	0.69	4.33	2.34	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.03	0.82
Aerial Lifts	2030	6	15	1.993	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059	Excavators	2021	158	0.22	2.03	3.09	0.01	0.00	0.10	0.10	0.00	0.09	0.09	472.36	0.15	0.02	0.26
Aerial Lifts	2030	16	25	2.616	0.685	4.332	3.339	0.007	0.162	0.162	568.299	0.061	Forklifts	2021	89	0.41	3.76	3.72	0.01	0.00	0.27	0.27	0.00	0.25	0.25	471.53	0.15	0.02	0.49
Aerial Lifts	2030	26	50	2.317	0.339	3.135	3.764	0.007	0.04	0.04	568.3	0.03	Generator Sets	2021	84	0.33	2.89	3.36	0.01	0.00	0.15	0.15	0.00	0.15	0.15	568.30	0.03	0.03	6.62
Aerial Lifts	2030	51	120	2.504	0.188	1.657	3.352	0.006	0.036	0.036	568.299	0.017	Graders	2021	187	0.34	4.38	1.31	0.01	0.00	0.14	0.14	0.00	0.13	0.13	474.54	0.15	0.02	0.40
Aerial Lifts	2030	251	500	9.37	0.126	0.479	0.986	0.005	0.016	0.016	568.299	0.011	Off-Highway Tractors	2021	124	0.26	2.66	3.22	0.01	0.00	0.13	0.13	0.00	0.12	0.12	472.92	0.15	0.02	0.31
Aerial Lifts	2030	501	750	16.962	0.126	0.485	0.986	0.005	0.016	0.016	568.299	0.011	Off-Highway Trucks	2021	402	0.23	1.95	1.34	0.01	0.00	0.07	0.07	0.00	0.07	0.07	474.54	0.15	0.02	0.27
Aerial Lifts	2035	6	15	1.993	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059	Other Construction Equipment	2021	172	0.33	3.44	3.18	0.01	0.00	0.18	0.18	0.00	0.17	0.17	469.76	0.15	0.02	0.39
Aerial Lifts	2035	16	25	2.616	0.685	4.332	3.339	0.007	0.161	0.161	568.299	0.061	Other General Industrial Equipment	2021	88	0.40	3.72	3.74	0.01	0.00	0.26	0.26	0.00	0.24	0.24	470.00	0.15	0.02	0.48
Aerial Lifts	2035	26	50	2.033	0.297	3.017	3.726	0.007	0.019	0.019	568.299	0.026	Other Material Handling Equipment	2021	168	0.25	2.25	3.20	0.01	0.00	0.11	0.11	0.00	0.11	0.11	472.22	0.15	0.02	0.30
Aerial Lifts	2035	51	120	2.202	0.166	1.466	3.345	0.006	0.017	0.017	568.299	0.014	Pavers	2021	130	0.26	2.69	3.02	0.01	0.00	0.13	0.13	0.00	0.12	0.12	472.56	0.15	0.02	0.30
Aerial Lifts	2035	251	500	8.659	0.116	0.33	0.986	0.005	0.011	0.011	568.299	0.01	Paving Equipment	2021	132	0.23	2.32	3.03	0.01	0.00	0.11	0.11	0.00	0.11	0.11	470.65	0.15	0.02	0.27
Aerial Lifts	2035	501	750	15.653	0.116	0.33	0.986	0.005	0.011	0.011	568.299	0.01	Plate Compactors	2021	8	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.03	0.79
Aerial Lifts	2040	6	15	1.993	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059	Pressure Washers	2021	13	0.63	4.44	3.53	0.01	0.00	0.20	0.20	0.00	0.20	0.20	568.30	0.06	0.03	1.75
Aerial Lifts	2040	16	25	2.616	0.685	4.332	3.339	0.007	0.161	0.161	568.299	0.061	Pumps	2021	84	0.35	2.93	3.41	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.03	0.03	7.94
Aerial Lifts	2040	26	50	2.015	0.295	2.966	3.723	0.007	0.013	0.013	568.299	0.026	Rollers	2021	80	0.35	3.59	3.51	0.01	0.00	0.22	0.22	0.00						

Air Compressors	2011	501	750	57.58	0.445	5.123	1.497	0.005	0.167	0.167	568.299	0.04
Air Compressors	2011	751	1000	98.738	0.562	6.637	1.971	0.005	0.196	0.196	568.299	0.05
Air Compressors	2012	6	15	2.626	1.007	5.999	3.874	0.008	0.407	0.407	568.299	0.09
Air Compressors	2012	16	25	5.803	1.113	5.239	3.043	0.007	0.337	0.337	568.299	0.1
Air Compressors	2012	26	50	20.318	2.527	5.869	6.682	0.007	0.6	0.6	568.299	0.228
Air Compressors	2012	51	120	17.991	1.061	6.39	3.964	0.006	0.587	0.587	568.299	0.095
Air Compressors	2012	121	175	22.92	0.717	5.684	3.251	0.006	0.324	0.324	568.299	0.064
Air Compressors	2012	176	250	21.576	0.455	5.216	1.312	0.006	0.161	0.161	568.299	0.041
Air Compressors	2012	251	500	34.608	0.413	4.618	1.392	0.005	0.15	0.15	568.299	0.037
Air Compressors	2012	501	750	54.283	0.419	4.758	1.392	0.005	0.153	0.153	568.299	0.037
Air Compressors	2012	751	1000	91.671	0.522	6.263	1.8	0.005	0.183	0.183	568.299	0.047
Air Compressors	2013	6	15	2.471	0.948	5.716	3.796	0.008	0.373	0.373	568.299	0.085
Air Compressors	2013	16	25	5.393	1.034	5.117	2.907	0.007	0.314	0.314	568.299	0.093
Air Compressors	2013	26	50	18.508	2.302	5.643	6.43	0.007	0.553	0.553	568.299	0.207
Air Compressors	2013	51	120	16.632	0.981	5.978	3.921	0.006	0.543	0.543	568.299	0.088
Air Compressors	2013	121	175	21.377	0.669	5.321	3.238	0.006	0.298	0.298	568.299	0.06
Air Compressors	2013	176	250	20.386	0.43	4.839	1.271	0.006	0.147	0.147	568.299	0.038
Air Compressors	2013	251	500	32.936	0.393	4.268	1.313	0.005	0.137	0.137	568.3	0.035
Air Compressors	2013	501	750	51.584	0.399	4.406	1.313	0.005	0.14	0.14	568.299	0.036
Air Compressors	2013	751	1000	84.725	0.482	5.883	1.639	0.005	0.17	0.17	568.299	0.043
Air Compressors	2014	6	15	2.324	0.891	5.445	3.723	0.008	0.341	0.341	568.3	0.08
Air Compressors	2014	16	25	5.008	0.96	5	2.78	0.007	0.291	0.291	568.299	0.086
Air Compressors	2014	26	50	16.691	2.076	5.421	6.181	0.007	0.505	0.505	568.299	0.187
Air Compressors	2014	51	120	15.28	0.901	5.608	3.88	0.006	0.495	0.495	568.299	0.081
Air Compressors	2014	121	175	19.856	0.621	4.973	3.227	0.006	0.272	0.272	568.299	0.056
Air Compressors	2014	176	250	19.194	0.405	4.399	1.237	0.006	0.134	0.134	568.299	0.036
Air Compressors	2014	251	500	31.25	0.373	3.855	1.249	0.005	0.125	0.125	568.299	0.033
Air Compressors	2014	501	750	48.868	0.378	3.991	1.249	0.005	0.128	0.128	568.299	0.034
Air Compressors	2014	751	1000	78.19	0.445	5.512	1.493	0.005	0.157	0.157	568.3	0.04
Air Compressors	2015	6	15	2.191	0.84	5.196	3.658	0.008	0.311	0.311	568.299	0.075
Air Compressors	2015	16	25	4.662	0.894	4.89	2.666	0.007	0.27	0.27	568.299	0.08
Air Compressors	2015	26	50	15.015	1.868	5.223	5.968	0.007	0.459	0.459	568.299	0.168
Air Compressors	2015	51	120	13.925	0.821	5.19	3.84	0.006	0.446	0.446	568.299	0.074
Air Compressors	2015	121	175	18.243	0.571	4.504	3.218	0.006	0.245	0.245	568.299	0.051
Air Compressors	2015	176	250	18.067	0.381	3.967	1.207	0.006	0.121	0.121	568.299	0.034
Air Compressors	2015	251	500	29.662	0.354	3.455	1.198	0.005	0.113	0.113	568.3	0.032
Air Compressors	2015	501	750	46.316	0.358	3.586	1.198	0.005	0.116	0.116	568.299	0.032
Air Compressors	2015	751	1000	71.885	0.409	5.157	1.37	0.005	0.142	0.142	568.299	0.036
Air Compressors	2016	6	15	2.109	0.809	5.023	3.622	0.008	0.289	0.289	568.299	0.073
Air Compressors	2016	16	25	4.462	0.855	4.803	2.604	0.007	0.255	0.255	568.299	0.077
Air Compressors	2016	26	50	13.429	1.67	5.042	5.779	0.007	0.415	0.415	568.299	0.15
Air Compressors	2016	51	120	12.618	0.744	4.79	3.804	0.006	0.397	0.397	568.299	0.067
Air Compressors	2016	121	175	16.69	0.522	4.052	3.211	0.006	0.219	0.219	568.299	0.047
Air Compressors	2016	176	250	17.023	0.359	3.553	1.182	0.006	0.109	0.109	568.299	0.032
Air Compressors	2016	251	500	28.188	0.337	3.08	1.155	0.005	0.102	0.102	568.299	0.03
Air Compressors	2016	501	750	43.972	0.34	3.201	1.155	0.005	0.104	0.104	568.299	0.03
Air Compressors	2016	751	1000	67.278	0.383	4.854	1.295	0.005	0.131	0.131	568.299	0.034
Air Compressors	2017	6	15	2.05	0.786	4.887	3.599	0.008	0.272	0.272	568.299	0.07
Air Compressors	2017	16	25	4.327	0.83	4.729	2.564	0.007	0.243	0.243	568.299	0.074
Air Compressors	2017	26	50	11.908	1.481	4.871	5.604	0.007	0.371	0.371	568.299	0.133
Air Compressors	2017	51	120	11.385	0.671	4.412	3.772	0.006	0.35	0.35	568.299	0.06
Air Compressors	2017	121	175	15.244	0.477	3.627	3.207	0.006	0.194	0.194	568.299	0.043
Air Compressors	2017	176	250	16.09	0.339	3.163	1.162	0.006	0.098	0.098	568.299	0.03
Air Compressors	2017	251	500	26.901	0.321	2.755	1.123	0.005	0.092	0.092	568.299	0.029
Air Compressors	2017	501	750	41.87	0.323	2.845	1.123	0.005	0.094	0.094	568.299	0.029
Air Compressors	2017	751	1000	63.572	0.362	4.583	1.246	0.005	0.121	0.121	568.299	0.032
Air Compressors	2018	6	15	1.998	0.766	4.762	3.58	0.008	0.256	0.256	568.299	0.069
Air Compressors	2018	16	25	4.211	0.807	4.661	2.531	0.007	0.232	0.232	568.3	0.072
Air Compressors	2018	26	50	10.449	1.3	4.707	5.439	0.007	0.329	0.329	568.299	0.117
Air Compressors	2018	51	120	10.218	0.603	4.05	3.744	0.006	0.304	0.304	568.3	0.054
Air Compressors	2018	121	175	13.906	0.435	3.228	3.205	0.006	0.17	0.17	568.299	0.039
Air Compressors	2018	176	250	15.223	0.321	2.797	1.146	0.006	0.087	0.087	568.3	0.029
Air Compressors	2018	251	500	25.723	0.307	2.465	1.101	0.005	0.083	0.083	568.299	0.027
Air Compressors	2018	501	750	39.953	0.309	2.533	1.101	0.005	0.084	0.084	568.299	0.027
Air Compressors	2018	751	1000	60.205	0.343	4.325	1.21	0.005	0.111	0.111	568.299	0.03
Air Compressors	2019	6	15	1.951	0.748	4.647	3.562	0.008	0.241	0.241	568.299	0.067
Air Compressors	2019	16	25	4.106	0.787	4.596	2.501	0.007	0.222	0.222	568.299	0.071
Air Compressors	2019	26	50	9.076	1.129	4.546	5.283	0.007	0.287	0.287	568.299	0.101
Air Compressors	2019	51	120	9.123	0.538	3.706	3.718	0.006	0.26	0.26	568.299	0.048
Air Compressors	2019	121	175	12.833	0.401	2.874	3.204	0.006	0.15	0.15	568.299	0.036
Air Compressors	2019	176	250	14.416	0.304	2.469	1.132	0.006	0.078	0.078	568.299	0.027
Air Compressors	2019	251	500	24.559	0.293	2.193	1.086	0.005	0.075	0.075	568.299	0.026
Air Compressors	2019	501	750	38.104	0.294	2.247	1.086	0.005	0.076	0.076	568.299	0.026
Air Compressors	2019	751	1000	56.984	0.324	4.073	1.182	0.005	0.102	0.102	568.299	0.029
Air Compressors	2020	6	15	1.907	0.731	4.542	3.546	0.008	0.227	0.227	568.299	0.066
Air Compressors	2020	16	25	4.009	0.769	4.538	2.473	0.007	0.212	0.212	568.3	0.069
Air Compressors	2020	26	50	8.048	1.001	4.397	5.164	0.007	0.25	0.25	568.299	0.09
Air Compressors	2020	51	120	8.287	0.489	3.4	3.698	0.006	0.224	0.224	568.299	0.044
Air Compressors	2020	121	175	11.957	0.374	2.558	3.203	0.006	0.133	0.133	568.299	0.033
Air Compressors	2020	176	250	13.668	0.288	2.172	1.121	0.006	0.069	0.069	568.299	0.026
Air Compressors	2020	251	500	23.406	0.279	1.935	1.076	0.005	0.067	0.067	568.299	0.025
Air Compressors	2020	501	750	36.303	0.28	1.982	1.076	0.005	0.067	0.067	568.299	0.025
Air Compressors	2020	751	1000	53.87	0.306	3.828	1.158	0.005	0.093	0.093	568.3	0.027
Air Compressors	2021	6	15	1.87	0.717	4.462	3.531	0.008	0.214	0.214	568.299	0.064
Air Compressors	2021	16	25	3.923	0.752	4.497	2.446	0.007	0.201	0.201	568.299	0.067
Air Compressors	2021	26	50	7.136	0.887	4.221	5.021	0.007	0.212	0.212	568.299	0.08
Air Compressors	2021	51	120	7.502	0.442	3.083	3.67	0.006	0.19	0.19	568.299	0.039
Air Compressors	2021	121	175	10.967	0.343	2.218	3.192	0.006	0.115	0.115	568.299	0.03
Air Compressors	2021	176	250	12.728	0.268	1.859	1.108	0.006	0.06	0.06	568.299	0.024

Aerial Lifts	2023	63	0.10	1.55	3.17	0.01	0.00	0.03	0.03	0.00	0.03	0.03	472.11	0.15	0.02	0.12
Air Compressors	2023	78	0.39	2.63	3.66	0.01	0.00	0.14	0.14	0.00	0.14	0.14	568.30	0.03	0.03	6.57
Bore/Drill Rigs	2023	221	0.11	1.05	1.04	0.01	0.00	0.03	0.03	0.00	0.03	0.03	469.71	0.15	0.02	0.13
Cement and Mortar Mixers	2023	9	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	568.30	0.06	0.03	1.08
Concrete/Industrial Saws	2023															

Air Compressors	2021	251	500	21.887	0.261	1.663	1.064	0.005	0.058	0.058	568.299	0.023	Paving Equipment	2025	132	0.18	1.51	3.04	0.01	0.00	0.08	0.08	0.00	0.07	0.07	470.48	0.15	0.02	0.21	
Air Compressors	2021	501	750	33.933	0.262	1.699	1.064	0.005	0.058	0.058	568.299	0.023	Plate Compactors	2025	8	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	0.16	568.30	0.06	0.03	0.79
Air Compressors	2021	751	1000	49.951	0.284	3.565	1.134	0.005	0.082	0.082	568.3	0.025	Pressure Washers	2025	13	0.61	4.27	3.49	0.01	0.00	0.18	0.18	0.00	0.18	0.18	0.18	568.30	0.05	0.03	1.67
Air Compressors	2022	6	15	1.844	0.707	4.408	3.519	0.008	0.203	0.203	568.299	0.063	Pumps	2025	84	0.26	2.21	3.39	0.01	0.00	0.09	0.09	0.00	0.09	0.09	0.09	568.30	0.02	0.03	5.99
Air Compressors	2022	16	25	3.857	0.739	4.47	2.426	0.007	0.193	0.193	568.299	0.066	Rollers	2025	80	0.26	2.69	3.44	0.01	0.00	0.14	0.14	0.00	0.13	0.13	0.13	473.85	0.15	0.02	0.30
Air Compressors	2022	26	50	6.549	0.814	4.093	4.959	0.007	0.183	0.183	568.299	0.073	Rough Terrain Forklifts	2025	100	0.14	1.82	3.24	0.01	0.00	0.05	0.05	0.00	0.05	0.05	0.05	473.04	0.15	0.02	0.16
Air Compressors	2022	51	120	7.001	0.413	2.844	3.662	0.006	0.165	0.165	568.299	0.037	Rubber Tired Dozers	2025	247	0.37	3.81	1.72	0.01	0.00	0.17	0.17	0.00	0.15	0.15	0.15	474.57	0.15	0.02	0.44
Air Compressors	2022	121	175	10.29	0.322	1.959	3.194	0.006	0.101	0.101	568.299	0.029	Rubber Tired Loaders	2025	203	0.18	1.44	1.14	0.01	0.00	0.05	0.05	0.00	0.05	0.05	0.05	469.87	0.15	0.02	0.21
Air Compressors	2022	176	250	12.099	0.255	1.617	1.102	0.006	0.052	0.052	568.3	0.023	Scrapers	2025	367	0.22	2.05	1.73	0.01	0.00	0.08	0.08	0.00	0.07	0.07	0.07	472.54	0.15	0.02	0.26
Air Compressors	2022	251	500	20.881	0.249	1.472	1.059	0.005	0.051	0.051	568.299	0.022	Signal Boards	2025	6	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	0.16	568.30	0.06	0.03	1.04
Air Compressors	2022	501	750	32.363	0.25	1.502	1.059	0.005	0.051	0.051	568.299	0.022	Skid Steer Loaders	2025	65	0.14	1.87	3.25	0.01	0.00	0.06	0.06	0.00	0.05	0.05	0.05	472.63	0.15	0.02	0.17
Air Compressors	2022	751	1000	47.338	0.269	3.378	1.117	0.005	0.075	0.075	568.3	0.024	Surfacing Equipment	2025	263	0.13	1.33	1.17	0.01	0.00	0.05	0.05	0.00	0.05	0.05	0.05	470.28	0.15	0.02	0.15
Air Compressors	2023	6	15	1.82	0.698	4.359	3.508	0.008	0.194	0.194	568.299	0.063	Sweepers/Scrubbers	2025	64	0.30	2.82	3.66	0.01	0.00	0.16	0.16	0.00	0.15	0.15	0.15	474.12	0.15	0.02	0.36
Air Compressors	2023	16	25	3.798	0.728	4.447	2.407	0.007	0.186	0.186	568.299	0.065	Tractors/Loaders/Backhoes	2025	97	0.21	2.11	3.52	0.01	0.00	0.09	0.09	0.00	0.08	0.08	0.08	477.19	0.15	0.02	0.25
Air Compressors	2023	26	50	6.056	0.753	3.975	4.913	0.007	0.156	0.156	568.299	0.067	Trenchers	2025	78	0.46	4.28	3.73	0.01	0.00	0.29	0.29	0.00	0.26	0.26	0.26	475.90	0.15	0.02	0.54
Air Compressors	2023	51	120	6.568	0.387	2.631	3.657	0.006	0.143	0.143	568.299	0.034	Welders	2025	46	0.60	3.68	4.52	0.01	0.00	0.11	0.11	0.00	0.11	0.11	0.11	568.30	0.05	0.03	6.32
Air Compressors	2023	121	175	9.693	0.303	1.748	3.197	0.006	0.089	0.089	568.299	0.027	Aerial Lifts	2030	63	0.19	1.66	3.35	0.01	0.00	0.04	0.04	0.00	0.04	0.04	0.04	568.30	0.02	0.03	2.50
Air Compressors	2023	176	250	11.532	0.243	1.42	1.099	0.006	0.045	0.045	568.299	0.021	Air Compressors	2030	78	0.26	1.73	3.63	0.01	0.00	0.04	0.04	0.00	0.04	0.04	0.04	568.30	0.02	0.03	4.49
Air Compressors	2023	251	500	19.964	0.238	1.305	1.055	0.005	0.044	0.044	568.299	0.021	Bore/Drill Rigs	2030	221	0.13	0.27	1.04	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	568.30	0.01	0.03	6.36
Air Compressors	2023	501	750	30.933	0.239	1.331	1.055	0.005	0.044	0.044	568.299	0.021	Cement and Mortar Mixers	2030	9	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	0.16	568.30	0.06	0.03	1.08
Air Compressors	2023	751	1000	44.985	0.256	3.221	1.102	0.005	0.068	0.068	568.299	0.023	Concrete/Industrial Saws	2030	81	0.22	1.67	3.48	0.01	0.00	0.04	0.04	0.00	0.04	0.04	0.04	568.30	0.02	0.03	2.23
Air Compressors	2024	6	15	1.799	0.69	4.316	3.499	0.008	0.188	0.188	568.3	0.062	Cranes	2030	231	0.22	0.75	1.15	0.01	0.00	0.02	0.02	0.00	0.02	0.02	0.02	568.30	0.02	0.03	2.84
Air Compressors	2024	16	25	3.746	0.718	4.426	2.39	0.007	0.181	0.181	568.3	0.064	Crawler Tractors	2030	212	0.26	1.10	1.21	0.01	0.00	0.04	0.04	0.00	0.04	0.04	0.04	568.30	0.02	0.03	4.02
Air Compressors	2024	26	50	5.647	0.702	3.864	4.88	0.007	0.135	0.135	568.299	0.063	Crushing/Proc. Equipment	2030	85	0.27	1.71	3.67	0.01	0.00	0.04	0.04	0.00	0.04	0.04	0.04	568.30	0.02	0.03	1.35
Air Compressors	2024	51	120	6.194	0.365	2.461	3.655	0.006	0.123	0.123	568.299	0.032	Dumpers/Tenders	2030	16	0.69	4.33	2.34	0.01	0.00	0.16	0.16	0.00	0.16	0.16	0.16	568.30	0.06	0.03	0.82
Air Compressors	2024	121	175	9.143	0.286	1.561	3.202	0.006	0.077	0.077	568.299	0.025	Excavators	2030	158	0.21	0.53	3.36	0.01	0.00	0.02	0.02	0.00	0.02	0.02	0.02	568.30	0.02	0.03	3.91
Air Compressors	2024	176	250	10.986	0.232	1.247	1.096	0.006	0.039	0.039	568.299	0.02	Forklifts	2030	89	0.28	1.56	3.80	0.01	0.00	0.02	0.02	0.00	0.02	0.02	0.02	568.30	0.03	0.03	1.48
Air Compressors	2024	251	500	19.07	0.228	1.148	1.053	0.005	0.038	0.038	568.299	0.02	Generator Sets	2030	84	0.18	1.65	3.32	0.01	0.00	0.03	0.03	0.00	0.03	0.03	0.03	568.30	0.02	0.03	3.62
Air Compressors	2024	501	750	29.542	0.228	1.171	1.053	0.005	0.038	0.038	568.299	0.02	Graders	2030	187	0.22	0.68	1.15	0.01	0.00	0.02	0.02	0.00	0.02	0.02	0.02	568.30	0.02	0.03	3.11
Air Compressors	2024	751	1000	42.762	0.243	3.082	1.09	0.005	0.061	0.061	568.299	0.021	Off-Highway Tractors	2030	124	0.37	1.92	3.44	0.01	0.00	0.10	0.10	0.00	0.10	0.10	0.10	568.30	0.03	0.03	1.69
Air Compressors	2025	6	15	1.781	0.683	4.278	3.491	0.008	0.183	0.183	568.3	0.061	Off-Highway Trucks	2030	402	0.22	0.46	1.10	0.01	0.00	0.02	0.02	0.00	0.02	0.02	0.02	568.30	0.02	0.03	1.52
Air Compressors	2025	16	25	3.701	0.709	4.407	2.376	0.007	0.177	0.177	568.299	0.064	Other Construction Equipment	2030	172	0.16	0.46	3.13	0.01	0.00	0.02	0.02	0.00	0.02	0.02	0.02	568.30	0.01	0.03	5.06
Air Compressors	2025	26	50	5.297	0.659	3.755	4.851	0.007	0.116	0.116	568.299	0.059	Other General Industrial Equipment	2030	88	0.31	1.77	3.80	0.01	0.00	0.04	0.04	0.00	0.04	0.04	0.04	568.30	0.03	0.03	7.09
Air Compressors	2025	51	120	5.855	0.345	2.313	3.653	0.006	0.104	0.104	568.299	0.031	Other Material Handling Equipment	2030	168	0.22	0.64	3.34	0.01	0.00	0.03	0.03	0.00	0.03	0.03	0.03	568.30	0.02	0.03	2.29
Air Compressors	2025	121	175	8.602	0.269	1.383	3.205	0.006	0.065	0.065	568.299	0.024	Pavers	2030	130	0.30	1.43	3.33	0.01	0.00	0.07	0.07	0.00	0.07	0.07	0.07	568.30	0.03	0.03	5.58
Air Compressors	2025	176	250	10.451	0.22	1.086	1.094	0.006	0.033	0.033	568.299	0.019	Paving Equipment	2030	132	0.29	1.36	3.31	0.01	0.00	0.07	0.07	0.00	0.07	0.07	0.07	568.30	0.03	0.03	5.53
Air Compressors	2025	251	500	18.188	0.217	1.001	1.051	0.005	0.032	0.032	568.299	0.019	Plate Compactors	2030	8	0.66	4.14	3.47	0.01	0.00	0.16	0.16	0.00	0.16	0.16	0.16	568.30	0.06	0.03	0.79
Air Compressors	2025	501	750	28.169	0.217	1.021	1.051	0.005	0.032	0.032	568.299	0.019	Pressure Washers	2030	13	0.59	4.16	3.47	0.01	0.00	0.17	0.17	0.00	0.17	0.17	0.17	568.30	0.05	0.03	1.63
Air Compressors	2025	751	1000	40.592	0.231	2.954	1.079	0.005	0.055	0.055	568.299	0.02	Pumps	2030	84	0.19	1.66	3.37	0.01	0.00	0.04	0.04	0.00	0.04	0.04	0.04	568.30	0.02	0.03	4.42
Air Compressors	2030	6	15	1.73	0.663	4.164	3.47	0.008	0.166	0.166	568.299	0.059	Rollers	2030	80	0.30	1.95	3.64	0.01	0.00	0.07	0.07	0.00	0.07	0.07	0.07	568.30	0.03	0.03	6.53
Air Compressors	2030	16	25	3.582	0.687	4.347	2.34	0.007	0.165	0.165	568.299	0.061	Rough Terrain Forklifts	2030	100	0.28	1.67	3.73	0.01	0.00	0.03	0.03	0.00	0.03	0.03	0.03	568.30	0.03	0.03	1.32
Air Compressors	2030	26	50	4.073	0.506	3.34	4.712	0.007	0.046	0.046	568.299	0.045	Rubber Tired Dozers	2030	247	0.34	1.83	1.32	0.01	0.00	0.07	0.07	0.00	0.07	0.07	0.07	568.30	0.03	0.03	

Bore/Drill Rigs	2005	176	250	19.806	0.395	5.8	1.094	0.057	0.145	0.145	568.299	0.035
Bore/Drill Rigs	2005	251	500	27.527	0.332	5.051	1.068	0.05	0.133	0.133	568.299	0.029
Bore/Drill Rigs	2005	501	750	58.103	0.354	5.347	1.068	0.052	0.138	0.138	568.299	0.032
Bore/Drill Rigs	2005	751	1000	132.307	0.535	6.8	1.427	0.052	0.183	0.183	568.299	0.048
Bore/Drill Rigs	2010	6	15	1.052412	0.884	5.42137	4.58435	0.006	0.406	0.374	604.3903	0.176
Bore/Drill Rigs	2010	16	25	1.052412	0.884	5.42137	4.58435	0.006	0.406	0.374	604.3903	0.176
Bore/Drill Rigs	2010	26	50	1.052412	0.884	5.42137	4.58435	0.006	0.406	0.374	604.3903	0.176
Bore/Drill Rigs	2010	51	120	0.45108	0.379	4.84273	3.31487	0.005	0.313	0.288	505.1218	0.147
Bore/Drill Rigs	2010	121	175	0.420915	0.354	4.77962	3.03422	0.005	0.231	0.213	533.3654	0.155
Bore/Drill Rigs	2010	176	250	0.301395	0.253	4.60173	1.2308	0.005	0.139	0.128	525.165	0.153
Bore/Drill Rigs	2010	251	500	0.270831	0.228	3.90774	1.39755	0.005	0.131	0.12	517.3193	0.151
Bore/Drill Rigs	2010	501	750	0.19905	0.167	3.03556	1.08296	0.005	0.108	0.099	533.5969	0.155
Bore/Drill Rigs	2010	751	1000	0.189693	0.159	4.32965	0.96001	0.005	0.099	0.091	524.3394	0.153
Bore/Drill Rigs	2011	6	15	1.019273	0.856	5.41672	4.60411	0.006	0.4	0.368	602.9382	0.176
Bore/Drill Rigs	2011	16	25	1.019273	0.856	5.41672	4.60411	0.006	0.4	0.368	602.9382	0.176
Bore/Drill Rigs	2011	26	50	1.019273	0.856	5.41672	4.60411	0.006	0.4	0.368	602.9382	0.176
Bore/Drill Rigs	2011	51	120	0.435142	0.366	4.72727	3.32121	0.005	0.303	0.279	504.2171	0.147
Bore/Drill Rigs	2011	121	175	0.404145	0.34	4.59259	3.03462	0.005	0.219	0.202	531.8097	0.155
Bore/Drill Rigs	2011	176	250	0.289986	0.244	4.34748	1.21102	0.005	0.132	0.122	522.3643	0.152
Bore/Drill Rigs	2011	251	500	0.264468	0.222	3.72448	1.36917	0.005	0.125	0.115	512.0559	0.149
Bore/Drill Rigs	2011	501	750	0.195451	0.164	2.89424	1.06361	0.005	0.098	0.09	532.4717	0.155
Bore/Drill Rigs	2011	751	1000	0.200744	0.169	4.35634	0.96855	0.005	0.101	0.093	523.0129	0.153
Bore/Drill Rigs	2012	6	15	1.043679	0.877	5.45218	4.70758	0.006	0.406	0.374	601.7336	0.176
Bore/Drill Rigs	2012	16	25	1.043679	0.877	5.45218	4.70758	0.006	0.406	0.374	601.7336	0.176
Bore/Drill Rigs	2012	26	50	1.043679	0.877	5.45218	4.70758	0.006	0.406	0.374	601.7336	0.176
Bore/Drill Rigs	2012	51	120	0.439737	0.37	4.70854	3.34211	0.005	0.302	0.278	503.4212	0.147
Bore/Drill Rigs	2012	121	175	0.401496	0.337	4.52801	3.05178	0.005	0.215	0.198	531.6414	0.156
Bore/Drill Rigs	2012	176	250	0.299105	0.251	4.31574	1.23628	0.005	0.134	0.123	520.9621	0.152
Bore/Drill Rigs	2012	251	500	0.271498	0.228	3.71268	1.3973	0.005	0.124	0.115	511.0099	0.149
Bore/Drill Rigs	2012	501	750	0.195855	0.165	2.78397	1.06675	0.005	0.094	0.086	530.0759	0.155
Bore/Drill Rigs	2012	751	1000	0.210392	0.177	4.3794	0.976	0.005	0.103	0.094	521.6821	0.153
Bore/Drill Rigs	2013	6	15	1.019153	0.856	5.44353	4.71588	0.006	0.398	0.366	598.6307	0.176
Bore/Drill Rigs	2013	16	25	1.019153	0.856	5.44353	4.71588	0.006	0.398	0.366	598.6307	0.176
Bore/Drill Rigs	2013	26	50	1.019153	0.856	5.44353	4.71588	0.006	0.398	0.366	598.6307	0.176
Bore/Drill Rigs	2013	51	120	0.417421	0.351	4.52552	3.33685	0.005	0.279	0.257	501.3795	0.147
Bore/Drill Rigs	2013	121	175	0.380511	0.32	4.3027	3.04123	0.005	0.199	0.183	527.5089	0.155
Bore/Drill Rigs	2013	176	250	0.286183	0.24	4.0183	1.21872	0.005	0.124	0.114	517.8225	0.152
Bore/Drill Rigs	2013	251	500	0.260559	0.219	3.49492	1.35236	0.005	0.115	0.106	507.7707	0.149
Bore/Drill Rigs	2013	501	750	0.192576	0.162	2.57636	1.07935	0.005	0.088	0.081	527.7286	0.155
Bore/Drill Rigs	2013	751	1000	0.160352	0.135	3.46658	0.96188	0.005	0.082	0.075	519.8525	0.153
Bore/Drill Rigs	2014	6	15	0.992547	0.834	5.33236	4.69064	0.006	0.382	0.351	591.4418	0.175
Bore/Drill Rigs	2014	16	25	0.992547	0.834	5.33236	4.69064	0.006	0.382	0.351	591.4418	0.175
Bore/Drill Rigs	2014	26	50	0.992547	0.834	5.33236	4.69064	0.006	0.382	0.351	591.4418	0.175
Bore/Drill Rigs	2014	51	120	0.379477	0.319	4.19515	3.32686	0.005	0.249	0.229	501.365	0.148
Bore/Drill Rigs	2014	121	175	0.366384	0.308	4.06571	3.04026	0.005	0.186	0.171	524.0522	0.155
Bore/Drill Rigs	2014	176	250	0.258607	0.217	3.52453	1.17442	0.005	0.105	0.097	512.3362	0.151
Bore/Drill Rigs	2014	251	500	0.240166	0.202	3.18617	1.239	0.005	0.101	0.093	506.1536	0.15
Bore/Drill Rigs	2014	501	750	0.186731	0.157	2.37324	1.08678	0.005	0.08	0.074	525.2397	0.155
Bore/Drill Rigs	2014	751	1000	0.12496	0.105	2.98435	0.95104	0.005	0.058	0.054	516.5998	0.153
Bore/Drill Rigs	2015	6	15	1.007942	0.847	5.30345	4.73461	0.006	0.379	0.349	585.1707	0.175
Bore/Drill Rigs	2015	16	25	1.007942	0.847	5.30345	4.73461	0.006	0.379	0.349	585.1707	0.175
Bore/Drill Rigs	2015	26	50	1.007942	0.847	5.30345	4.73461	0.006	0.379	0.349	585.1707	0.175
Bore/Drill Rigs	2015	51	120	0.378573	0.318	4.02775	3.3349	0.005	0.239	0.22	496.9494	0.148
Bore/Drill Rigs	2015	121	175	0.359562	0.302	3.90422	3.03526	0.005	0.176	0.162	517.2068	0.154
Bore/Drill Rigs	2015	176	250	0.253803	0.213	3.3245	1.17834	0.005	0.1	0.092	506.5047	0.151
Bore/Drill Rigs	2015	251	500	0.237097	0.199	3.00307	1.25564	0.005	0.096	0.088	499.9023	0.149
Bore/Drill Rigs	2015	501	750	0.19253	0.162	2.37558	1.10541	0.005	0.081	0.074	520.4733	0.155
Bore/Drill Rigs	2015	751	1000	0.130029	0.109	2.99386	0.95583	0.005	0.059	0.054	511.2533	0.153
Bore/Drill Rigs	2016	6	15	1.034535	0.869	5.29821	4.79659	0.006	0.383	0.352	579.3262	0.175
Bore/Drill Rigs	2016	16	25	1.034535	0.869	5.29821	4.79659	0.006	0.383	0.352	579.3262	0.175
Bore/Drill Rigs	2016	26	50	1.034535	0.869	5.29821	4.79659	0.006	0.383	0.352	579.3262	0.175
Bore/Drill Rigs	2016	51	120	0.365397	0.307	3.82088	3.32648	0.005	0.221	0.204	491.6548	0.148
Bore/Drill Rigs	2016	121	175	0.33987	0.286	3.61582	3.02337	0.005	0.162	0.149	511.4327	0.154
Bore/Drill Rigs	2016	176	250	0.229144	0.193	2.9021	1.13299	0.005	0.085	0.078	502.128	0.151
Bore/Drill Rigs	2016	251	500	0.203588	0.171	2.50955	1.13338	0.005	0.077	0.071	494.7606	0.149
Bore/Drill Rigs	2016	501	750	0.182018	0.153	2.16636	1.11952	0.005	0.072	0.066	514.8829	0.155
Bore/Drill Rigs	2016	751	1000	0.137307	0.115	3.00833	0.96409	0.005	0.059	0.055	505.9997	0.153
Bore/Drill Rigs	2017	6	15	0.957137	0.804	5.06335	4.65158	0.006	0.351	0.323	563.9173	0.173
Bore/Drill Rigs	2017	16	25	0.957137	0.804	5.06335	4.65158	0.006	0.351	0.323	563.9173	0.173
Bore/Drill Rigs	2017	26	50	0.957137	0.804	5.06335	4.65158	0.006	0.351	0.323	563.9173	0.173
Bore/Drill Rigs	2017	51	120	0.354597	0.298	3.68536	3.33142	0.005	0.211	0.194	485.322	0.149
Bore/Drill Rigs	2017	121	175	0.290928	0.244	2.98245	3.0013	0.005	0.131	0.121	503.7704	0.154
Bore/Drill Rigs	2017	176	250	0.20647	0.173	2.5215	1.1021	0.005	0.072	0.067	494.1381	0.151
Bore/Drill Rigs	2017	251	500	0.197407	0.166	2.36747	1.11891	0.005	0.072	0.067	489.4612	0.15
Bore/Drill Rigs	2017	501	750	0.184153	0.155	2.15656	1.13653	0.005	0.071	0.066	505.1248	0.155
Bore/Drill Rigs	2017	751	1000	0.143503	0.121	3.02051	0.97127	0.005	0.06	0.055	498.1225	0.153
Bore/Drill Rigs	2018	6	15	0.9127	0.767	4.86917	4.56857	0.005	0.329	0.303	554.2038	0.173
Bore/Drill Rigs	2018	16	25	0.9127	0.767	4.86917	4.56857	0.005	0.329	0.303	554.2038	0.173
Bore/Drill Rigs	2018	26	50	0.9127	0.767	4.86917	4.56857	0.005	0.329	0.303	554.2038	0.173
Bore/Drill Rigs	2018	51	120	0.320098	0.269	3.39962	3.32325	0.005	0.184	0.17	479.6719	0.149
Bore/Drill Rigs	2018	121	175	0.241793	0.203	2.35662	2.96107	0.005	0.103	0.095	495.0734	0.154
Bore/Drill Rigs	2018	176	250	0.183927	0.155	2.15308	1.07328	0.005	0.061	0.056	484.5605	0.151
Bore/Drill Rigs	2018	251	500	0.160513	0.135	1.74562	1.03203	0.005	0.052	0.048	485.6893	0.151
Bore/Drill Rigs	2018	501	750	0.14994	0.126	1.67873	1.00559	0.005	0.054	0.05	489.7301	0.152
Bore/Drill Rigs	2018	751	1000	0.149052	0.125	3.03153	0.97772	0.005	0.06	0.056	490.2427	0.153
Bore/Drill Rigs	2019	6	15	0.858717	0.722	4.71795	4.49723	0.005	0.303	0.278	545.293	0.173
Bore/Drill Rigs	2019	16	25	0.858717	0.722	4.71795	4.49723	0.005	0.303	0.278	545.293	0.173
Bore/Drill Rigs	2019	26	50	0.858717	0.722	4.71795	4.49723	0.005	0.303	0.278	545.293	0.173</

Bore/Drill Rigs	2019	121	175	0.215784	0.181	2.01775	2.95563	0.005	0.088	0.081	487.3552	0.154
Bore/Drill Rigs	2019	176	250	0.170614	0.143	1.8943	1.06058	0.005	0.054	0.049	475.7896	0.151
Bore/Drill Rigs	2019	251	500	0.153732	0.129	1.55098	1.03449	0.005	0.048	0.044	477.0462	0.151
Bore/Drill Rigs	2019	501	750	0.138617	0.116	1.44865	0.97074	0.005	0.048	0.044	481.8363	0.152
Bore/Drill Rigs	2019	751	1000	0.153944	0.129	3.04139	0.98342	0.005	0.061	0.056	482.3593	0.153
Bore/Drill Rigs	2020	6	15	0.851825	0.716	4.6451	4.51013	0.006	0.294	0.271	535.2948	0.173
Bore/Drill Rigs	2020	16	25	0.851825	0.716	4.6451	4.51013	0.006	0.294	0.271	535.2948	0.173
Bore/Drill Rigs	2020	26	50	0.851825	0.716	4.6451	4.51013	0.006	0.294	0.271	535.2948	0.173
Bore/Drill Rigs	2020	51	120	0.292949	0.246	3.06601	3.32347	0.005	0.159	0.146	463.5827	0.15
Bore/Drill Rigs	2020	121	175	0.207426	0.174	1.87149	2.96948	0.005	0.082	0.076	477.722	0.155
Bore/Drill Rigs	2020	176	250	0.169462	0.142	1.80732	1.06766	0.005	0.052	0.048	466.8342	0.151
Bore/Drill Rigs	2020	251	500	0.148188	0.125	1.40938	1.01263	0.005	0.045	0.041	466.8219	0.151
Bore/Drill Rigs	2020	501	750	0.129293	0.109	1.23085	0.97413	0.005	0.041	0.038	473.6679	0.153
Bore/Drill Rigs	2020	751	1000	0.158163	0.133	3.05008	0.98839	0.005	0.061	0.056	471.8492	0.153
Bore/Drill Rigs	2021	6	15	0.845639	0.711	4.63432	4.54836	0.006	0.291	0.268	535.3782	0.173
Bore/Drill Rigs	2021	16	25	0.845639	0.711	4.63432	4.54836	0.006	0.291	0.268	535.3782	0.173
Bore/Drill Rigs	2021	26	50	0.845639	0.711	4.63432	4.54836	0.006	0.291	0.268	535.3782	0.173
Bore/Drill Rigs	2021	51	120	0.258162	0.217	2.73675	3.30573	0.005	0.131	0.12	464.9725	0.15
Bore/Drill Rigs	2021	121	175	0.183454	0.154	1.5983	2.9614	0.005	0.07	0.064	477.0482	0.154
Bore/Drill Rigs	2021	176	250	0.157647	0.132	1.55102	1.06418	0.005	0.047	0.043	467.9916	0.151
Bore/Drill Rigs	2021	251	500	0.139268	0.117	1.22069	1.01479	0.005	0.041	0.038	469.8158	0.152
Bore/Drill Rigs	2021	501	750	0.116134	0.098	0.95517	0.97176	0.005	0.033	0.031	474.079	0.153
Bore/Drill Rigs	2021	751	1000	0.161679	0.136	3.05759	0.99261	0.005	0.061	0.057	471.8158	0.153
Bore/Drill Rigs	2022	6	15	0.751445	0.631	4.28474	4.33356	0.005	0.241	0.221	529.8703	0.171
Bore/Drill Rigs	2022	16	25	0.751445	0.631	4.28474	4.33356	0.005	0.241	0.221	529.8703	0.171
Bore/Drill Rigs	2022	26	50	0.751445	0.631	4.28474	4.33356	0.005	0.241	0.221	529.8703	0.171
Bore/Drill Rigs	2022	51	120	0.227425	0.191	2.42459	3.25974	0.005	0.107	0.099	462.2674	0.15
Bore/Drill Rigs	2022	121	175	0.162807	0.137	1.28831	2.95431	0.005	0.057	0.052	477.3719	0.154
Bore/Drill Rigs	2022	176	250	0.136848	0.115	1.16293	1.04734	0.005	0.037	0.034	468.7604	0.152
Bore/Drill Rigs	2022	251	500	0.12801	0.108	1.03525	1.00212	0.005	0.035	0.032	467.1923	0.151
Bore/Drill Rigs	2022	501	750	0.10809	0.091	0.77309	0.97519	0.005	0.028	0.026	477.141	0.154
Bore/Drill Rigs	2022	751	1000	0.067607	0.057	2.27813	0.9452	0.005	0.018	0.017	472.9214	0.153
Bore/Drill Rigs	2023	6	15	0.721105	0.606	4.20831	4.31077	0.005	0.226	0.208	531.9856	0.172
Bore/Drill Rigs	2023	16	25	0.721105	0.606	4.20831	4.31077	0.005	0.226	0.208	531.9856	0.172
Bore/Drill Rigs	2023	26	50	0.721105	0.606	4.20831	4.31077	0.005	0.226	0.208	531.9856	0.172
Bore/Drill Rigs	2023	51	120	0.222828	0.187	2.35656	3.25754	0.005	0.102	0.093	461.214	0.149
Bore/Drill Rigs	2023	121	175	0.149078	0.125	1.07773	2.9693	0.005	0.048	0.044	479.6465	0.155
Bore/Drill Rigs	2023	176	250	0.131367	0.11	1.04653	1.04309	0.005	0.034	0.031	469.7058	0.152
Bore/Drill Rigs	2023	251	500	0.120261	0.101	0.89764	0.98883	0.005	0.03	0.028	464.0407	0.15
Bore/Drill Rigs	2023	501	750	0.108039	0.091	0.71664	0.98235	0.005	0.026	0.024	479.2199	0.155
Bore/Drill Rigs	2023	751	1000	0.062646	0.053	2.26246	0.93615	0.005	0.018	0.016	472.0201	0.153
Bore/Drill Rigs	2024	6	15	0.724524	0.609	4.15902	4.33098	0.005	0.219	0.202	529.8661	0.171
Bore/Drill Rigs	2024	16	25	0.724524	0.609	4.15902	4.33098	0.005	0.219	0.202	529.8661	0.171
Bore/Drill Rigs	2024	26	50	0.724524	0.609	4.15902	4.33098	0.005	0.219	0.202	529.8661	0.171
Bore/Drill Rigs	2024	51	120	0.211018	0.177	2.21634	3.25123	0.005	0.09	0.083	461.2076	0.149
Bore/Drill Rigs	2024	121	175	0.148172	0.125	1.02855	2.97803	0.005	0.046	0.043	478.9441	0.155
Bore/Drill Rigs	2024	176	250	0.128551	0.108	0.97542	1.04591	0.005	0.032	0.03	470.7115	0.152
Bore/Drill Rigs	2024	251	500	0.122153	0.103	0.86053	0.99426	0.005	0.029	0.027	464.4796	0.15
Bore/Drill Rigs	2024	501	750	0.10623	0.089	0.67139	0.98491	0.005	0.026	0.024	480.2246	0.155
Bore/Drill Rigs	2024	751	1000	0.067347	0.057	2.27306	0.94304	0.005	0.018	0.017	471.9261	0.153
Bore/Drill Rigs	2025	6	15	0.703036	0.591	3.97786	4.2728	0.005	0.193	0.178	532.8212	0.172
Bore/Drill Rigs	2025	16	25	0.703036	0.591	3.97786	4.2728	0.005	0.193	0.178	532.8212	0.172
Bore/Drill Rigs	2025	26	50	0.703036	0.591	3.97786	4.2728	0.005	0.193	0.178	532.8212	0.172
Bore/Drill Rigs	2025	51	120	0.183914	0.155	1.96363	3.21758	0.005	0.067	0.062	459.8291	0.149
Bore/Drill Rigs	2025	121	175	0.135422	0.114	0.88787	2.9736	0.005	0.039	0.036	478.2657	0.155
Bore/Drill Rigs	2025	176	250	0.127813	0.107	0.95717	1.04484	0.005	0.031	0.029	470.6535	0.152
Bore/Drill Rigs	2025	251	500	0.120956	0.102	0.82299	0.99738	0.005	0.028	0.026	467.2892	0.151
Bore/Drill Rigs	2025	501	750	0.100521	0.084	0.59628	0.98349	0.005	0.023	0.021	481.2495	0.156
Bore/Drill Rigs	2025	751	1000	0.07426	0.062	2.28923	0.95339	0.005	0.019	0.017	471.9168	0.153
Bore/Drill Rigs	2030	6	15	1.821	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Bore/Drill Rigs	2030	16	25	2.917	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Bore/Drill Rigs	2030	26	50	2.88	0.348	3.02	4.029	0.007	0.013	0.013	568.299	0.031
Bore/Drill Rigs	2030	51	120	3.773	0.183	1.415	3.434	0.006	0.012	0.012	568.299	0.016
Bore/Drill Rigs	2030	121	175	4.786	0.127	0.279	3.038	0.006	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2030	176	250	6.363	0.127	0.274	1.035	0.006	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2030	251	500	10.531	0.127	0.274	1.006	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2030	501	750	20.808	0.127	0.274	1.006	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2030	751	1000	31.441	0.127	2.372	1.006	0.005	0.021	0.021	568.299	0.011
Bore/Drill Rigs	2035	6	15	1.821	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Bore/Drill Rigs	2035	16	25	2.917	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Bore/Drill Rigs	2035	26	50	2.881	0.348	3.019	4.03	0.007	0.013	0.013	568.299	0.031
Bore/Drill Rigs	2035	51	120	3.768	0.183	1.411	3.434	0.006	0.012	0.012	568.3	0.016
Bore/Drill Rigs	2035	121	175	4.767	0.126	0.272	3.039	0.006	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2035	176	250	6.357	0.126	0.272	1.035	0.006	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2035	251	500	10.52	0.126	0.272	1.006	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2035	501	750	20.787	0.126	0.272	1.006	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2035	751	1000	31.372	0.126	2.372	1.006	0.005	0.021	0.021	568.299	0.011
Bore/Drill Rigs	2040	6	15	1.821	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Bore/Drill Rigs	2040	16	25	2.917	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Bore/Drill Rigs	2040	26	50	2.883	0.348	3.019	4.032	0.007	0.013	0.013	568.3	0.031
Bore/Drill Rigs	2040	51	120	3.77	0.183	1.411	3.435	0.006	0.012	0.012	568.299	0.016
Bore/Drill Rigs	2040	121	175	4.77	0.127	0.272	3.039	0.006	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2040	176	250	6.36	0.127	0.272	1.035	0.006	0.01	0.01	568.3	0.011
Bore/Drill Rigs	2040	251	500	10.526	0.127	0.272	1.006	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2040	501	750	20.799	0.127	0.272	1.006	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2040	751	1000	31.389	0.127	2.372	1.006	0.005	0.021	0.021	568.299	0.011
Cement and Mortar Mixer:	1990	6	15	2.932	1.804	9.999	4.999	1.049	0.975	0.975	568.299	0.162
Cement and Mortar Mixer:	1990	16	25	9.992	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Cement and Mortar Mixer:	2000	6	15	2.702	1.662	8.911	4.78	0.079	0.745	0.745	568.299	0.15

Cement and Mortar Mixer:	2000	16	25	9.397	2.081	6.401	4.757	0.065	0.569	0.569	568.299	0.187
Cement and Mortar Mixer:	2005	6	15	1.628	1.001	6.3	3.791	0.079	0.465	0.465	568.299	0.09
Cement and Mortar Mixer:	2005	16	25	6.992	1.548	5.963	3.786	0.065	0.471	0.471	568.299	0.139
Cement and Mortar Mixer:	2010	6	15	1.153	0.709	4.545	3.492	0.008	0.26	0.26	568.299	0.064
Cement and Mortar Mixer:	2010	16	25	5.056	1.119	5.286	3.049	0.007	0.346	0.346	568.299	0.101
Cement and Mortar Mixer:	2011	6	15	1.114	0.685	4.351	3.479	0.008	0.231	0.231	568.299	0.061
Cement and Mortar Mixer:	2011	16	25	4.656	1.031	5.144	2.897	0.007	0.319	0.319	568.299	0.093
Cement and Mortar Mixer:	2012	6	15	1.096	0.674	4.272	3.472	0.008	0.209	0.209	568.299	0.06
Cement and Mortar Mixer:	2012	16	25	4.288	0.949	5.012	2.757	0.007	0.293	0.293	568.299	0.085
Cement and Mortar Mixer:	2013	6	15	1.087	0.669	4.223	3.469	0.008	0.191	0.191	568.299	0.06
Cement and Mortar Mixer:	2013	16	25	3.952	0.875	4.887	2.63	0.007	0.269	0.269	568.299	0.078
Cement and Mortar Mixer:	2014	6	15	1.082	0.666	4.191	3.469	0.008	0.177	0.177	568.299	0.06
Cement and Mortar Mixer:	2014	16	25	3.783	0.837	4.793	2.57	0.007	0.253	0.253	568.299	0.075
Cement and Mortar Mixer:	2015	6	15	1.079	0.663	4.168	3.469	0.008	0.171	0.171	568.3	0.059
Cement and Mortar Mixer:	2015	16	25	3.664	0.811	4.712	2.531	0.007	0.24	0.24	568.299	0.073
Cement and Mortar Mixer:	2016	6	15	1.076	0.662	4.153	3.469	0.008	0.167	0.167	568.3	0.059
Cement and Mortar Mixer:	2016	16	25	3.558	0.788	4.636	2.496	0.007	0.227	0.227	568.299	0.071
Cement and Mortar Mixer:	2017	6	15	1.075	0.661	4.145	3.469	0.008	0.165	0.165	568.299	0.059
Cement and Mortar Mixer:	2017	16	25	3.466	0.767	4.567	2.466	0.007	0.216	0.216	568.299	0.069
Cement and Mortar Mixer:	2018	6	15	1.075	0.661	4.142	3.469	0.008	0.163	0.163	568.299	0.059
Cement and Mortar Mixer:	2018	16	25	3.384	0.749	4.504	2.44	0.007	0.205	0.205	568.299	0.067
Cement and Mortar Mixer:	2019	6	15	1.075	0.661	4.142	3.469	0.008	0.162	0.162	568.299	0.059
Cement and Mortar Mixer:	2019	16	25	3.321	0.735	4.469	2.417	0.007	0.196	0.196	568.299	0.066
Cement and Mortar Mixer:	2020	6	15	1.075	0.661	4.142	3.47	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2020	16	25	3.265	0.723	4.442	2.397	0.007	0.187	0.187	568.299	0.065
Cement and Mortar Mixer:	2021	6	15	1.075	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2021	16	25	3.219	0.712	4.419	2.381	0.007	0.18	0.18	568.299	0.064
Cement and Mortar Mixer:	2022	6	15	1.075	0.661	4.142	3.47	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2022	16	25	3.182	0.704	4.399	2.367	0.007	0.175	0.175	568.299	0.063
Cement and Mortar Mixer:	2023	6	15	1.075	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2023	16	25	3.151	0.697	4.382	2.356	0.007	0.172	0.172	568.299	0.062
Cement and Mortar Mixer:	2024	6	15	1.075	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2024	16	25	3.129	0.693	4.369	2.349	0.007	0.17	0.17	568.299	0.062
Cement and Mortar Mixer:	2025	6	15	1.075	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2025	16	25	3.113	0.689	4.357	2.344	0.007	0.168	0.168	568.299	0.062
Cement and Mortar Mixer:	2030	6	15	1.075	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2030	16	25	3.095	0.685	4.333	2.339	0.007	0.162	0.162	568.299	0.061
Cement and Mortar Mixer:	2035	6	15	1.075	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2035	16	25	3.095	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Cement and Mortar Mixer:	2040	6	15	1.075	0.661	4.142	3.47	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixer:	2040	16	25	3.095	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	1990	16	25	4.947	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Concrete/Industrial Saws	1990	26	50	20.26	4.943	8.008	9.962	0.871	1.297	1.297	568.299	0.446
Concrete/Industrial Saws	1990	51	120	24.821	2.467	15.608	5.934	0.791	1.385	1.385	568.299	0.222
Concrete/Industrial Saws	1990	121	175	45.581	2.097	15.952	5.376	0.758	1.172	1.172	568.3	0.189
Concrete/Industrial Saws	2000	16	25	4.266	1.908	6.326	4.438	0.065	0.555	0.555	568.299	0.172
Concrete/Industrial Saws	2000	26	50	14.64	3.572	6.784	7.547	0.066	0.789	0.789	568.299	0.322
Concrete/Industrial Saws	2000	51	120	16.713	1.661	9.903	4.354	0.06	0.77	0.77	568.299	0.149
Concrete/Industrial Saws	2000	121	175	24.252	1.115	9.017	3.531	0.057	0.452	0.452	568.3	0.1
Concrete/Industrial Saws	2005	16	25	1.899	0.849	5.321	2.519	0.065	0.333	0.333	568.299	0.076
Concrete/Industrial Saws	2005	26	50	13.023	3.177	6.32	6.994	0.066	0.732	0.732	568.299	0.286
Concrete/Industrial Saws	2005	51	120	14.366	1.428	8.401	4.05	0.06	0.714	0.714	568.299	0.128
Concrete/Industrial Saws	2005	121	175	20.277	0.932	7.685	3.223	0.057	0.393	0.393	568.299	0.084
Concrete/Industrial Saws	2010	16	25	1.545	0.691	4.411	2.339	0.007	0.216	0.216	568.299	0.062
Concrete/Industrial Saws	2010	26	50	9.492	2.316	5.774	6.039	0.007	0.565	0.565	568.299	0.208
Concrete/Industrial Saws	2010	51	120	10.348	1.028	6.592	3.813	0.006	0.551	0.551	568.299	0.092
Concrete/Industrial Saws	2010	121	175	14.859	0.683	5.838	3.116	0.006	0.306	0.306	568.299	0.061
Concrete/Industrial Saws	2011	16	25	1.539	0.688	4.372	2.339	0.007	0.193	0.193	568.299	0.062
Concrete/Industrial Saws	2011	26	50	8.781	2.142	5.68	5.854	0.007	0.534	0.534	568.299	0.193
Concrete/Industrial Saws	2011	51	120	9.617	0.955	6.222	3.775	0.006	0.524	0.524	568.299	0.086
Concrete/Industrial Saws	2011	121	175	13.917	0.64	5.491	3.104	0.006	0.293	0.293	568.299	0.057
Concrete/Industrial Saws	2012	16	25	1.535	0.686	4.348	2.339	0.007	0.173	0.173	568.299	0.061
Concrete/Industrial Saws	2012	26	50	8.071	1.969	5.59	5.671	0.007	0.503	0.503	568.299	0.177
Concrete/Industrial Saws	2012	51	120	8.902	0.884	5.844	3.74	0.006	0.489	0.489	568.299	0.079
Concrete/Industrial Saws	2012	121	175	12.992	0.597	5.146	3.094	0.006	0.272	0.272	568.299	0.053
Concrete/Industrial Saws	2013	16	25	1.533	0.685	4.335	2.339	0.007	0.168	0.168	568.299	0.061
Concrete/Industrial Saws	2013	26	50	7.362	1.796	5.377	5.489	0.007	0.463	0.463	568.299	0.162
Concrete/Industrial Saws	2013	51	120	8.209	0.816	5.483	3.706	0.006	0.451	0.451	568.299	0.073
Concrete/Industrial Saws	2013	121	175	12.096	0.556	4.829	3.086	0.006	0.25	0.25	568.299	0.05
Concrete/Industrial Saws	2014	16	25	1.532	0.685	4.332	2.339	0.007	0.164	0.164	568.299	0.061
Concrete/Industrial Saws	2014	26	50	6.665	1.626	5.172	5.313	0.007	0.424	0.424	568.299	0.146
Concrete/Industrial Saws	2014	51	120	7.539	0.749	5.16	3.675	0.006	0.412	0.412	568.299	0.067
Concrete/Industrial Saws	2014	121	175	11.238	0.517	4.531	3.08	0.006	0.228	0.228	568.299	0.046
Concrete/Industrial Saws	2015	16	25	1.532	0.685	4.332	2.339	0.007	0.162	0.162	568.299	0.061
Concrete/Industrial Saws	2015	26	50	6.027	1.47	4.989	5.165	0.007	0.386	0.386	568.299	0.132
Concrete/Industrial Saws	2015	51	120	6.878	0.683	4.789	3.647	0.006	0.372	0.372	568.3	0.061
Concrete/Industrial Saws	2015	121	175	10.333	0.475	4.112	3.077	0.006	0.207	0.207	568.299	0.042
Concrete/Industrial Saws	2016	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2016	26	50	5.419	1.322	4.818	5.029	0.007	0.35	0.35	568.3	0.119
Concrete/Industrial Saws	2016	51	120	6.237	0.62	4.432	3.62	0.006	0.333	0.333	568.3	0.055
Concrete/Industrial Saws	2016	121	175	9.455	0.435	3.708	3.074	0.006	0.186	0.186	568.299	0.039
Concrete/Industrial Saws	2017	16	25	1.532	0.685	4.332	2.34	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2017	26	50	4.816	1.175	4.652	4.894	0.007	0.313	0.313	568.299	0.106
Concrete/Industrial Saws	2017	51	120	5.61	0.557	4.086	3.595	0.006	0.294	0.294	568.299	0.05
Concrete/Industrial Saws	2017	121	175	8.602	0.395	3.316	3.073	0.006	0.165	0.165	568.299	0.035
Concrete/Industrial Saws	2018	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2018	26	50	4.233	1.032	4.492	4.766	0.007	0.277	0.277	568.299	0.093
Concrete/Industrial Saws	2018	51	120	5.014	0.498	3.754	3.571	0.006	0.256	0.256	568.299	0.044
Concrete/Industrial Saws	2018	121	175	7.805	0.359	2.945	3.072	0.006	0.145	0.145	568.299	0.032



Concrete/Industrial Saws	2019	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2019	26	50	3.686	0.899	4.338	4.645	0.007	0.242	0.242	568.299	0.081
Concrete/Industrial Saws	2019	51	120	4.463	0.443	3.441	3.55	0.006	0.22	0.22	568.3	0.04
Concrete/Industrial Saws	2019	121	175	7.177	0.33	2.618	3.072	0.006	0.128	0.128	568.299	0.029
Concrete/Industrial Saws	2020	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2020	26	50	3.271	0.798	4.196	4.552	0.007	0.212	0.212	568.299	0.072
Concrete/Industrial Saws	2020	51	120	4.042	0.401	3.163	3.535	0.006	0.19	0.19	568.299	0.036
Concrete/Industrial Saws	2020	121	175	6.669	0.306	2.324	3.072	0.006	0.114	0.114	568.299	0.027
Concrete/Industrial Saws	2021	16	25	1.532	0.685	4.332	2.34	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2021	26	50	2.959	0.722	4.063	4.481	0.007	0.184	0.184	568.3	0.065
Concrete/Industrial Saws	2021	51	120	3.721	0.369	2.913	3.523	0.006	0.166	0.166	568.299	0.033
Concrete/Industrial Saws	2021	121	175	6.227	0.286	2.055	3.072	0.006	0.101	0.101	568.299	0.025
Concrete/Industrial Saws	2022	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2022	26	50	2.705	0.66	3.936	4.422	0.007	0.158	0.158	568.3	0.059
Concrete/Industrial Saws	2022	51	120	3.457	0.343	2.686	3.514	0.006	0.144	0.144	568.299	0.031
Concrete/Industrial Saws	2022	121	175	5.819	0.267	1.806	3.072	0.006	0.089	0.089	568.3	0.024
Concrete/Industrial Saws	2023	16	25	1.532	0.685	4.332	2.34	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2023	26	50	2.484	0.606	3.815	4.372	0.007	0.134	0.134	568.299	0.054
Concrete/Industrial Saws	2023	51	120	3.223	0.32	2.478	3.507	0.006	0.123	0.123	568.3	0.028
Concrete/Industrial Saws	2023	121	175	5.453	0.25	1.599	3.072	0.006	0.077	0.077	568.299	0.022
Concrete/Industrial Saws	2024	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2024	26	50	2.303	0.561	3.701	4.33	0.007	0.115	0.115	568.3	0.05
Concrete/Industrial Saws	2024	51	120	3.023	0.3	2.315	3.5	0.006	0.106	0.106	568.299	0.027
Concrete/Industrial Saws	2024	121	175	5.117	0.235	1.418	3.072	0.006	0.067	0.067	568.299	0.021
Concrete/Industrial Saws	2025	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2025	26	50	2.153	0.525	3.592	4.297	0.007	0.099	0.099	568.299	0.047
Concrete/Industrial Saws	2025	51	120	2.849	0.283	2.176	3.495	0.006	0.089	0.089	568.3	0.025
Concrete/Industrial Saws	2025	121	175	4.8	0.22	1.249	3.073	0.006	0.056	0.056	568.3	0.019
Concrete/Industrial Saws	2030	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2030	26	50	1.679	0.409	3.222	4.199	0.007	0.041	0.041	568.299	0.036
Concrete/Industrial Saws	2030	51	120	2.226	0.221	1.667	3.48	0.006	0.036	0.036	568.299	0.019
Concrete/Industrial Saws	2030	121	175	3.551	0.163	0.59	3.074	0.006	0.025	0.025	568.299	0.014
Concrete/Industrial Saws	2035	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2035	26	50	1.54	0.375	3.107	4.174	0.007	0.021	0.021	568.3	0.033
Concrete/Industrial Saws	2035	51	120	2.015	0.2	1.491	3.476	0.006	0.018	0.018	568.299	0.018
Concrete/Industrial Saws	2035	121	175	3.121	0.143	0.374	3.075	0.006	0.014	0.014	568.299	0.012
Concrete/Industrial Saws	2040	16	25	1.532	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2040	26	50	1.532	0.373	3.058	4.175	0.007	0.014	0.014	568.299	0.033
Concrete/Industrial Saws	2040	51	120	1.968	0.195	1.434	3.477	0.006	0.013	0.013	568.299	0.017
Concrete/Industrial Saws	2040	121	175	2.965	0.136	0.297	3.076	0.006	0.011	0.011	568.3	0.012
Cranes	1990	26	50	13.537	5.179	8.093	10.396	0.871	1.345	1.345	568.299	0.467
Cranes	1990	51	120	14.178	2.508	15.674	5.983	0.791	1.427	1.427	568.299	0.226
Cranes	1990	121	175	18.412	2.033	15.601	5.387	0.758	1.142	1.142	568.299	0.183
Cranes	1990	176	250	25.703	2.033	15.601	5.387	0.758	1.142	1.142	568.299	0.183
Cranes	1990	251	500	36.191	1.782	14.718	12.529	0.662	0.968	0.968	568.299	0.16
Cranes	1990	501	750	60.897	1.782	14.718	12.529	1.018	0.986	0.986	568.299	0.16
Cranes	1990	1001	9999	194.538	1.778	14.718	12.529	1.018	0.98	0.98	568.299	0.16
Cranes	2000	26	50	12.119	4.636	7.163	9.507	0.666	0.958	0.958	568.3	0.418
Cranes	2000	51	120	10.887	1.926	10.905	4.81	0.06	0.93	0.93	568.299	0.173
Cranes	2000	121	175	11.77	1.299	9.929	3.932	0.057	0.552	0.552	568.299	0.117
Cranes	2000	176	250	14.291	1.13	9.635	3.285	0.057	0.47	0.47	568.299	0.101
Cranes	2000	251	500	20.704	1.019	9.139	5.545	0.05	0.411	0.411	568.299	0.092
Cranes	2000	501	750	34.838	1.019	9.139	5.545	0.052	0.411	0.411	568.299	0.092
Cranes	2000	1001	9999	116.509	1.064	9.643	6.045	0.052	0.394	0.394	568.299	0.096
Cranes	2005	26	50	10.96	4.193	6.736	8.893	0.666	0.898	0.898	568.3	0.378
Cranes	2005	51	120	9.53	1.686	9.357	4.493	0.06	0.875	0.875	568.299	0.152
Cranes	2005	121	175	10.036	1.108	8.542	3.6	0.057	0.487	0.487	568.299	0.099
Cranes	2005	176	250	10.718	0.847	8.163	2.367	0.057	0.343	0.343	568.299	0.076
Cranes	2005	251	500	15.234	0.75	7.448	3.287	0.05	0.303	0.303	568.299	0.067
Cranes	2005	501	750	25.971	0.76	7.598	3.283	0.052	0.305	0.305	568.299	0.068
Cranes	2005	1001	9999	91.74	0.838	8.503	3.718	0.052	0.293	0.293	568.299	0.075
Cranes	2010	26	50	2.786882	2.342	6.30432	7.37084	0.005	0.665	0.612	575.653	0.168
Cranes	2010	51	120	1.626435	1.367	11.2099	5.06328	0.005	0.834	0.767	522.2692	0.152
Cranes	2010	121	175	0.999512	0.84	9.06236	3.96843	0.005	0.483	0.445	527.7153	0.154
Cranes	2010	176	250	0.826087	0.694	8.39974	2.85637	0.005	0.383	0.353	525.6477	0.153
Cranes	2010	251	500	0.629842	0.529	7.05496	4.77692	0.005	0.292	0.268	524.2494	0.153
Cranes	2010	501	750	0.3105	0.261	4.49648	1.59747	0.005	0.149	0.137	523.8164	0.152
Cranes	2010	1001	9999	0.387608	0.326	6.39903	1.00751	0.005	0.151	0.139	524.505	0.153
Cranes	2011	26	50	2.66715	2.241	6.2271	7.21121	0.005	0.641	0.59	574.2181	0.168
Cranes	2011	51	120	1.579127	1.327	10.9169	5.02442	0.005	0.81	0.745	521.0055	0.152
Cranes	2011	121	175	0.990868	0.833	8.96629	3.9727	0.005	0.48	0.441	526.3466	0.154
Cranes	2011	176	250	0.818849	0.688	8.29972	2.82731	0.005	0.379	0.349	524.3412	0.153
Cranes	2011	251	500	0.613791	0.516	6.85019	4.61471	0.005	0.283	0.26	523.002	0.153
Cranes	2011	501	750	0.317708	0.267	4.47987	1.60931	0.005	0.151	0.139	522.4977	0.152
Cranes	2011	1001	9999	0.392668	0.33	6.442	1.01544	0.005	0.153	0.141	523.1938	0.153
Cranes	2012	26	50	2.575229	2.164	6.16881	7.10245	0.005	0.622	0.573	572.7834	0.168
Cranes	2012	51	120	1.549708	1.302	10.7338	4.99918	0.005	0.795	0.732	519.357	0.152
Cranes	2012	121	175	0.992021	0.834	8.9416	3.98552	0.005	0.481	0.442	525.0081	0.154
Cranes	2012	176	250	0.82388	0.692	8.30152	2.83394	0.005	0.381	0.35	522.9802	0.153
Cranes	2012	251	500	0.612564	0.515	6.7893	4.5553	0.005	0.281	0.259	521.6408	0.153
Cranes	2012	501	750	0.324471	0.273	4.45619	1.62066	0.005	0.152	0.14	521.1061	0.152
Cranes	2012	1001	9999	0.397633	0.334	6.48415	1.02322	0.005	0.156	0.144	521.8825	0.153
Cranes	2013	26	50	2.54578	2.139	6.10837	7.11869	0.005	0.61	0.561	569.9097	0.168
Cranes	2013	51	120	1.506211	1.266	10.4655	4.95084	0.005	0.775	0.713	516.6909	0.152
Cranes	2013	121	175	0.982629	0.826	8.83222	3.98019	0.005	0.476	0.438	522.3332	0.154
Cranes	2013	176	250	0.813083	0.683	8.15558	2.80099	0.005	0.375	0.345	520.3446	0.153
Cranes	2013	251	500	0.59291	0.498	6.51563	4.36265	0.005	0.27	0.248	519.0961	0.153
Cranes	2013	501	750	0.327629	0.275	4.36739	1.62896	0.005	0.15	0.138	518.355	0.152
Cranes	2013	1001	9999	0.402502	0.338	6.5255	1.03085	0.005	0.159	0.146	519.26	0.153

Cranes	2014	26	50	2.516704	2.115	6.09324	7.12566	0.005	0.607	0.559	567.0058	0.168
Cranes	2014	51	120	1.481452	1.245	10.3017	4.92305	0.005	0.765	0.704	514.0286	0.152
Cranes	2014	121	175	0.944168	0.793	8.47052	3.93186	0.005	0.457	0.42	519.5114	0.154
Cranes	2014	176	250	0.786323	0.661	7.86026	2.72625	0.005	0.36	0.331	517.6833	0.153
Cranes	2014	251	500	0.574656	0.483	6.26415	4.17708	0.005	0.26	0.239	516.5784	0.153
Cranes	2014	501	750	0.333096	0.28	4.32737	1.63547	0.005	0.151	0.139	515.6071	0.152
Cranes	2014	1001	9999	0.143297	0.12	2.28075	0.94782	0.005	0.054	0.05	516.6375	0.153
Cranes	2015	26	50	2.483294	2.087	6.07491	7.12517	0.005	0.601	0.552	561.2236	0.168
Cranes	2015	51	120	1.444394	1.214	10.0604	4.88366	0.005	0.747	0.687	508.8366	0.152
Cranes	2015	121	175	0.930749	0.782	8.3254	3.91821	0.005	0.45	0.414	514.2598	0.154
Cranes	2015	176	250	0.764242	0.642	7.62156	2.65334	0.005	0.348	0.32	512.4484	0.153
Cranes	2015	251	500	0.565318	0.475	6.12404	4.10962	0.005	0.253	0.233	511.1972	0.153
Cranes	2015	501	750	0.340293	0.286	4.31183	1.64279	0.005	0.152	0.14	510.3342	0.152
Cranes	2015	1001	9999	0.156078	0.131	2.29477	0.95679	0.005	0.055	0.051	511.3924	0.153
Cranes	2016	26	50	2.535089	2.13	6.11027	7.2684	0.005	0.61	0.561	555.4414	0.168
Cranes	2016	51	120	1.373103	1.154	9.60772	4.79702	0.005	0.709	0.653	503.5992	0.152
Cranes	2016	121	175	0.884915	0.744	7.88718	3.86156	0.005	0.427	0.393	508.9515	0.154
Cranes	2016	176	250	0.741297	0.623	7.38068	2.5822	0.005	0.335	0.308	507.1552	0.153
Cranes	2016	251	500	0.527153	0.443	5.64865	3.83445	0.005	0.233	0.215	506.0882	0.153
Cranes	2016	501	750	0.347738	0.292	4.31387	1.65024	0.005	0.153	0.141	505.0695	0.152
Cranes	2016	1001	9999	0.168646	0.142	2.30856	0.96562	0.005	0.056	0.052	506.1474	0.153
Cranes	2017	26	50	2.585562	2.173	6.14479	7.40804	0.005	0.62	0.57	546.7815	0.168
Cranes	2017	51	120	1.304913	1.096	9.15389	4.71022	0.005	0.678	0.624	495.7534	0.152
Cranes	2017	121	175	0.828528	0.696	7.36009	3.78744	0.005	0.397	0.366	501.093	0.154
Cranes	2017	176	250	0.667136	0.561	6.65526	2.38452	0.005	0.297	0.273	499.3721	0.153
Cranes	2017	251	500	0.488095	0.41	5.23184	3.54746	0.005	0.212	0.195	498.439	0.153
Cranes	2017	501	750	0.34114	0.287	4.1579	1.63305	0.005	0.147	0.135	497.1865	0.152
Cranes	2017	1001	9999	0.181003	0.152	2.32212	0.97429	0.005	0.057	0.053	498.2798	0.153
Cranes	2018	26	50	2.466121	2.072	6.00385	7.24744	0.005	0.624	0.574	538.1219	0.168
Cranes	2018	51	120	1.108698	0.932	7.93075	4.45237	0.005	0.583	0.536	488.1172	0.152
Cranes	2018	121	175	0.739223	0.621	6.5572	3.66571	0.005	0.351	0.323	493.0451	0.153
Cranes	2018	176	250	0.574877	0.483	5.77298	2.13445	0.005	0.25	0.23	491.4069	0.153
Cranes	2018	251	500	0.440014	0.37	4.63433	3.1871	0.005	0.187	0.172	490.8912	0.153
Cranes	2018	501	750	0.322048	0.271	3.7688	1.61304	0.005	0.137	0.126	489.0536	0.152
Cranes	2018	1001	9999	0.193147	0.162	2.33544	0.98282	0.005	0.058	0.054	490.4122	0.153
Cranes	2019	26	50	2.434147	2.045	5.95197	7.24465	0.005	0.615	0.566	529.4626	0.168
Cranes	2019	51	120	0.955908	0.803	6.95786	4.26491	0.005	0.5	0.46	480.3251	0.152
Cranes	2019	121	175	0.675554	0.568	5.94857	3.5982	0.005	0.318	0.292	485.1817	0.154
Cranes	2019	176	250	0.50769	0.427	5.0842	1.94079	0.005	0.216	0.198	483.4616	0.153
Cranes	2019	251	500	0.415431	0.349	4.29654	2.96893	0.005	0.173	0.159	483.1422	0.153
Cranes	2019	501	750	0.299943	0.252	3.42803	1.44568	0.005	0.124	0.114	481.1192	0.152
Cranes	2019	1001	9999	0.205078	0.172	2.34854	0.9912	0.005	0.059	0.055	482.5446	0.153
Cranes	2020	26	50	2.47956	2.084	5.98471	7.37625	0.005	0.624	0.574	517.9263	0.168
Cranes	2020	51	120	0.871016	0.732	6.38117	4.17141	0.005	0.453	0.417	469.8821	0.152
Cranes	2020	121	175	0.638941	0.537	5.5697	3.56232	0.005	0.298	0.274	474.5939	0.153
Cranes	2020	176	250	0.45669	0.384	4.56329	1.7904	0.005	0.188	0.173	472.9488	0.153
Cranes	2020	251	500	0.381547	0.321	3.86243	2.66037	0.005	0.155	0.142	472.5579	0.153
Cranes	2020	501	750	0.287724	0.242	3.10471	1.44353	0.005	0.116	0.107	470.4254	0.152
Cranes	2020	1001	9999	0.216797	0.182	2.3614	0.99943	0.005	0.06	0.056	472.0545	0.153
Cranes	2021	26	50	2.516467	2.115	6.01375	7.48883	0.005	0.631	0.581	517.8995	0.167
Cranes	2021	51	120	0.77522	0.651	5.73085	4.06507	0.005	0.398	0.366	469.8867	0.152
Cranes	2021	121	175	0.593174	0.498	5.1125	3.51648	0.005	0.273	0.251	474.5458	0.153
Cranes	2021	176	250	0.415905	0.349	4.10439	1.67824	0.005	0.167	0.153	472.9057	0.153
Cranes	2021	251	500	0.351498	0.295	3.44253	2.44833	0.005	0.139	0.127	472.4553	0.153
Cranes	2021	501	750	0.271141	0.228	2.72739	1.43956	0.005	0.107	0.098	470.5495	0.152
Cranes	2021	1001	9999	0.228304	0.192	2.37402	1.00751	0.005	0.061	0.056	472.0545	0.153
Cranes	2022	26	50	2.41359	2.028	5.8991	7.36828	0.005	0.603	0.555	517.8722	0.167
Cranes	2022	51	120	0.687651	0.578	5.14893	3.97198	0.005	0.346	0.318	469.9929	0.152
Cranes	2022	121	175	0.543527	0.457	4.6169	3.4753	0.005	0.246	0.227	474.5887	0.153
Cranes	2022	176	250	0.375691	0.316	3.54149	1.60164	0.005	0.147	0.135	472.9832	0.153
Cranes	2022	251	500	0.31051	0.261	2.89369	2.21201	0.005	0.117	0.108	472.1806	0.153
Cranes	2022	501	750	0.238348	0.2	2.25087	1.28309	0.005	0.089	0.082	470.4755	0.152
Cranes	2022	1001	9999	0.239599	0.201	2.38641	1.01544	0.005	0.062	0.057	472.0545	0.153
Cranes	2023	26	50	2.435567	2.047	5.9225	7.45254	0.005	0.608	0.559	517.8722	0.167
Cranes	2023	51	120	0.656595	0.552	4.87461	3.9444	0.005	0.323	0.297	469.8891	0.152
Cranes	2023	121	175	0.503663	0.423	4.22184	3.44284	0.005	0.224	0.206	474.595	0.153
Cranes	2023	176	250	0.353966	0.297	3.22938	1.55262	0.005	0.135	0.124	472.9738	0.153
Cranes	2023	251	500	0.281202	0.236	2.5105	2.01	0.005	0.102	0.093	472.294	0.153
Cranes	2023	501	750	0.23207	0.195	2.07257	1.28213	0.005	0.084	0.077	470.2508	0.152
Cranes	2023	1001	9999	0.250681	0.211	2.39857	1.02322	0.005	0.063	0.058	472.0545	0.153
Cranes	2024	26	50	2.304795	1.937	5.78796	7.26852	0.005	0.577	0.531	517.8722	0.167
Cranes	2024	51	120	0.623876	0.524	4.61888	3.90649	0.005	0.301	0.277	469.9032	0.152
Cranes	2024	121	175	0.453764	0.381	3.7029	3.3893	0.005	0.196	0.18	474.6358	0.154
Cranes	2024	176	250	0.334159	0.281	2.96596	1.50208	0.005	0.123	0.114	472.9638	0.153
Cranes	2024	251	500	0.274315	0.231	2.38291	1.93263	0.005	0.096	0.089	472.0664	0.153
Cranes	2024	501	750	0.227031	0.191	1.89979	1.28334	0.005	0.08	0.073	470.3306	0.152
Cranes	2024	1001	9999	0.261551	0.22	2.4105	1.03085	0.005	0.064	0.059	472.0545	0.153
Cranes	2025	26	50	2.155227	1.811	5.63562	7.07168	0.005	0.543	0.499	517.8722	0.167
Cranes	2025	51	120	0.551396	0.463	4.13532	3.83081	0.005	0.26	0.24	469.5332	0.152
Cranes	2025	121	175	0.397698	0.334	3.16038	3.33544	0.005	0.166	0.153	474.7477	0.154
Cranes	2025	176	250	0.31508	0.265	2.68128	1.4697	0.005	0.114	0.105	472.9798	0.153
Cranes	2025	251	500	0.259914	0.218	2.15424	1.83363	0.005	0.088	0.081	471.9671	0.153
Cranes	2025	501	750	0.204336	0.172	1.63763	1.27366	0.005	0.068	0.062	470.2756	0.152
Cranes	2025	1001	9999	0.272209	0.229	2.42219	1.03833	0.005	0.065	0.06	472.0545	0.153
Cranes	2030	26	50	1.788	0.684	3.598	5.366	0.007	0.075	0.075	568.299	0.061
Cranes	2030	51	120	1.941	0.343	1.987	3.812	0.006	0.067	0.067	568.299	0.03
Cranes	2030	121	175	2.293	0.253	0.916	3.356	0.006	0.042	0.042	568.299	0.022
Cranes	2030	176	250	2.835	0.224	0.748	1.147	0.006	0.024	0.024	568.299	0.02
Cranes	2030	251	500	4.512	0.222	0.697	1.09	0.005	0.023	0.023	568.299	0.02

Cranes	2030	501	750	7.602	0.222	0.709	1.09	0.005	0.024	0.024	568.3	0.02
Cranes	2030	1001	9999	26.83	0.245	2.8	1.108	0.005	0.043	0.043	568.299	0.022
Cranes	2035	26	50	1.568	0.6	3.401	5.292	0.007	0.039	0.039	568.299	0.054
Cranes	2035	51	120	1.696	0.3	1.676	3.801	0.006	0.036	0.036	568.3	0.027
Cranes	2035	121	175	1.923	0.212	0.519	3.357	0.006	0.024	0.024	568.299	0.019
Cranes	2035	176	250	2.568	0.203	0.463	1.143	0.006	0.016	0.016	568.299	0.018
Cranes	2035	251	500	4.111	0.202	0.441	1.087	0.005	0.016	0.016	568.299	0.018
Cranes	2035	501	750	6.923	0.202	0.446	1.087	0.005	0.016	0.016	568.299	0.018
Cranes	2035	1001	9999	22.949	0.209	2.618	1.089	0.005	0.031	0.031	568.299	0.018
Cranes	2040	26	50	1.483	0.567	3.324	5.268	0.007	0.024	0.024	568.299	0.051
Cranes	2040	51	120	1.598	0.282	1.552	3.797	0.006	0.021	0.021	568.299	0.025
Cranes	2040	121	175	1.79	0.197	0.371	3.358	0.006	0.016	0.016	568.299	0.017
Cranes	2040	176	250	2.465	0.195	0.344	1.144	0.006	0.013	0.013	568.299	0.017
Cranes	2040	251	500	3.958	0.195	0.34	1.087	0.005	0.013	0.013	568.299	0.017
Cranes	2040	501	750	6.661	0.195	0.341	1.087	0.005	0.013	0.013	568.299	0.017
Cranes	2040	1001	9999	21.703	0.198	2.534	1.087	0.005	0.027	0.027	568.299	0.017
Crawler Tractors	1990	26	50	11.254	4.903	7.983	9.907	0.871	1.291	1.291	568.299	0.442
Crawler Tractors	1990	51	120	14.413	2.374	14.967	5.73	0.791	1.353	1.353	568.299	0.214
Crawler Tractors	1990	121	175	19.335	1.729	13.979	5.079	0.758	0.962	0.962	568.299	0.156
Crawler Tractors	1990	176	250	26.505	1.729	13.979	5.079	0.758	0.962	0.962	568.299	0.156
Crawler Tractors	1990	251	500	36.545	1.528	13.238	11.319	0.662	0.822	0.822	568.3	0.137
Crawler Tractors	1990	501	750	65.509	1.528	13.238	11.319	1.018	0.837	0.837	568.299	0.137
Crawler Tractors	1990	751	1000	92.189	1.518	13.238	11.319	1.018	0.826	0.826	568.299	0.137
Crawler Tractors	2000	26	50	10.858	4.73	7.197	9.675	0.666	0.973	0.973	568.299	0.426
Crawler Tractors	2000	51	120	11.94	1.966	11.097	4.886	0.06	0.949	0.949	568.299	0.177
Crawler Tractors	2000	121	175	14.976	1.339	10.157	4.018	0.057	0.57	0.57	568.3	0.12
Crawler Tractors	2000	176	250	17.901	1.168	9.863	3.367	0.057	0.486	0.486	568.299	0.105
Crawler Tractors	2000	251	500	25.11	1.049	9.341	5.849	0.05	0.424	0.424	568.299	0.094
Crawler Tractors	2000	501	750	45.011	1.049	9.341	5.849	0.052	0.424	0.424	568.299	0.094
Crawler Tractors	2000	751	1000	66.528	1.095	9.844	6.349	0.052	0.407	0.407	568.299	0.098
Crawler Tractors	2005	26	50	9.923	4.323	6.809	9.124	0.066	0.919	0.919	568.299	0.39
Crawler Tractors	2005	51	120	10.68	1.759	9.75	4.63	0.06	0.903	0.903	568.299	0.158
Crawler Tractors	2005	121	175	13.006	1.163	8.886	3.749	0.057	0.513	0.513	568.299	0.104
Crawler Tractors	2005	176	250	13.95	0.91	8.523	2.557	0.057	0.371	0.371	568.299	0.082
Crawler Tractors	2005	251	500	19.249	0.804	7.791	3.945	0.05	0.326	0.326	568.299	0.072
Crawler Tractors	2005	501	750	34.852	0.813	7.93	3.938	0.052	0.328	0.328	568.299	0.073
Crawler Tractors	2005	751	1000	54.011	0.889	8.804	4.359	0.052	0.319	0.319	568.3	0.08
Crawler Tractors	2010	26	50	3.193884	2.684	6.54779	8.18872	0.005	0.785	0.722	572.972	0.167
Crawler Tractors	2010	51	120	1.069208	0.898	7.76656	4.10668	0.005	0.628	0.578	530.0152	0.154
Crawler Tractors	2010	121	175	0.755513	0.635	7.15822	3.40812	0.005	0.378	0.348	524.4997	0.153
Crawler Tractors	2010	176	250	0.540569	0.454	6.46768	1.89919	0.005	0.249	0.229	526.1431	0.153
Crawler Tractors	2010	251	500	0.491926	0.413	5.96739	3.0665	0.005	0.227	0.209	528.681	0.154
Crawler Tractors	2010	501	750	0.418044	0.351	5.31967	1.75694	0.005	0.189	0.174	525.9395	0.153
Crawler Tractors	2010	751	1000	0.545095	0.458	7.25547	2.04187	0.005	0.21	0.193	527.6019	0.154
Crawler Tractors	2011	26	50	3.090465	2.597	6.48764	8.06059	0.005	0.762	0.701	571.2544	0.167
Crawler Tractors	2011	51	120	1.055307	0.887	7.65924	4.11149	0.005	0.624	0.574	528.5468	0.154
Crawler Tractors	2011	121	175	0.753531	0.633	7.0937	3.422	0.005	0.378	0.347	523.1105	0.153
Crawler Tractors	2011	176	250	0.541549	0.455	6.42306	1.8844	0.005	0.248	0.228	524.8932	0.153
Crawler Tractors	2011	251	500	0.494702	0.416	5.91443	3.04503	0.005	0.226	0.208	527.4003	0.154
Crawler Tractors	2011	501	750	0.416615	0.35	5.23606	1.70832	0.005	0.186	0.171	524.9577	0.153
Crawler Tractors	2011	751	1000	0.550612	0.463	7.30105	2.05264	0.005	0.212	0.195	526.3508	0.154
Crawler Tractors	2012	26	50	3.127964	2.628	6.51312	8.16399	0.005	0.77	0.708	569.8895	0.167
Crawler Tractors	2012	51	120	1.066067	0.896	7.67928	4.14375	0.005	0.633	0.582	527.2248	0.154
Crawler Tractors	2012	121	175	0.762695	0.641	7.11308	3.4484	0.005	0.382	0.351	521.7707	0.153
Crawler Tractors	2012	176	250	0.549863	0.462	6.43904	1.8924	0.005	0.25	0.23	523.5287	0.153
Crawler Tractors	2012	251	500	0.502104	0.422	5.9107	3.05662	0.005	0.227	0.209	526.0223	0.154
Crawler Tractors	2012	501	750	0.425611	0.358	5.25574	1.71661	0.005	0.189	0.173	523.7088	0.153
Crawler Tractors	2012	751	1000	0.555874	0.467	7.34463	2.06265	0.005	0.214	0.197	525.1067	0.154
Crawler Tractors	2013	26	50	3.060938	2.572	6.42928	8.10275	0.005	0.753	0.692	567.3537	0.167
Crawler Tractors	2013	51	120	1.067402	0.897	7.64718	4.16448	0.005	0.636	0.585	524.5941	0.154
Crawler Tractors	2013	121	175	0.758762	0.638	7.02367	3.4566	0.005	0.38	0.349	519.0712	0.153
Crawler Tractors	2013	176	250	0.548046	0.461	6.36771	1.8715	0.005	0.247	0.227	520.7236	0.153
Crawler Tractors	2013	251	500	0.501212	0.421	5.82738	2.99715	0.005	0.225	0.207	523.5592	0.154
Crawler Tractors	2013	501	750	0.418079	0.351	5.09878	1.67885	0.005	0.183	0.168	520.5693	0.153
Crawler Tractors	2013	751	1000	0.560878	0.471	7.3862	2.07187	0.005	0.216	0.199	522.5513	0.154
Crawler Tractors	2014	26	50	3.000333	2.521	6.39578	8.04733	0.005	0.743	0.684	564.5641	0.167
Crawler Tractors	2014	51	120	1.051605	0.884	7.52434	4.16815	0.005	0.628	0.578	522.1187	0.154
Crawler Tractors	2014	121	175	0.748303	0.629	6.87548	3.45911	0.005	0.374	0.344	516.4039	0.153
Crawler Tractors	2014	176	250	0.54035	0.454	6.23751	1.83765	0.005	0.241	0.222	518.0363	0.153
Crawler Tractors	2014	251	500	0.490461	0.412	5.61601	2.91108	0.005	0.217	0.2	520.5153	0.154
Crawler Tractors	2014	501	750	0.412689	0.347	4.89468	1.67523	0.005	0.179	0.164	517.8612	0.153
Crawler Tractors	2014	751	1000	0.565619	0.475	7.42576	2.08028	0.005	0.218	0.201	520.0052	0.154
Crawler Tractors	2015	26	50	2.990271	2.513	6.37736	8.07628	0.005	0.741	0.682	558.8878	0.167
Crawler Tractors	2015	51	120	1.05262	0.884	7.4938	4.18907	0.005	0.63	0.58	516.8433	0.154
Crawler Tractors	2015	121	175	0.751623	0.632	6.84937	3.47922	0.005	0.376	0.346	511.3059	0.153
Crawler Tractors	2015	176	250	0.536796	0.451	6.14312	1.81586	0.005	0.237	0.218	512.8973	0.153
Crawler Tractors	2015	251	500	0.485596	0.408	5.48324	2.84505	0.005	0.212	0.195	515.3725	0.154
Crawler Tractors	2015	501	750	0.41802	0.351	4.88301	1.66415	0.005	0.179	0.165	512.5402	0.153
Crawler Tractors	2015	751	1000	0.570092	0.479	7.46329	2.08783	0.005	0.22	0.202	514.83	0.154
Crawler Tractors	2016	26	50	2.99791	2.519	6.31718	8.10441	0.005	0.733	0.674	553.214	0.167
Crawler Tractors	2016	51	120	1.034441	0.869	7.34589	4.18548	0.005	0.619	0.57	511.268	0.154
Crawler Tractors	2016	121	175	0.743125	0.624	6.7205	3.48211	0.005	0.371	0.341	506.0335	0.153
Crawler Tractors	2016	176	250	0.534039	0.449	6.04745	1.80295	0.005	0.233	0.215	507.355	0.153
Crawler Tractors	2016	251	500	0.473782	0.398	5.27907	2.74397	0.005	0.205	0.188	510.3385	0.154
Crawler Tractors	2016	501	750	0.41158	0.346	4.7238	1.6206	0.005	0.174	0.16	507.2527	0.153
Crawler Tractors	2016	751	1000	0.57429	0.483	7.4988	2.09448	0.005	0.222	0.204	509.6671	0.154
Crawler Tractors	2017	26	50	2.926516	2.459	6.20834	8.00596	0.005	0.712	0.655	544.6762	0.167
Crawler Tractors	2017	51	120	1.010844	0.849	7.141	4.17611	0.005	0.604	0.555	503.2791	0.154
Crawler Tractors	2017	121	175	0.731209	0.614	6.55188	3.48322	0.005	0.364	0.335	498.1245	0.153

Crawler Tractors	2017	176	250	0.511144	0.43	5.75969	1.7418	0.005	0.22	0.202	499.832	0.153
Crawler Tractors	2017	251	500	0.458057	0.385	5.02932	2.6349	0.005	0.195	0.179	502.422	0.154
Crawler Tractors	2017	501	750	0.386074	0.324	4.36108	1.5221	0.005	0.16	0.147	499.1046	0.153
Crawler Tractors	2017	751	1000	0.578206	0.486	7.53226	2.10018	0.005	0.223	0.205	501.8777	0.154
Crawler Tractors	2018	26	50	2.910335	2.445	6.16323	8.0094	0.005	0.704	0.647	536.1409	0.167
Crawler Tractors	2018	51	120	0.949614	0.798	6.72257	4.1231	0.005	0.566	0.52	494.9217	0.154
Crawler Tractors	2018	121	175	0.660412	0.555	5.8588	3.42131	0.005	0.325	0.299	490.0002	0.153
Crawler Tractors	2018	176	250	0.473989	0.398	5.28959	1.65354	0.005	0.2	0.184	491.606	0.153
Crawler Tractors	2018	251	500	0.409351	0.344	4.37324	2.38218	0.005	0.169	0.156	493.5104	0.154
Crawler Tractors	2018	501	750	0.351876	0.296	3.8336	1.4447	0.005	0.141	0.13	491.2659	0.153
Crawler Tractors	2018	751	1000	0.581827	0.489	7.56366	2.10483	0.005	0.225	0.207	494.1052	0.154
Crawler Tractors	2019	26	50	2.648469	2.225	5.85476	7.58896	0.005	0.64	0.589	525.9767	0.166
Crawler Tractors	2019	51	120	0.901167	0.757	6.39347	4.08842	0.005	0.535	0.492	486.9909	0.154
Crawler Tractors	2019	121	175	0.615173	0.517	5.38191	3.37886	0.005	0.3	0.276	481.6222	0.152
Crawler Tractors	2019	176	250	0.45175	0.38	4.9721	1.60445	0.005	0.187	0.172	483.4489	0.153
Crawler Tractors	2019	251	500	0.37933	0.319	3.93412	2.21938	0.005	0.153	0.141	485.8645	0.154
Crawler Tractors	2019	501	750	0.316919	0.266	3.34253	1.35585	0.005	0.123	0.113	483.3879	0.153
Crawler Tractors	2019	751	1000	0.547243	0.46	7.21215	2.02037	0.005	0.211	0.194	486.2545	0.154
Crawler Tractors	2020	26	50	2.443056	2.053	5.64276	7.3	0.005	0.591	0.544	515.679	0.167
Crawler Tractors	2020	51	120	0.850709	0.715	6.00933	4.04412	0.005	0.5	0.46	476.3284	0.154
Crawler Tractors	2020	121	175	0.566576	0.476	4.87226	3.33989	0.005	0.272	0.25	471.015	0.152
Crawler Tractors	2020	176	250	0.428471	0.36	4.63225	1.55491	0.005	0.175	0.161	472.941	0.153
Crawler Tractors	2020	251	500	0.358593	0.301	3.62175	2.0875	0.005	0.141	0.13	475.2338	0.154
Crawler Tractors	2020	501	750	0.304872	0.256	3.13716	1.31018	0.005	0.115	0.106	473.3119	0.153
Crawler Tractors	2020	751	1000	0.551035	0.463	7.23682	2.02764	0.005	0.212	0.195	475.6525	0.154
Crawler Tractors	2021	26	50	2.456387	2.064	5.61511	7.34869	0.005	0.591	0.543	516.1077	0.167
Crawler Tractors	2021	51	120	0.800723	0.673	5.65746	4.00549	0.005	0.466	0.428	476.437	0.154
Crawler Tractors	2021	121	175	0.518367	0.436	4.3947	3.30982	0.005	0.245	0.225	471.421	0.152
Crawler Tractors	2021	176	250	0.407794	0.343	4.33394	1.51456	0.005	0.163	0.15	472.9246	0.153
Crawler Tractors	2021	251	500	0.337066	0.283	3.27633	2.02434	0.005	0.129	0.119	474.4843	0.153
Crawler Tractors	2021	501	750	0.284829	0.239	2.82478	1.26985	0.005	0.104	0.095	473.0941	0.153
Crawler Tractors	2021	751	1000	0.475256	0.399	6.3992	1.89563	0.005	0.182	0.167	471.8224	0.153
Crawler Tractors	2022	26	50	2.25944	1.899	5.37962	7.04118	0.005	0.539	0.496	516.1476	0.167
Crawler Tractors	2022	51	120	0.714244	0.6	5.10103	3.92498	0.005	0.408	0.375	476.0219	0.154
Crawler Tractors	2022	121	175	0.463094	0.389	3.82659	3.26382	0.005	0.214	0.197	471.5674	0.153
Crawler Tractors	2022	176	250	0.364117	0.306	3.73672	1.43975	0.005	0.141	0.13	472.0975	0.153
Crawler Tractors	2022	251	500	0.30258	0.254	2.74435	1.91628	0.005	0.111	0.102	474.4115	0.153
Crawler Tractors	2022	501	750	0.235465	0.198	2.12552	1.18638	0.005	0.079	0.073	472.876	0.153
Crawler Tractors	2022	751	1000	0.424397	0.357	5.92299	1.73227	0.005	0.162	0.149	470.7007	0.152
Crawler Tractors	2023	26	50	2.228685	1.873	5.32514	7.02687	0.005	0.526	0.484	516.1587	0.167
Crawler Tractors	2023	51	120	0.663952	0.558	4.76208	3.88936	0.005	0.373	0.343	476.1575	0.154
Crawler Tractors	2023	121	175	0.41309	0.347	3.33004	3.23526	0.005	0.185	0.17	471.7805	0.153
Crawler Tractors	2023	176	250	0.328767	0.276	3.18735	1.39549	0.005	0.124	0.114	471.6244	0.153
Crawler Tractors	2023	251	500	0.286276	0.241	2.47635	1.85216	0.005	0.102	0.094	474.6128	0.153
Crawler Tractors	2023	501	750	0.218505	0.184	1.86667	1.15892	0.005	0.069	0.064	472.5297	0.153
Crawler Tractors	2023	751	1000	0.319268	0.268	4.76968	1.6104	0.005	0.118	0.109	473.6655	0.153
Crawler Tractors	2024	26	50	2.089827	1.756	4.97522	6.68497	0.005	0.466	0.429	515.4658	0.167
Crawler Tractors	2024	51	120	0.610839	0.513	4.40892	3.85173	0.005	0.335	0.309	476.2342	0.154
Crawler Tractors	2024	121	175	0.387606	0.326	3.04107	3.22706	0.005	0.17	0.157	471.8291	0.153
Crawler Tractors	2024	176	250	0.313897	0.264	2.95319	1.36992	0.005	0.115	0.105	471.8603	0.153
Crawler Tractors	2024	251	500	0.271114	0.228	2.2441	1.77984	0.005	0.093	0.085	474.025	0.153
Crawler Tractors	2024	501	750	0.215283	0.181	1.76658	1.15921	0.005	0.066	0.061	472.2827	0.153
Crawler Tractors	2024	751	1000	0.313081	0.263	4.68945	1.58774	0.005	0.115	0.106	474.6448	0.154
Crawler Tractors	2025	26	50	2.075042	1.744	4.93567	6.68642	0.005	0.456	0.42	516.1279	0.167
Crawler Tractors	2025	51	120	0.540303	0.454	3.96126	3.78839	0.005	0.285	0.262	476.1336	0.154
Crawler Tractors	2025	121	175	0.354345	0.298	2.68768	3.20909	0.005	0.15	0.138	471.5923	0.153
Crawler Tractors	2025	176	250	0.276616	0.232	2.46158	1.30849	0.005	0.096	0.088	471.6224	0.153
Crawler Tractors	2025	251	500	0.247477	0.208	1.92007	1.71697	0.005	0.081	0.074	474.0072	0.153
Crawler Tractors	2025	501	750	0.198724	0.167	1.54452	1.12199	0.005	0.057	0.052	472.4081	0.153
Crawler Tractors	2025	751	1000	0.308836	0.26	4.59799	1.59298	0.005	0.111	0.103	475.4901	0.154
Crawler Tractors	2030	26	50	1.912	0.833	3.808	5.605	0.007	0.116	0.116	568.299	0.075
Crawler Tractors	2030	51	120	2.461	0.405	2.341	3.871	0.006	0.105	0.105	568.299	0.036
Crawler Tractors	2030	121	175	3.315	0.296	1.266	3.397	0.006	0.065	0.065	568.299	0.026
Crawler Tractors	2030	176	250	4.019	0.262	1.104	1.207	0.006	0.04	0.04	568.299	0.023
Crawler Tractors	2030	251	500	6.146	0.257	1.016	1.2	0.005	0.038	0.038	568.299	0.023
Crawler Tractors	2030	501	750	11.033	0.257	1.033	1.2	0.005	0.038	0.038	568.299	0.023
Crawler Tractors	2030	751	1000	16.147	0.265	3.094	1.225	0.005	0.056	0.056	568.3	0.023
Crawler Tractors	2035	26	50	1.626	0.708	3.558	5.493	0.007	0.066	0.066	568.299	0.063
Crawler Tractors	2035	51	120	2.099	0.345	1.922	3.85	0.006	0.06	0.06	568.299	0.031
Crawler Tractors	2035	121	175	2.772	0.247	0.794	3.391	0.006	0.038	0.038	568.299	0.022
Crawler Tractors	2035	176	250	3.521	0.229	0.695	1.182	0.006	0.026	0.026	568.299	0.02
Crawler Tractors	2035	251	500	5.432	0.227	0.657	1.145	0.005	0.025	0.025	568.299	0.02
Crawler Tractors	2035	501	750	9.744	0.227	0.664	1.145	0.005	0.025	0.025	568.299	0.02
Crawler Tractors	2035	751	1000	14.073	0.231	2.792	1.159	0.005	0.041	0.041	568.299	0.02
Crawler Tractors	2040	26	50	1.499	0.653	3.42	5.443	0.007	0.042	0.042	568.299	0.058
Crawler Tractors	2040	51	120	1.924	0.316	1.709	3.839	0.006	0.039	0.039	568.299	0.028
Crawler Tractors	2040	121	175	2.48	0.221	0.539	3.388	0.006	0.025	0.025	568.299	0.02
Crawler Tractors	2040	176	250	3.247	0.211	0.491	1.167	0.006	0.018	0.018	568.299	0.019
Crawler Tractors	2040	251	500	5.035	0.21	0.47	1.113	0.005	0.018	0.018	568.299	0.018
Crawler Tractors	2040	501	750	9.03	0.21	0.475	1.113	0.005	0.018	0.018	568.299	0.019
Crawler Tractors	2040	751	1000	12.945	0.213	2.652	1.122	0.005	0.032	0.032	568.299	0.019
Crushing/Proc. Equipment	1990	26	50	11.643	4.43	7.809	9.044	0.871	1.194	1.194	568.299	0.399
Crushing/Proc. Equipment	1990	51	120	11.193	2.255	14.555	5.547	0.791	1.258	1.258	568.299	0.203
Crushing/Proc. Equipment	1990	121	175	15.383	1.54	13.086	4.913	0.758	0.834	0.834	568.299	0.138
Crushing/Proc. Equipment	1990	176	250	22.49	1.54	13.086	4.913	0.758	0.834	0.834	568.299	0.138
Crushing/Proc. Equipment	1990	251	500	30.672	1.374	12.492	10.176	0.662	0.724	0.724	568.299	0.124
Crushing/Proc. Equipment	1990	501	750	48.337	1.374	12.492	10.175	1.018	0.737	0.737	568.299	0.124
Crushing/Proc. Equipment	1990	1001	9999	106.942	1.369	12.492	10.175	1.018	0.731	0.731	568.299	0.123
Crushing/Proc. Equipment	2000	26	50	10.827	4.12	6.954	8.551	0.066	0.876	0.876	568.299	0.371

Crushing/Proc. Equipment	2000	51	120	8.945	1.802	10.363	4.594	0.06	0.857	0.857	568.299	0.162
Crushing/Proc. Equipment	2000	121	175	12.05	1.206	9.416	3.737	0.057	0.506	0.506	568.299	0.108
Crushing/Proc. Equipment	2000	176	250	14.723	1.008	9.058	2.963	0.057	0.414	0.414	568.299	0.09
Crushing/Proc. Equipment	2000	251	500	20.487	0.918	8.658	5.011	0.05	0.366	0.366	568.299	0.082
Crushing/Proc. Equipment	2000	501	750	30.946	0.88	8.459	4.658	0.052	0.348	0.348	568.299	0.079
Crushing/Proc. Equipment	2000	1001	9999	77.281	0.989	9.138	5.329	0.052	0.37	0.37	568.299	0.089
Crushing/Proc. Equipment	2005	26	50	9.624	3.662	6.477	7.904	0.066	0.812	0.812	568.3	0.33
Crushing/Proc. Equipment	2005	51	120	7.644	1.54	8.68	4.24	0.06	0.794	0.794	568.299	0.138
Crushing/Proc. Equipment	2005	121	175	10.064	1.007	7.941	3.372	0.057	0.438	0.438	568.299	0.09
Crushing/Proc. Equipment	2005	176	250	10.399	0.712	7.484	1.97	0.057	0.282	0.282	568.299	0.064
Crushing/Proc. Equipment	2005	251	500	14.029	0.628	6.846	2.549	0.05	0.252	0.252	568.299	0.056
Crushing/Proc. Equipment	2005	501	750	22.225	0.632	6.974	2.431	0.052	0.249	0.249	568.299	0.057
Crushing/Proc. Equipment	2005	1001	9999	60.257	0.771	8.054	3.042	0.052	0.268	0.268	568.299	0.069
Crushing/Proc. Equipment	2010	26	50	7.704	2.931	6.068	7.22	0.007	0.671	0.671	568.299	0.264
Crushing/Proc. Equipment	2010	51	120	5.971	1.203	7.096	4.071	0.006	0.656	0.656	568.299	0.108
Crushing/Proc. Equipment	2010	121	175	8.033	0.804	6.322	3.307	0.006	0.362	0.362	568.299	0.072
Crushing/Proc. Equipment	2010	176	250	7.61	0.521	5.918	1.446	0.006	0.195	0.195	568.299	0.047
Crushing/Proc. Equipment	2010	251	500	10.487	0.47	5.248	1.603	0.005	0.18	0.18	568.299	0.042
Crushing/Proc. Equipment	2010	501	750	16.814	0.478	5.449	1.568	0.005	0.183	0.183	568.299	0.043
Crushing/Proc. Equipment	2010	1001	9999	46.933	0.601	6.987	2.091	0.005	0.209	0.209	568.299	0.054
Crushing/Proc. Equipment	2011	26	50	7.155	2.722	5.972	6.995	0.007	0.636	0.636	568.299	0.245
Crushing/Proc. Equipment	2011	51	120	5.588	1.125	6.704	4.03	0.006	0.625	0.625	568.3	0.101
Crushing/Proc. Equipment	2011	121	175	7.581	0.759	5.953	3.294	0.006	0.347	0.347	568.299	0.068
Crushing/Proc. Equipment	2011	176	250	7.059	0.483	5.498	1.356	0.006	0.175	0.175	568.299	0.043
Crushing/Proc. Equipment	2011	251	500	9.796	0.439	4.858	1.462	0.005	0.162	0.162	568.299	0.039
Crushing/Proc. Equipment	2011	501	750	15.681	0.446	5.054	1.435	0.005	0.165	0.165	568.299	0.04
Crushing/Proc. Equipment	2011	1001	9999	44.108	0.564	6.609	1.923	0.005	0.196	0.196	568.299	0.05
Crushing/Proc. Equipment	2012	26	50	6.538	2.488	5.867	6.733	0.007	0.596	0.596	568.299	0.224
Crushing/Proc. Equipment	2012	51	120	5.173	1.042	6.269	3.984	0.006	0.582	0.582	568.299	0.094
Crushing/Proc. Equipment	2012	121	175	7.084	0.709	5.553	3.28	0.006	0.321	0.321	568.299	0.064
Crushing/Proc. Equipment	2012	176	250	6.627	0.453	5.088	1.299	0.006	0.158	0.158	568.299	0.04
Crushing/Proc. Equipment	2012	251	500	9.273	0.415	4.48	1.362	0.005	0.147	0.147	568.3	0.037
Crushing/Proc. Equipment	2012	501	750	14.786	0.42	4.662	1.341	0.005	0.15	0.15	568.299	0.037
Crushing/Proc. Equipment	2012	1001	9999	41.105	0.526	6.197	1.755	0.005	0.182	0.182	568.299	0.047
Crushing/Proc. Equipment	2013	26	50	5.908	2.248	5.628	6.467	0.007	0.545	0.545	568.299	0.202
Crushing/Proc. Equipment	2013	51	120	4.758	0.958	5.845	3.94	0.006	0.532	0.532	568.299	0.086
Crushing/Proc. Equipment	2013	121	175	6.588	0.659	5.177	3.267	0.006	0.293	0.293	568.299	0.059
Crushing/Proc. Equipment	2013	176	250	6.27	0.429	4.695	1.26	0.006	0.144	0.144	568.299	0.038
Crushing/Proc. Equipment	2013	251	500	8.85	0.396	4.121	1.289	0.005	0.134	0.134	568.299	0.035
Crushing/Proc. Equipment	2013	501	750	14.055	0.399	4.285	1.273	0.005	0.136	0.136	568.299	0.036
Crushing/Proc. Equipment	2013	1001	9999	38.235	0.489	5.785	1.599	0.005	0.168	0.168	568.299	0.044
Crushing/Proc. Equipment	2014	26	50	5.288	2.012	5.399	6.212	0.007	0.494	0.494	568.299	0.181
Crushing/Proc. Equipment	2014	51	120	4.356	0.877	5.468	3.898	0.006	0.481	0.481	568.299	0.079
Crushing/Proc. Equipment	2014	121	175	6.112	0.612	4.823	3.256	0.006	0.265	0.265	568.299	0.055
Crushing/Proc. Equipment	2014	176	250	5.916	0.405	4.239	1.228	0.006	0.13	0.13	568.299	0.036
Crushing/Proc. Equipment	2014	251	500	8.415	0.377	3.702	1.23	0.005	0.121	0.121	568.299	0.034
Crushing/Proc. Equipment	2014	501	750	13.314	0.378	3.844	1.218	0.005	0.123	0.123	568.299	0.034
Crushing/Proc. Equipment	2014	1001	9999	35.652	0.456	5.391	1.46	0.005	0.155	0.155	568.299	0.041
Crushing/Proc. Equipment	2015	26	50	4.722	1.796	5.195	5.996	0.007	0.446	0.446	568.299	0.162
Crushing/Proc. Equipment	2015	51	120	3.959	0.797	5.04	3.859	0.006	0.43	0.43	568.299	0.071
Crushing/Proc. Equipment	2015	121	175	5.614	0.562	4.343	3.247	0.006	0.237	0.237	568.299	0.05
Crushing/Proc. Equipment	2015	176	250	5.585	0.382	3.801	1.201	0.006	0.117	0.117	568.299	0.034
Crushing/Proc. Equipment	2015	251	500	8	0.358	3.304	1.184	0.005	0.109	0.109	568.299	0.032
Crushing/Proc. Equipment	2015	501	750	12.614	0.358	3.422	1.176	0.005	0.111	0.111	568.299	0.032
Crushing/Proc. Equipment	2015	1001	9999	32.981	0.422	5.019	1.343	0.005	0.14	0.14	568.299	0.038
Crushing/Proc. Equipment	2016	26	50	4.186	1.593	5.006	5.801	0.007	0.399	0.399	568.299	0.143
Crushing/Proc. Equipment	2016	51	120	3.576	0.72	4.631	3.823	0.006	0.379	0.379	568.299	0.065
Crushing/Proc. Equipment	2016	121	175	5.132	0.513	3.883	3.241	0.006	0.21	0.21	568.299	0.046
Crushing/Proc. Equipment	2016	176	250	5.267	0.36	3.381	1.178	0.006	0.105	0.105	568.299	0.032
Crushing/Proc. Equipment	2016	251	500	7.601	0.34	2.928	1.146	0.005	0.098	0.098	568.299	0.03
Crushing/Proc. Equipment	2016	501	750	11.944	0.339	3.021	1.14	0.005	0.099	0.099	568.299	0.03
Crushing/Proc. Equipment	2016	1001	9999	31.036	0.397	4.7	1.274	0.005	0.127	0.127	568.299	0.035
Crushing/Proc. Equipment	2017	26	50	3.684	1.402	4.827	5.623	0.007	0.354	0.354	568.299	0.126
Crushing/Proc. Equipment	2017	51	120	3.216	0.647	4.244	3.791	0.006	0.33	0.33	568.299	0.058
Crushing/Proc. Equipment	2017	121	175	4.681	0.468	3.45	3.236	0.006	0.185	0.185	568.299	0.042
Crushing/Proc. Equipment	2017	176	250	4.974	0.34	2.987	1.16	0.006	0.094	0.094	568.299	0.03
Crushing/Proc. Equipment	2017	251	500	7.242	0.324	2.602	1.118	0.005	0.088	0.088	568.299	0.029
Crushing/Proc. Equipment	2017	501	750	11.359	0.323	2.664	1.114	0.005	0.088	0.088	568.299	0.029
Crushing/Proc. Equipment	2017	1001	9999	29.544	0.378	4.423	1.231	0.005	0.117	0.117	568.299	0.034
Crushing/Proc. Equipment	2018	26	50	3.219	1.225	4.657	5.461	0.007	0.31	0.31	568.299	0.11
Crushing/Proc. Equipment	2018	51	120	2.881	0.58	3.881	3.763	0.006	0.284	0.284	568.299	0.052
Crushing/Proc. Equipment	2018	121	175	4.267	0.427	3.049	3.234	0.006	0.161	0.161	568.299	0.038
Crushing/Proc. Equipment	2018	176	250	4.701	0.322	2.622	1.146	0.006	0.083	0.083	568.299	0.029
Crushing/Proc. Equipment	2018	251	500	6.912	0.309	2.312	1.099	0.005	0.079	0.079	568.299	0.027
Crushing/Proc. Equipment	2018	501	750	10.84	0.308	2.358	1.097	0.005	0.079	0.079	568.299	0.027
Crushing/Proc. Equipment	2018	1001	9999	28.23	0.361	4.168	1.198	0.005	0.107	0.107	568.299	0.032
Crushing/Proc. Equipment	2019	26	50	2.798	1.064	4.495	5.316	0.007	0.269	0.269	568.299	0.096
Crushing/Proc. Equipment	2019	51	120	2.577	0.519	3.544	3.739	0.006	0.241	0.241	568.299	0.046
Crushing/Proc. Equipment	2019	121	175	3.938	0.394	2.7	3.233	0.006	0.141	0.141	568.299	0.035
Crushing/Proc. Equipment	2019	176	250	4.451	0.304	2.3	1.134	0.006	0.074	0.074	568.299	0.027
Crushing/Proc. Equipment	2019	251	500	6.592	0.295	2.046	1.087	0.005	0.071	0.071	568.299	0.026
Crushing/Proc. Equipment	2019	501	750	10.352	0.294	2.085	1.085	0.005	0.071	0.071	568.299	0.026
Crushing/Proc. Equipment	2019	1001	9999	26.978	0.345	3.927	1.173	0.005	0.098	0.098	568.299	0.031
Crushing/Proc. Equipment	2020	26	50	2.489	0.947	4.347	5.211	0.007	0.233	0.233	568.299	0.085
Crushing/Proc. Equipment	2020	51	120	2.348	0.473	3.249	3.722	0.006	0.206	0.206	568.299	0.042
Crushing/Proc. Equipment	2020	121	175	3.673	0.367	2.392	3.234	0.006	0.124	0.124	568.299	0.033
Crushing/Proc. Equipment	2020	176	250	4.222	0.289	2.014	1.125	0.006	0.065	0.065	568.299	0.026
Crushing/Proc. Equipment	2020	251	500	6.283	0.281	1.799	1.078	0.005	0.063	0.063	568.299	0.025
Crushing/Proc. Equipment	2020	501	750	9.884	0.281	1.835	1.077	0.005	0.063	0.063	568.299	0.025

Crushing/Proc. Equipment	2020	1001	9999	25.755	0.329	3.699	1.153	0.005	0.089	0.089	568.299	0.029
Crushing/Proc. Equipment	2021	26	50	2.265	0.862	4.211	5.136	0.007	0.201	0.201	568.299	0.077
Crushing/Proc. Equipment	2021	51	120	2.176	0.438	2.989	3.711	0.006	0.178	0.178	568.299	0.039
Crushing/Proc. Equipment	2021	121	175	3.442	0.344	2.114	3.235	0.006	0.109	0.109	568.299	0.031
Crushing/Proc. Equipment	2021	176	250	4.009	0.274	1.756	1.119	0.006	0.057	0.057	568.299	0.024
Crushing/Proc. Equipment	2021	251	500	5.988	0.268	1.574	1.072	0.005	0.055	0.055	568.3	0.024
Crushing/Proc. Equipment	2021	501	750	9.434	0.268	1.606	1.072	0.005	0.055	0.055	568.299	0.024
Crushing/Proc. Equipment	2021	1001	9999	24.586	0.314	3.487	1.136	0.005	0.08	0.08	568.299	0.028
Crushing/Proc. Equipment	2022	26	50	2.09	0.795	4.083	5.081	0.007	0.172	0.172	568.299	0.071
Crushing/Proc. Equipment	2022	51	120	2.036	0.41	2.758	3.704	0.006	0.154	0.154	568.299	0.037
Crushing/Proc. Equipment	2022	121	175	3.231	0.323	1.861	3.237	0.006	0.095	0.095	568.299	0.029
Crushing/Proc. Equipment	2022	176	250	3.808	0.26	1.521	1.114	0.006	0.05	0.05	568.299	0.023
Crushing/Proc. Equipment	2022	251	500	5.706	0.255	1.389	1.067	0.005	0.048	0.048	568.299	0.023
Crushing/Proc. Equipment	2022	501	750	9.002	0.256	1.416	1.067	0.005	0.048	0.048	568.299	0.023
Crushing/Proc. Equipment	2022	1001	9999	23.492	0.3	3.31	1.121	0.005	0.073	0.073	568.299	0.027
Crushing/Proc. Equipment	2023	26	50	1.944	0.739	3.962	5.039	0.007	0.146	0.146	568.299	0.066
Crushing/Proc. Equipment	2023	51	120	1.914	0.385	2.552	3.7	0.006	0.132	0.132	568.299	0.034
Crushing/Proc. Equipment	2023	121	175	3.042	0.304	1.654	3.24	0.006	0.083	0.083	568.299	0.027
Crushing/Proc. Equipment	2023	176	250	3.623	0.248	1.33	1.111	0.006	0.043	0.043	568.299	0.022
Crushing/Proc. Equipment	2023	251	500	5.444	0.244	1.227	1.064	0.005	0.042	0.042	568.299	0.022
Crushing/Proc. Equipment	2023	501	750	8.598	0.244	1.251	1.065	0.005	0.042	0.042	568.3	0.022
Crushing/Proc. Equipment	2023	1001	9999	22.463	0.287	3.16	1.107	0.005	0.066	0.066	568.299	0.025
Crushing/Proc. Equipment	2024	26	50	1.825	0.694	3.85	5.008	0.007	0.125	0.125	568.299	0.062
Crushing/Proc. Equipment	2024	51	120	1.81	0.364	2.389	3.697	0.006	0.112	0.112	568.299	0.032
Crushing/Proc. Equipment	2024	121	175	2.866	0.287	1.472	3.243	0.006	0.071	0.071	568.299	0.025
Crushing/Proc. Equipment	2024	176	250	3.448	0.236	1.165	1.109	0.006	0.036	0.036	568.299	0.021
Crushing/Proc. Equipment	2024	251	500	5.193	0.232	1.077	1.062	0.005	0.035	0.035	568.299	0.021
Crushing/Proc. Equipment	2024	501	750	8.207	0.233	1.098	1.063	0.005	0.036	0.036	568.299	0.021
Crushing/Proc. Equipment	2024	1001	9999	21.454	0.274	3.029	1.096	0.005	0.059	0.059	568.299	0.024
Crushing/Proc. Equipment	2025	26	50	1.724	0.656	3.742	4.982	0.007	0.107	0.107	568.299	0.059
Crushing/Proc. Equipment	2025	51	120	1.716	0.345	2.248	3.694	0.006	0.095	0.095	568.299	0.031
Crushing/Proc. Equipment	2025	121	175	2.696	0.27	1.301	3.246	0.006	0.06	0.06	568.299	0.024
Crushing/Proc. Equipment	2025	176	250	3.279	0.224	1.012	1.108	0.006	0.031	0.031	568.299	0.02
Crushing/Proc. Equipment	2025	251	500	4.95	0.221	0.937	1.061	0.005	0.03	0.03	568.299	0.02
Crushing/Proc. Equipment	2025	501	750	7.826	0.222	0.955	1.061	0.005	0.03	0.03	568.299	0.02
Crushing/Proc. Equipment	2025	1001	9999	20.429	0.261	2.91	1.087	0.005	0.053	0.053	568.299	0.023
Crushing/Proc. Equipment	2030	26	50	1.381	0.525	3.351	4.857	0.007	0.043	0.043	568.299	0.047
Crushing/Proc. Equipment	2030	51	120	1.35	0.272	1.708	3.673	0.006	0.038	0.038	568.299	0.024
Crushing/Proc. Equipment	2030	121	175	1.976	0.197	0.6	3.244	0.006	0.025	0.025	568.299	0.017
Crushing/Proc. Equipment	2030	176	250	2.701	0.185	0.502	1.105	0.006	0.017	0.017	568.299	0.016
Crushing/Proc. Equipment	2030	251	500	4.113	0.184	0.476	1.058	0.005	0.017	0.017	568.299	0.016
Crushing/Proc. Equipment	2030	501	750	6.473	0.184	0.478	1.058	0.005	0.017	0.017	568.299	0.016
Crushing/Proc. Equipment	2030	1001	9999	15.345	0.196	2.59	1.059	0.005	0.032	0.032	568.299	0.017
Crushing/Proc. Equipment	2035	26	50	1.282	0.487	3.237	4.819	0.007	0.023	0.023	568.299	0.044
Crushing/Proc. Equipment	2035	51	120	1.236	0.249	1.531	3.665	0.006	0.02	0.02	568.299	0.022
Crushing/Proc. Equipment	2035	121	175	1.76	0.176	0.382	3.242	0.006	0.015	0.015	568.299	0.015
Crushing/Proc. Equipment	2035	176	250	2.521	0.172	0.342	1.104	0.006	0.012	0.012	568.3	0.015
Crushing/Proc. Equipment	2035	251	500	3.852	0.172	0.338	1.058	0.005	0.012	0.012	568.299	0.015
Crushing/Proc. Equipment	2035	501	750	6.064	0.172	0.338	1.058	0.005	0.012	0.012	568.299	0.015
Crushing/Proc. Equipment	2035	1001	9999	13.865	0.177	2.482	1.058	0.005	0.026	0.026	568.299	0.016
Crushing/Proc. Equipment	2040	26	50	1.284	0.488	3.194	4.833	0.007	0.017	0.017	568.299	0.044
Crushing/Proc. Equipment	2040	51	120	1.219	0.245	1.477	3.67	0.006	0.015	0.015	568.299	0.022
Crushing/Proc. Equipment	2040	121	175	1.698	0.17	0.306	3.246	0.006	0.012	0.012	568.299	0.015
Crushing/Proc. Equipment	2040	176	250	2.464	0.168	0.292	1.106	0.006	0.011	0.011	568.299	0.015
Crushing/Proc. Equipment	2040	251	500	3.766	0.168	0.292	1.059	0.005	0.011	0.011	568.299	0.015
Crushing/Proc. Equipment	2040	501	750	5.941	0.169	0.292	1.059	0.005	0.011	0.011	568.299	0.015
Crushing/Proc. Equipment	2040	1001	9999	13.333	0.17	2.457	1.059	0.005	0.024	0.024	568.299	0.015
Dumpers/Tenders	1990	16	25	2.645	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Dumpers/Tenders	2000	16	25	2.444	2.045	6.397	4.69	0.065	0.571	0.571	568.299	0.184
Dumpers/Tenders	2005	16	25	1.554	1.3	5.74	3.337	0.065	0.426	0.426	568.299	0.117
Dumpers/Tenders	2010	16	25	0.963	0.806	4.804	2.507	0.007	0.271	0.271	568.299	0.072
Dumpers/Tenders	2011	16	25	0.921	0.771	4.686	2.456	0.007	0.251	0.251	568.299	0.069
Dumpers/Tenders	2012	16	25	0.887	0.742	4.576	2.416	0.007	0.232	0.232	568.299	0.066
Dumpers/Tenders	2013	16	25	0.86	0.719	4.477	2.385	0.007	0.216	0.216	568.3	0.064
Dumpers/Tenders	2014	16	25	0.842	0.705	4.433	2.364	0.007	0.2	0.2	568.3	0.063
Dumpers/Tenders	2015	16	25	0.831	0.696	4.402	2.35	0.007	0.187	0.187	568.299	0.062
Dumpers/Tenders	2016	16	25	0.825	0.69	4.378	2.342	0.007	0.175	0.175	568.299	0.062
Dumpers/Tenders	2017	16	25	0.821	0.687	4.362	2.34	0.007	0.171	0.171	568.299	0.062
Dumpers/Tenders	2018	16	25	0.82	0.686	4.35	2.339	0.007	0.169	0.169	568.299	0.061
Dumpers/Tenders	2019	16	25	0.82	0.686	4.341	2.339	0.007	0.167	0.167	568.299	0.061
Dumpers/Tenders	2020	16	25	0.819	0.685	4.336	2.339	0.007	0.165	0.165	568.299	0.061
Dumpers/Tenders	2021	16	25	0.819	0.685	4.333	2.339	0.007	0.163	0.163	568.299	0.061
Dumpers/Tenders	2022	16	25	0.819	0.685	4.332	2.339	0.007	0.162	0.162	568.299	0.061
Dumpers/Tenders	2023	16	25	0.819	0.685	4.332	2.339	0.007	0.162	0.162	568.299	0.061
Dumpers/Tenders	2024	16	25	0.819	0.685	4.332	2.34	0.007	0.161	0.161	568.299	0.061
Dumpers/Tenders	2025	16	25	0.819	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Dumpers/Tenders	2030	16	25	0.819	0.685	4.332	2.34	0.007	0.161	0.161	568.299	0.061
Dumpers/Tenders	2035	16	25	0.819	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Dumpers/Tenders	2040	16	25	0.819	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Excavators	1990	16	25	5.933	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Excavators	1990	26	50	21.032	5.155	8.08	10.359	0.871	1.341	1.341	568.299	0.465
Excavators	1990	51	120	29.647	2.469	15.421	5.901	0.791	1.413	1.413	568.299	0.222
Excavators	1990	121	175	35.634	1.947	15.075	5.271	0.758	1.096	1.096	568.299	0.175
Excavators	1990	176	250	50.388	1.947	15.075	5.271	0.758	1.096	1.096	568.299	0.175
Excavators	1990	251	500	65.206	1.71	14.225	12.155	0.662	0.93	0.93	568.3	0.154
Excavators	1990	501	750	108.079	1.71	14.225	12.155	1.018	0.947	0.947	568.299	0.154
Excavators	2000	16	25	4.937	1.841	6.281	4.315	0.065	0.543	0.543	568.299	0.166
Excavators	2000	26	50	18.836	4.616	7.102	9.494	0.066	0.958	0.958	568.299	0.416
Excavators	2000	51	120	21.925	1.826	10.156	4.602	0.06	0.913	0.913	568.299	0.164

Excavators	2000	121	175	22.624	1.236	9.345	3.672	0.057	0.525	0.525	568.299	0.111
Excavators	2000	176	250	25.927	1.001	8.952	2.794	0.057	0.409	0.409	568.299	0.09
Excavators	2000	251	500	34.719	0.91	8.491	3.974	0.05	0.362	0.362	568.299	0.082
Excavators	2000	501	750	57.546	0.91	8.491	3.974	0.052	0.362	0.362	568.299	0.082
Excavators	2005	16	25	2.091	0.779	5.219	2.397	0.065	0.319	0.319	568.299	0.07
Excavators	2005	26	50	16.217	3.974	6.562	8.597	0.066	0.871	0.871	568.299	0.358
Excavators	2005	51	120	19.001	1.582	8.632	4.354	0.06	0.853	0.853	568.299	0.142
Excavators	2005	121	175	18.9	1.032	7.905	3.452	0.057	0.461	0.461	568.299	0.093
Excavators	2005	176	250	18.379	0.71	7.456	1.892	0.057	0.276	0.276	568.299	0.064
Excavators	2005	251	500	24.005	0.629	6.685	2.194	0.05	0.248	0.248	568.299	0.056
Excavators	2005	501	750	40.443	0.64	6.888	2.192	0.052	0.251	0.251	568.299	0.057
Excavators	2010	16	25	0.993664	0.835	5.19123	4.56926	0.005	0.413	0.38	584.0737	0.17
Excavators	2010	26	50	0.993664	0.835	5.19123	4.56926	0.005	0.413	0.38	584.0737	0.17
Excavators	2010	51	120	0.73275	0.616	6.10169	3.69337	0.005	0.469	0.432	518.9941	0.151
Excavators	2010	121	175	0.572846	0.481	5.82964	3.1674	0.005	0.299	0.275	525.0484	0.153
Excavators	2010	176	250	0.422004	0.355	5.78636	1.45526	0.005	0.182	0.167	525.2427	0.153
Excavators	2010	251	500	0.315965	0.265	4.38582	1.44794	0.005	0.143	0.132	522.2909	0.152
Excavators	2010	501	750	0.327987	0.276	4.52996	1.53784	0.005	0.149	0.137	520.4269	0.151
Excavators	2011	16	25	0.999474	0.84	5.21824	4.67202	0.005	0.413	0.38	582.8586	0.17
Excavators	2011	26	50	0.999474	0.84	5.21824	4.67202	0.005	0.413	0.38	582.8586	0.17
Excavators	2011	51	120	0.675188	0.567	5.70006	3.65807	0.005	0.436	0.401	517.4139	0.151
Excavators	2011	121	175	0.533269	0.448	5.44943	3.15702	0.005	0.278	0.255	523.5178	0.153
Excavators	2011	176	250	0.400356	0.336	5.41822	1.41809	0.005	0.171	0.157	523.6886	0.153
Excavators	2011	251	500	0.303301	0.255	4.1131	1.41288	0.005	0.133	0.123	521.2972	0.152
Excavators	2011	501	750	0.326107	0.274	4.42127	1.47034	0.005	0.146	0.134	519.1221	0.151
Excavators	2012	16	25	1.018057	0.855	5.19511	4.79179	0.005	0.412	0.379	581.4648	0.17
Excavators	2012	26	50	1.018057	0.855	5.19511	4.79179	0.005	0.412	0.379	581.4648	0.17
Excavators	2012	51	120	0.67458	0.567	5.63138	3.68099	0.005	0.434	0.399	516.083	0.151
Excavators	2012	121	175	0.534632	0.449	5.38897	3.17839	0.005	0.275	0.253	522.0959	0.153
Excavators	2012	176	250	0.402641	0.338	5.32577	1.42562	0.005	0.169	0.155	522.4958	0.153
Excavators	2012	251	500	0.308496	0.259	4.05714	1.4255	0.005	0.131	0.121	520.034	0.152
Excavators	2012	501	750	0.334165	0.281	4.3898	1.47962	0.005	0.145	0.134	517.8167	0.151
Excavators	2013	16	25	0.995402	0.836	5.0526	4.80774	0.005	0.393	0.362	578.236	0.17
Excavators	2013	26	50	0.995402	0.836	5.0526	4.80774	0.005	0.393	0.362	578.236	0.17
Excavators	2013	51	120	0.639011	0.537	5.3703	3.66866	0.005	0.404	0.372	513.7321	0.151
Excavators	2013	121	175	0.503929	0.423	5.08991	3.16966	0.005	0.253	0.233	519.496	0.153
Excavators	2013	176	250	0.383779	0.322	4.93756	1.40068	0.005	0.157	0.145	519.8753	0.153
Excavators	2013	251	500	0.295491	0.248	3.73509	1.38754	0.005	0.121	0.111	517.7809	0.152
Excavators	2013	501	750	0.301827	0.254	3.92892	1.36166	0.005	0.126	0.116	514.1872	0.151
Excavators	2014	16	25	0.981904	0.825	4.96504	4.84434	0.005	0.38	0.35	575.2674	0.17
Excavators	2014	26	50	0.981904	0.825	4.96504	4.84434	0.005	0.38	0.35	575.2674	0.17
Excavators	2014	51	120	0.610505	0.513	5.13137	3.66313	0.005	0.382	0.352	511.3057	0.151
Excavators	2014	121	175	0.464169	0.39	4.65701	3.15438	0.005	0.229	0.211	516.9066	0.153
Excavators	2014	176	250	0.350137	0.294	4.37384	1.34557	0.005	0.139	0.128	517.3234	0.153
Excavators	2014	251	500	0.276896	0.233	3.35284	1.32721	0.005	0.108	0.099	515.2151	0.152
Excavators	2014	501	750	0.284069	0.239	3.54089	1.34745	0.005	0.114	0.105	511.9453	0.151
Excavators	2015	16	25	0.991068	0.833	4.91817	4.92488	0.005	0.375	0.345	569.5116	0.17
Excavators	2015	26	50	0.991068	0.833	4.91817	4.92488	0.005	0.375	0.345	569.5116	0.17
Excavators	2015	51	120	0.60346	0.507	5.01907	3.67943	0.005	0.373	0.344	506.1727	0.151
Excavators	2015	121	175	0.456597	0.384	4.4807	3.16762	0.005	0.221	0.203	511.6869	0.153
Excavators	2015	176	250	0.343545	0.289	4.18222	1.33148	0.005	0.133	0.122	512.0555	0.153
Excavators	2015	251	500	0.276143	0.232	3.21395	1.31662	0.005	0.104	0.096	509.8675	0.152
Excavators	2015	501	750	0.28808	0.242	3.47287	1.35372	0.005	0.113	0.104	506.6816	0.151
Excavators	2016	16	25	0.970016	0.815	4.82432	4.94198	0.005	0.359	0.33	563.8026	0.17
Excavators	2016	26	50	0.970016	0.815	4.82432	4.94198	0.005	0.359	0.33	563.8026	0.17
Excavators	2016	51	120	0.566011	0.476	4.70806	3.66066	0.005	0.344	0.317	500.9659	0.151
Excavators	2016	121	175	0.425494	0.358	4.08095	3.15771	0.005	0.201	0.185	506.495	0.153
Excavators	2016	176	250	0.312033	0.262	3.66736	1.27749	0.005	0.116	0.107	506.544	0.153
Excavators	2016	251	500	0.253752	0.213	2.81451	1.23344	0.005	0.091	0.083	504.2899	0.152
Excavators	2016	501	750	0.287698	0.242	3.35762	1.34881	0.005	0.11	0.101	501.6596	0.151
Excavators	2017	16	25	0.91741	0.771	4.67818	4.88904	0.005	0.332	0.305	554.9101	0.17
Excavators	2017	26	50	0.91741	0.771	4.67818	4.88904	0.005	0.332	0.305	554.9101	0.17
Excavators	2017	51	120	0.523542	0.44	4.37952	3.63939	0.005	0.31	0.285	493.409	0.151
Excavators	2017	121	175	0.397029	0.334	3.69967	3.15091	0.005	0.182	0.167	498.5222	0.153
Excavators	2017	176	250	0.293543	0.247	3.31872	1.24911	0.005	0.105	0.097	498.4364	0.153
Excavators	2017	251	500	0.237788	0.2	2.50715	1.19852	0.005	0.081	0.075	496.8098	0.152
Excavators	2017	501	750	0.249769	0.21	2.71934	1.22803	0.005	0.09	0.083	494.5496	0.152
Excavators	2018	16	25	0.818091	0.687	4.39518	4.70022	0.005	0.284	0.261	545.3468	0.17
Excavators	2018	26	50	0.818091	0.687	4.39518	4.70022	0.005	0.284	0.261	545.3468	0.17
Excavators	2018	51	120	0.438055	0.368	3.76366	3.56214	0.005	0.25	0.23	486.056	0.151
Excavators	2018	121	175	0.324959	0.273	2.92361	3.09338	0.005	0.142	0.13	490.6725	0.153
Excavators	2018	176	250	0.240329	0.202	2.59377	1.15209	0.005	0.079	0.073	490.2569	0.153
Excavators	2018	251	500	0.207823	0.175	2.05045	1.13951	0.005	0.066	0.061	489.1025	0.152
Excavators	2018	501	750	0.22476	0.189	2.26567	1.22359	0.005	0.076	0.07	487.6528	0.152
Excavators	2019	16	25	0.75855	0.637	4.19867	4.59698	0.005	0.25	0.23	536.9132	0.17
Excavators	2019	26	50	0.75855	0.637	4.19867	4.59698	0.005	0.25	0.23	536.9132	0.17
Excavators	2019	51	120	0.386598	0.325	3.36874	3.52421	0.005	0.211	0.194	478.2452	0.151
Excavators	2019	121	175	0.293021	0.246	2.53264	3.08163	0.005	0.122	0.112	482.6838	0.153
Excavators	2019	176	250	0.220917	0.186	2.24187	1.12671	0.005	0.068	0.063	482.2503	0.153
Excavators	2019	251	500	0.192898	0.162	1.77986	1.1135	0.005	0.058	0.053	481.2361	0.152
Excavators	2019	501	750	0.209677	0.176	1.98661	1.17289	0.005	0.067	0.062	479.2876	0.152
Excavators	2020	16	25	0.705964	0.593	4.03131	4.50032	0.005	0.222	0.204	525.3675	0.17
Excavators	2020	26	50	0.705964	0.593	4.03131	4.50032	0.005	0.222	0.204	525.3675	0.17
Excavators	2020	51	120	0.356064	0.299	3.08964	3.50495	0.005	0.185	0.17	468.0546	0.151
Excavators	2020	121	175	0.275327	0.231	2.27838	3.08597	0.005	0.11	0.102	472.2891	0.153
Excavators	2020	176	250	0.211076	0.177	2.02738	1.11778	0.005	0.061	0.056	471.8828	0.153
Excavators	2020	251	500	0.182542	0.153	1.57199	1.1016	0.005	0.052	0.048	470.2956	0.152
Excavators	2020	501	750	0.202011	0.17	1.79718	1.14543	0.005	0.061	0.056	468.8706	0.152
Excavators	2021	16	25	0.669315	0.562	3.91866	4.46094	0.005	0.202	0.186	525.3774	0.17

Excavators	2021	26	50	0.669315	0.562	3.91866	4.46094	0.005	0.202	0.186	525.3774	0.17
Excavators	2021	51	120	0.327314	0.275	2.84891	3.49196	0.005	0.161	0.148	467.7906	0.151
Excavators	2021	121	175	0.257574	0.216	2.03357	3.08975	0.005	0.099	0.091	472.3586	0.153
Excavators	2021	176	250	0.193738	0.163	1.70572	1.10324	0.005	0.052	0.048	471.7931	0.153
Excavators	2021	251	500	0.170127	0.143	1.33174	1.08777	0.005	0.045	0.041	469.6156	0.152
Excavators	2021	501	750	0.196683	0.165	1.61856	1.14978	0.005	0.056	0.052	469.547	0.152
Excavators	2022	16	25	0.568779	0.478	3.70039	4.27341	0.005	0.16	0.147	525.4468	0.17
Excavators	2022	26	50	0.568779	0.478	3.70039	4.27341	0.005	0.16	0.147	525.4468	0.17
Excavators	2022	51	120	0.299503	0.252	2.60649	3.47329	0.005	0.138	0.127	467.6256	0.151
Excavators	2022	121	175	0.22749	0.191	1.6781	3.074	0.005	0.081	0.075	472.1917	0.153
Excavators	2022	176	250	0.176606	0.148	1.38616	1.09157	0.005	0.044	0.04	472.0412	0.153
Excavators	2022	251	500	0.152263	0.128	1.03988	1.06126	0.005	0.035	0.032	469.7105	0.152
Excavators	2022	501	750	0.178436	0.15	1.2865	1.144	0.005	0.047	0.043	469.2892	0.152
Excavators	2023	16	25	0.535724	0.45	3.59356	4.23393	0.005	0.139	0.128	525.4286	0.17
Excavators	2023	26	50	0.535724	0.45	3.59356	4.23393	0.005	0.139	0.128	525.4286	0.17
Excavators	2023	51	120	0.273823	0.23	2.38066	3.45367	0.005	0.116	0.107	467.1573	0.151
Excavators	2023	121	175	0.212046	0.178	1.46245	3.07648	0.005	0.072	0.066	472.277	0.153
Excavators	2023	176	250	0.168964	0.142	1.20943	1.08965	0.005	0.039	0.036	472.2131	0.153
Excavators	2023	251	500	0.145171	0.122	0.89311	1.05093	0.005	0.03	0.028	469.8892	0.152
Excavators	2023	501	750	0.171247	0.144	1.15865	1.13199	0.005	0.043	0.04	468.6826	0.152
Excavators	2024	16	25	0.495634	0.416	3.50816	4.20529	0.005	0.12	0.11	525.979	0.17
Excavators	2024	26	50	0.495634	0.416	3.50816	4.20529	0.005	0.12	0.11	525.979	0.17
Excavators	2024	51	120	0.258544	0.217	2.24781	3.45322	0.005	0.102	0.094	467.3843	0.151
Excavators	2024	121	175	0.202572	0.17	1.32479	3.08336	0.005	0.065	0.06	472.4279	0.153
Excavators	2024	176	250	0.165297	0.139	1.10808	1.0899	0.005	0.036	0.033	472.4415	0.153
Excavators	2024	251	500	0.144133	0.121	0.83129	1.05369	0.005	0.029	0.026	469.7108	0.152
Excavators	2024	501	750	0.169017	0.142	1.10467	1.13421	0.005	0.041	0.037	468.652	0.152
Excavators	2025	16	25	0.47994	0.403	3.45298	4.21941	0.005	0.107	0.099	525.7772	0.17
Excavators	2025	26	50	0.47994	0.403	3.45298	4.21941	0.005	0.107	0.099	525.7772	0.17
Excavators	2025	51	120	0.23878	0.201	2.08246	3.43876	0.005	0.085	0.078	466.7376	0.151
Excavators	2025	121	175	0.187811	0.158	1.15367	3.078	0.005	0.057	0.052	472.4964	0.153
Excavators	2025	176	250	0.155588	0.131	0.96211	1.08136	0.005	0.032	0.029	472.5599	0.153
Excavators	2025	251	500	0.137039	0.115	0.72641	1.05072	0.005	0.026	0.024	470.2915	0.152
Excavators	2025	501	750	0.165305	0.139	1.02571	1.13484	0.005	0.038	0.035	468.5582	0.152
Excavators	2030	16	25	1.838	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Excavators	2030	26	50	2.458	0.602	3.393	5.309	0.007	0.038	0.038	568.299	0.054
Excavators	2030	51	120	3.618	0.301	1.676	3.806	0.006	0.034	0.034	568.299	0.027
Excavators	2030	121	175	3.914	0.213	0.525	3.362	0.006	0.023	0.023	568.299	0.019
Excavators	2030	176	250	5.258	0.203	0.452	1.145	0.006	0.016	0.016	568.299	0.018
Excavators	2030	251	500	7.722	0.202	0.433	1.088	0.005	0.016	0.016	568.299	0.018
Excavators	2030	501	750	12.807	0.202	0.437	1.088	0.005	0.016	0.016	568.299	0.018
Excavators	2035	16	25	1.838	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Excavators	2035	26	50	2.333	0.572	3.323	5.287	0.007	0.024	0.024	568.299	0.051
Excavators	2035	51	120	3.411	0.284	1.551	3.802	0.006	0.021	0.021	568.299	0.025
Excavators	2035	121	175	3.622	0.197	0.365	3.363	0.006	0.015	0.015	568.299	0.017
Excavators	2035	176	250	5.059	0.195	0.342	1.145	0.006	0.013	0.013	568.3	0.017
Excavators	2035	251	500	7.45	0.195	0.337	1.089	0.005	0.013	0.013	568.299	0.017
Excavators	2035	501	750	12.348	0.195	0.338	1.088	0.005	0.013	0.013	568.299	0.017
Excavators	2040	16	25	1.838	0.685	4.332	2.339	0.007	0.161	0.161	568.3	0.061
Excavators	2040	26	50	2.314	0.567	3.29	5.283	0.007	0.019	0.019	568.299	0.051
Excavators	2040	51	120	3.36	0.279	1.507	3.802	0.006	0.017	0.017	568.299	0.025
Excavators	2040	121	175	3.532	0.193	0.311	3.363	0.006	0.013	0.013	568.299	0.017
Excavators	2040	176	250	4.971	0.192	0.3	1.145	0.006	0.011	0.011	568.299	0.017
Excavators	2040	251	500	7.322	0.192	0.3	1.089	0.005	0.011	0.011	568.299	0.017
Excavators	2040	501	750	12.137	0.192	0.3	1.089	0.005	0.011	0.011	568.299	0.017
Forklifts	1990	26	50	11.848	4.826	7.952	9.773	0.692	1.266	1.266	568.299	0.435
Forklifts	1990	51	120	12.154	2.326	14.699	5.638	0.628	1.32	1.32	568.3	0.209
Forklifts	1990	121	175	14.423	1.537	12.932	4.938	0.602	0.849	0.849	568.299	0.138
Forklifts	1990	176	250	19.845	1.537	12.932	4.938	0.602	0.849	0.849	568.299	0.138
Forklifts	1990	251	500	25.356	1.365	12.267	10.853	0.525	0.73	0.73	568.299	0.123
Forklifts	2000	26	50	10.952	4.461	7.035	9.216	0.065	0.934	0.934	568.3	0.402
Forklifts	2000	51	120	9.146	1.75	9.75	4.459	0.059	0.882	0.882	568.299	0.157
Forklifts	2000	121	175	11.149	1.188	9.001	3.519	0.057	0.502	0.502	568.299	0.107
Forklifts	2000	176	250	11.958	0.926	8.546	2.534	0.057	0.372	0.372	568.299	0.083
Forklifts	2000	251	500	15.747	0.848	8.126	3.255	0.049	0.333	0.333	568.299	0.076
Forklifts	2005	26	50	10.087	4.108	6.62	8.778	0.065	0.891	0.891	568.299	0.37
Forklifts	2005	51	120	8.425	1.612	8.602	4.35	0.059	0.876	0.876	568.299	0.145
Forklifts	2005	121	175	9.959	1.061	7.94	3.418	0.057	0.475	0.475	568.299	0.095
Forklifts	2005	176	250	8.606	0.666	7.367	1.693	0.057	0.253	0.253	568.299	0.06
Forklifts	2005	251	500	10.976	0.591	6.611	1.803	0.049	0.23	0.23	568.299	0.053
Forklifts	2010	26	50	2.846117	2.392	6.31187	7.62516	0.005	0.729	0.671	583.8704	0.17
Forklifts	2010	51	120	1.045472	0.878	7.63494	4.10764	0.005	0.625	0.575	523.9205	0.153
Forklifts	2010	121	175	0.764801	0.643	7.24303	3.54812	0.005	0.389	0.357	524.5625	0.153
Forklifts	2010	176	250	0.852639	0.716	8.49545	2.88991	0.005	0.398	0.366	525.9172	0.153
Forklifts	2010	251	500	0.814667	0.685	8.13812	5.79345	0.005	0.381	0.351	526.239	0.153
Forklifts	2011	26	50	2.771689	2.329	6.26642	7.5619	0.005	0.715	0.657	582.4107	0.17
Forklifts	2011	51	120	1.023636	0.86	7.45983	4.10232	0.005	0.617	0.568	522.6107	0.153
Forklifts	2011	121	175	0.759385	0.638	7.14122	3.55732	0.005	0.385	0.355	523.2511	0.153
Forklifts	2011	176	250	0.819463	0.689	8.17495	2.77115	0.005	0.381	0.35	524.6024	0.153
Forklifts	2011	251	500	0.787175	0.661	7.84	5.42187	0.005	0.368	0.338	524.9234	0.153
Forklifts	2012	26	50	2.800937	2.354	6.27736	7.68036	0.005	0.72	0.663	580.951	0.17
Forklifts	2012	51	120	1.026513	0.863	7.43066	4.13104	0.005	0.62	0.571	521.3009	0.153
Forklifts	2012	121	175	0.764904	0.643	7.11981	3.58413	0.005	0.387	0.356	521.9397	0.153
Forklifts	2012	176	250	0.82428	0.693	8.14199	2.77846	0.005	0.381	0.35	523.2876	0.153
Forklifts	2012	251	500	0.795085	0.668	7.85628	5.42806	0.005	0.369	0.34	523.6078	0.153
Forklifts	2013	26	50	2.655997	2.232	6.14743	7.4937	0.005	0.689	0.634	578.0317	0.17
Forklifts	2013	51	120	0.996839	0.838	7.21545	4.11855	0.005	0.603	0.555	518.6813	0.153
Forklifts	2013	121	175	0.743778	0.625	6.90229	3.57971	0.005	0.375	0.345	519.3169	0.153
Forklifts	2013	176	250	0.786493	0.661	7.77338	2.67477	0.005	0.36	0.332	520.658	0.153



Forklifts	2013	251	500	0.686735	0.577	6.91072	4.6871	0.005	0.314	0.289	520.9766	0.153
Forklifts	2014	26	50	2.515249	2.114	6.00609	7.32058	0.005	0.656	0.604	575.1123	0.17
Forklifts	2014	51	120	0.945485	0.794	6.84833	4.07936	0.005	0.574	0.528	516.0617	0.153
Forklifts	2014	121	175	0.688099	0.578	6.35205	3.52073	0.005	0.345	0.317	516.694	0.153
Forklifts	2014	176	250	0.731475	0.615	7.27612	2.50114	0.005	0.33	0.304	518.0284	0.153
Forklifts	2014	251	500	0.644228	0.541	6.35258	4.25186	0.005	0.289	0.266	518.3454	0.153
Forklifts	2015	26	50	2.466892	2.073	5.93143	7.29982	0.005	0.643	0.591	569.2736	0.17
Forklifts	2015	51	120	0.914509	0.768	6.60091	4.06346	0.005	0.555	0.51	510.8225	0.153
Forklifts	2015	121	175	0.673169	0.566	6.13482	3.51969	0.005	0.335	0.308	511.4484	0.153
Forklifts	2015	176	250	0.672054	0.565	6.69668	2.32501	0.005	0.298	0.274	512.7693	0.153
Forklifts	2015	251	500	0.539875	0.454	5.33227	3.29951	0.005	0.237	0.218	513.083	0.153
Forklifts	2016	26	50	2.217878	1.864	5.66211	6.93473	0.005	0.583	0.537	563.4349	0.17
Forklifts	2016	51	120	0.860278	0.723	6.22192	4.02311	0.005	0.52	0.479	505.5833	0.153
Forklifts	2016	121	175	0.630613	0.53	5.67466	3.47253	0.005	0.31	0.285	506.2028	0.153
Forklifts	2016	176	250	0.641979	0.539	6.35303	2.22626	0.005	0.28	0.257	507.5101	0.153
Forklifts	2016	251	500	0.419581	0.353	4.04212	2.57209	0.005	0.174	0.16	507.8206	0.153
Forklifts	2017	26	50	2.026819	1.703	5.45035	6.67251	0.005	0.536	0.493	554.6769	0.17
Forklifts	2017	51	120	0.799635	0.672	5.81772	3.97881	0.005	0.48	0.442	497.7245	0.153
Forklifts	2017	121	175	0.604568	0.508	5.36215	3.45188	0.005	0.294	0.27	498.3344	0.153
Forklifts	2017	176	250	0.589964	0.496	5.75116	2.0923	0.005	0.252	0.232	499.6213	0.153
Forklifts	2017	251	500	0.401897	0.338	3.7797	2.50803	0.005	0.161	0.148	499.927	0.153
Forklifts	2018	26	50	1.658295	1.393	5.05181	6.10276	0.005	0.447	0.411	545.9188	0.17
Forklifts	2018	51	120	0.675301	0.567	5.0153	3.85819	0.005	0.4	0.368	489.8657	0.153
Forklifts	2018	121	175	0.508414	0.427	4.42984	3.33646	0.005	0.241	0.222	490.4659	0.153
Forklifts	2018	176	250	0.506009	0.425	4.93757	1.83475	0.005	0.207	0.191	491.7326	0.153
Forklifts	2018	251	500	0.335655	0.282	3.01864	1.87814	0.005	0.125	0.115	492.0335	0.153
Forklifts	2019	26	50	1.480074	1.244	4.86189	5.88034	0.005	0.401	0.369	537.1608	0.17
Forklifts	2019	51	120	0.606336	0.509	4.54965	3.80391	0.005	0.352	0.324	482.0069	0.153
Forklifts	2019	121	175	0.454984	0.382	3.86458	3.28831	0.005	0.21	0.193	482.5975	0.153
Forklifts	2019	176	250	0.445406	0.374	4.2498	1.6773	0.005	0.175	0.161	483.8438	0.153
Forklifts	2019	251	500	0.318129	0.267	2.75148	1.814	0.005	0.112	0.103	484.1399	0.153
Forklifts	2020	26	50	1.337399	1.124	4.68572	5.70563	0.005	0.36	0.331	525.4833	0.17
Forklifts	2020	51	120	0.545921	0.459	4.13299	3.75954	0.005	0.308	0.283	471.5285	0.153
Forklifts	2020	121	175	0.402357	0.338	3.3196	3.24885	0.005	0.18	0.165	472.1062	0.153
Forklifts	2020	176	250	0.348476	0.293	3.24149	1.44178	0.005	0.126	0.116	473.3255	0.153
Forklifts	2020	251	500	0.299035	0.251	2.43991	1.47807	0.005	0.097	0.089	473.6151	0.153
Forklifts	2021	26	50	1.192536	1.002	4.5202	5.53477	0.005	0.318	0.292	525.4833	0.17
Forklifts	2021	51	120	0.490261	0.412	3.75592	3.72	0.005	0.267	0.245	471.5285	0.153
Forklifts	2021	121	175	0.366939	0.308	2.9207	3.23128	0.005	0.158	0.145	472.1062	0.153
Forklifts	2021	176	250	0.296154	0.249	2.58195	1.33672	0.005	0.099	0.091	473.3255	0.153
Forklifts	2021	251	500	0.301833	0.254	2.30266	1.48481	0.005	0.094	0.086	473.6151	0.153
Forklifts	2022	26	50	1.02259	0.859	4.31214	5.30418	0.005	0.27	0.248	525.4833	0.17
Forklifts	2022	51	120	0.430627	0.362	3.36021	3.67507	0.005	0.223	0.205	471.5285	0.153
Forklifts	2022	121	175	0.324265	0.272	2.47982	3.19749	0.005	0.132	0.122	472.1062	0.153
Forklifts	2022	176	250	0.280841	0.236	2.31941	1.3171	0.005	0.09	0.083	473.3255	0.153
Forklifts	2022	251	500	0.275829	0.232	1.99119	1.21922	0.005	0.077	0.071	473.6151	0.153
Forklifts	2023	26	50	0.911766	0.766	4.15219	5.16597	0.005	0.232	0.213	525.4833	0.17
Forklifts	2023	51	120	0.388709	0.327	3.0569	3.64655	0.005	0.189	0.174	471.5285	0.153
Forklifts	2023	121	175	0.289923	0.244	2.11214	3.1799	0.005	0.111	0.102	472.1062	0.153
Forklifts	2023	176	250	0.242474	0.204	1.80718	1.23515	0.005	0.069	0.063	473.3255	0.153
Forklifts	2023	251	500	0.261765	0.22	1.78772	1.21596	0.005	0.069	0.063	473.6151	0.153
Forklifts	2024	26	50	0.823848	0.692	4.03948	5.0885	0.005	0.203	0.187	525.4833	0.17
Forklifts	2024	51	120	0.357083	0.3	2.81432	3.62907	0.005	0.163	0.15	471.5285	0.153
Forklifts	2024	121	175	0.266701	0.224	1.86129	3.17389	0.005	0.096	0.088	472.1062	0.153
Forklifts	2024	176	250	0.232645	0.195	1.6253	1.21846	0.005	0.061	0.056	473.3255	0.153
Forklifts	2024	251	500	0.258844	0.218	1.72336	1.21901	0.005	0.065	0.06	473.6151	0.153
Forklifts	2025	26	50	0.757155	0.636	3.93206	5.02929	0.005	0.178	0.164	525.4833	0.17
Forklifts	2025	51	120	0.329382	0.277	2.60732	3.61138	0.005	0.14	0.128	471.5285	0.153
Forklifts	2025	121	175	0.248361	0.209	1.653	3.17013	0.005	0.084	0.078	472.1062	0.153
Forklifts	2025	176	250	0.226669	0.19	1.46623	1.2143	0.005	0.056	0.052	473.3255	0.153
Forklifts	2025	251	500	0.255656	0.215	1.65848	1.22207	0.005	0.062	0.057	473.6151	0.153
Forklifts	2030	26	50	1.388	0.565	3.33	5.272	0.007	0.023	0.023	568.299	0.051
Forklifts	2030	51	120	1.48	0.283	1.555	3.799	0.006	0.021	0.021	568.299	0.025
Forklifts	2030	121	175	1.875	0.199	0.391	3.36	0.006	0.015	0.015	568.299	0.018
Forklifts	2030	176	250	2.524	0.195	0.341	1.144	0.006	0.012	0.012	568.299	0.017
Forklifts	2030	251	500	3.633	0.195	0.341	1.088	0.005	0.012	0.012	568.299	0.017
Forklifts	2035	26	50	1.371	0.558	3.268	5.234	0.007	0.017	0.017	568.299	0.05
Forklifts	2035	51	120	1.438	0.275	1.495	3.787	0.006	0.016	0.016	568.299	0.024
Forklifts	2035	121	175	1.775	0.189	0.299	3.35	0.006	0.012	0.012	568.3	0.017
Forklifts	2035	176	250	2.433	0.188	0.29	1.141	0.006	0.011	0.011	568.3	0.017
Forklifts	2035	251	500	3.502	0.188	0.29	1.085	0.005	0.011	0.011	568.299	0.017
Forklifts	2040	26	50	1.38	0.562	3.272	5.256	0.007	0.017	0.017	568.299	0.05
Forklifts	2040	51	120	1.444	0.276	1.491	3.794	0.006	0.016	0.016	568.299	0.024
Forklifts	2040	121	175	1.777	0.189	0.288	3.356	0.006	0.012	0.012	568.299	0.017
Forklifts	2040	176	250	2.445	0.189	0.288	1.143	0.006	0.011	0.011	568.299	0.017
Forklifts	2040	251	500	3.518	0.189	0.288	1.087	0.005	0.011	0.011	568.299	0.017
Generator Sets	1990	6	15	4.791	1.804	10	4.999	1.018	0.974	0.974	568.299	0.162
Generator Sets	1990	16	25	10.151	2.213	6.919	4.999	0.83	0.74	0.74	568.299	0.199
Generator Sets	1990	26	50	24.936	3.13	7.325	6.681	0.846	0.928	0.928	568.299	0.282
Generator Sets	1990	51	120	38.362	1.891	13.19	4.97	0.768	0.985	0.985	568.299	0.17
Generator Sets	1990	121	175	47.754	1.292	11.864	4.395	0.736	0.653	0.653	568.3	0.116
Generator Sets	1990	176	250	71.475	1.292	11.864	4.395	0.736	0.653	0.653	568.299	0.116
Generator Sets	1990	251	500	104.891	1.196	11.613	6.53	0.642	0.596	0.596	568.299	0.107
Generator Sets	1990	501	750	169.323	1.196	11.612	6.53	0.658	0.596	0.596	568.299	0.107
Generator Sets	1990	1001	9999	326.002	1.195	11.612	6.53	0.658	0.594	0.594	568.299	0.107
Generator Sets	2000	6	15	4.033	1.518	8.846	4.875	0.079	0.613	0.613	568.299	0.137
Generator Sets	2000	16	25	7.648	1.667	6.405	4.783	0.065	0.51	0.51	568.299	0.15
Generator Sets	2000	26	50	23.582	2.96	6.55	6.415	0.066	0.692	0.692	568.299	0.267
Generator Sets	2000	51	120	31.137	1.535	9.468	4.158	0.06	0.686	0.686	568.299	0.138

Generator Sets	2000	121	175	38.027	1.029	8.612	3.381	0.057	0.404	0.404	568.299	0.092
Generator Sets	2000	176	250	46.981	0.849	8.277	2.656	0.057	0.325	0.325	568.299	0.076
Generator Sets	2000	251	500	70.308	0.802	8.102	3.7	0.05	0.301	0.301	568.299	0.072
Generator Sets	2000	501	750	113.5	0.802	8.102	3.7	0.051	0.301	0.301	568.3	0.072
Generator Sets	2000	1001	9999	251.503	0.921	8.686	4.274	0.051	0.344	0.344	568.299	0.083
Generator Sets	2005	6	15	3.219	1.212	7.615	4.38	0.079	0.505	0.505	568.299	0.109
Generator Sets	2005	16	25	5.748	1.253	6.014	3.922	0.065	0.432	0.432	568.299	0.113
Generator Sets	2005	26	50	20.78	2.608	6.099	5.919	0.066	0.64	0.64	568.3	0.235
Generator Sets	2005	51	120	26.634	1.313	7.987	3.853	0.06	0.634	0.634	568.299	0.118
Generator Sets	2005	121	175	31.579	0.854	7.306	3.067	0.057	0.35	0.35	568.299	0.077
Generator Sets	2005	176	250	33.443	0.604	6.892	1.801	0.057	0.229	0.229	568.299	0.054
Generator Sets	2005	251	500	47.834	0.545	6.465	2.206	0.05	0.211	0.211	568.299	0.049
Generator Sets	2005	501	750	79.444	0.561	6.609	2.206	0.051	0.214	0.214	568.3	0.05
Generator Sets	2005	1001	9999	195.712	0.717	7.582	2.719	0.051	0.255	0.255	568.299	0.064
Generator Sets	2010	6	15	2.532	0.953	6.387	4.027	0.008	0.38	0.38	568.299	0.086
Generator Sets	2010	16	25	4.408	0.961	5.477	3.309	0.007	0.342	0.342	568.299	0.086
Generator Sets	2010	26	50	16.299	2.045	5.68	5.353	0.007	0.522	0.522	568.299	0.184
Generator Sets	2010	51	120	20.399	1.005	6.573	3.677	0.006	0.516	0.516	568.299	0.09
Generator Sets	2010	121	175	24.447	0.661	5.87	2.986	0.006	0.286	0.286	568.299	0.059
Generator Sets	2010	176	250	23.668	0.428	5.501	1.333	0.006	0.163	0.163	568.299	0.038
Generator Sets	2010	251	500	33.685	0.384	5.015	1.482	0.005	0.153	0.153	568.299	0.034
Generator Sets	2010	501	750	56.116	0.396	5.147	1.482	0.005	0.155	0.155	568.299	0.035
Generator Sets	2010	1001	9999	147.466	0.54	6.544	1.93	0.005	0.193	0.193	568.299	0.048
Generator Sets	2011	6	15	2.413	0.908	6.134	3.952	0.008	0.358	0.358	568.299	0.081
Generator Sets	2011	16	25	4.22	0.92	5.36	3.179	0.007	0.325	0.325	568.299	0.083
Generator Sets	2011	26	50	15.152	1.901	5.585	5.2	0.007	0.495	0.495	568.3	0.171
Generator Sets	2011	51	120	19.003	0.937	6.226	3.64	0.006	0.493	0.493	568.299	0.084
Generator Sets	2011	121	175	22.889	0.619	5.544	2.974	0.006	0.274	0.274	568.299	0.055
Generator Sets	2011	176	250	21.62	0.391	5.125	1.249	0.006	0.147	0.147	568.299	0.035
Generator Sets	2011	251	500	30.74	0.35	4.654	1.36	0.005	0.138	0.138	568.299	0.031
Generator Sets	2011	501	750	51.271	0.362	4.784	1.36	0.005	0.14	0.14	568.299	0.032
Generator Sets	2011	1001	9999	137.042	0.502	6.202	1.784	0.005	0.18	0.18	568.299	0.045
Generator Sets	2012	6	15	2.298	0.865	5.874	3.874	0.008	0.338	0.338	568.299	0.078
Generator Sets	2012	16	25	4.059	0.884	5.239	3.043	0.007	0.307	0.307	568.299	0.079
Generator Sets	2012	26	50	13.912	1.746	5.485	5.03	0.007	0.466	0.466	568.299	0.157
Generator Sets	2012	51	120	17.544	0.865	5.848	3.603	0.006	0.46	0.46	568.299	0.078
Generator Sets	2012	121	175	21.243	0.575	5.198	2.963	0.006	0.254	0.254	568.299	0.051
Generator Sets	2012	176	250	19.998	0.361	4.77	1.196	0.006	0.133	0.133	568.3	0.032
Generator Sets	2012	251	500	28.44	0.324	4.315	1.275	0.005	0.125	0.125	568.299	0.029
Generator Sets	2012	501	750	47.464	0.335	4.441	1.275	0.005	0.127	0.127	568.299	0.03
Generator Sets	2012	1001	9999	126.39	0.463	5.849	1.639	0.005	0.166	0.166	568.3	0.041
Generator Sets	2013	6	15	2.187	0.823	5.616	3.796	0.008	0.318	0.318	568.299	0.074
Generator Sets	2013	16	25	3.907	0.851	5.117	2.907	0.007	0.289	0.289	568.299	0.076
Generator Sets	2013	26	50	12.634	1.585	5.263	4.854	0.007	0.428	0.428	568.299	0.143
Generator Sets	2013	51	120	16.078	0.792	5.478	3.567	0.006	0.424	0.424	568.299	0.071
Generator Sets	2013	121	175	19.587	0.53	4.873	2.953	0.006	0.233	0.233	568.299	0.047
Generator Sets	2013	176	250	18.602	0.336	4.428	1.16	0.006	0.122	0.122	568.299	0.03
Generator Sets	2013	251	500	26.484	0.302	3.989	1.211	0.005	0.114	0.114	568.299	0.027
Generator Sets	2013	501	750	44.22	0.312	4.113	1.211	0.005	0.116	0.116	568.299	0.028
Generator Sets	2013	1001	9999	115.946	0.425	5.494	1.502	0.005	0.152	0.152	568.299	0.038
Generator Sets	2014	6	15	2.081	0.783	5.369	3.723	0.008	0.298	0.298	568.299	0.07
Generator Sets	2014	16	25	3.767	0.821	5	2.78	0.007	0.272	0.272	568.299	0.074
Generator Sets	2014	26	50	11.368	1.427	5.048	4.683	0.007	0.389	0.389	568.299	0.128
Generator Sets	2014	51	120	14.638	0.721	5.147	3.532	0.006	0.385	0.385	568.299	0.065
Generator Sets	2014	121	175	17.974	0.486	4.565	2.945	0.006	0.212	0.212	568.299	0.043
Generator Sets	2014	176	250	17.205	0.311	4.025	1.13	0.006	0.111	0.111	568.3	0.028
Generator Sets	2014	251	500	24.516	0.279	3.603	1.157	0.005	0.104	0.104	568.299	0.025
Generator Sets	2014	501	750	40.956	0.289	3.724	1.157	0.005	0.106	0.106	568.299	0.026
Generator Sets	2014	1001	9999	106.127	0.389	5.15	1.377	0.005	0.138	0.138	568.299	0.035
Generator Sets	2015	6	15	1.984	0.747	5.141	3.658	0.008	0.28	0.28	568.299	0.067
Generator Sets	2015	16	25	3.639	0.793	4.89	2.666	0.007	0.256	0.256	568.299	0.071
Generator Sets	2015	26	50	10.213	1.281	4.858	4.538	0.007	0.353	0.353	568.299	0.115
Generator Sets	2015	51	120	13.208	0.651	4.769	3.499	0.006	0.347	0.347	568.299	0.058
Generator Sets	2015	121	175	16.277	0.44	4.138	2.938	0.006	0.191	0.191	568.299	0.039
Generator Sets	2015	176	250	15.884	0.287	3.633	1.104	0.006	0.1	0.1	568.3	0.025
Generator Sets	2015	251	500	22.677	0.258	3.231	1.114	0.005	0.094	0.094	568.299	0.023
Generator Sets	2015	501	750	37.88	0.267	3.347	1.114	0.005	0.096	0.096	568.299	0.024
Generator Sets	2015	1001	9999	95.984	0.351	4.822	1.269	0.005	0.124	0.124	568.299	0.031
Generator Sets	2016	6	15	1.914	0.72	4.978	3.622	0.008	0.264	0.264	568.299	0.065
Generator Sets	2016	16	25	3.548	0.773	4.803	2.604	0.007	0.244	0.244	568.299	0.069
Generator Sets	2016	26	50	9.132	1.146	4.685	4.41	0.007	0.318	0.318	568.299	0.103
Generator Sets	2016	51	120	11.84	0.583	4.41	3.469	0.006	0.309	0.309	568.299	0.052
Generator Sets	2016	121	175	14.658	0.396	3.731	2.934	0.006	0.17	0.17	568.299	0.035
Generator Sets	2016	176	250	14.652	0.265	3.259	1.081	0.006	0.09	0.09	568.299	0.023
Generator Sets	2016	251	500	21.002	0.239	2.882	1.077	0.005	0.084	0.084	568.299	0.021
Generator Sets	2016	501	750	35.041	0.247	2.989	1.077	0.005	0.086	0.086	568.3	0.022
Generator Sets	2016	1001	9999	88.441	0.324	4.542	1.204	0.005	0.113	0.113	568.299	0.029
Generator Sets	2017	6	15	1.857	0.699	4.847	3.599	0.008	0.25	0.25	568.299	0.063
Generator Sets	2017	16	25	3.476	0.757	4.729	2.564	0.007	0.233	0.233	568.299	0.068
Generator Sets	2017	26	50	8.107	1.017	4.522	4.292	0.007	0.285	0.285	568.299	0.091
Generator Sets	2017	51	120	10.557	0.52	4.072	3.442	0.006	0.274	0.274	568.299	0.046
Generator Sets	2017	121	175	13.162	0.356	3.347	2.931	0.006	0.151	0.151	568.299	0.032
Generator Sets	2017	176	250	13.548	0.245	2.91	1.063	0.006	0.081	0.081	568.299	0.022
Generator Sets	2017	251	500	19.649	0.224	2.579	1.048	0.005	0.076	0.076	568.299	0.02
Generator Sets	2017	501	750	32.544	0.23	2.66	1.048	0.005	0.077	0.077	568.299	0.02
Generator Sets	2017	1001	9999	82.27	0.301	4.293	1.161	0.005	0.104	0.104	568.299	0.027
Generator Sets	2018	6	15	1.805	0.679	4.728	3.58	0.008	0.237	0.237	568.299	0.061
Generator Sets	2018	16	25	3.412	0.744	4.661	2.531	0.007	0.224	0.224	568.299	0.067
Generator Sets	2018	26	50	7.133	0.895	4.366	4.182	0.007	0.253	0.253	568.299	0.08

Generator Sets	2018	51	120	9.356	0.461	3.752	3.418	0.006	0.239	0.239	568.299	0.041
Generator Sets	2018	121	175	11.794	0.319	2.989	2.93	0.006	0.133	0.133	568.299	0.028
Generator Sets	2018	176	250	12.549	0.226	2.582	1.048	0.006	0.072	0.072	568.299	0.02
Generator Sets	2018	251	500	18.523	0.211	2.31	1.028	0.005	0.069	0.069	568.299	0.019
Generator Sets	2018	501	750	30.476	0.215	2.37	1.028	0.005	0.07	0.07	568.299	0.019
Generator Sets	2018	1001	9999	76.62	0.28	4.058	1.128	0.005	0.095	0.095	568.299	0.025
Generator Sets	2019	6	15	1.758	0.662	4.617	3.562	0.008	0.224	0.224	568.299	0.059
Generator Sets	2019	16	25	3.356	0.731	4.596	2.501	0.007	0.214	0.214	568.299	0.066
Generator Sets	2019	26	50	6.208	0.779	4.215	4.076	0.007	0.222	0.222	568.299	0.07
Generator Sets	2019	51	120	8.233	0.405	3.446	3.396	0.006	0.206	0.206	568.299	0.036
Generator Sets	2019	121	175	10.727	0.29	2.669	2.929	0.006	0.118	0.118	568.299	0.026
Generator Sets	2019	176	250	11.695	0.211	2.285	1.036	0.006	0.064	0.064	568.299	0.019
Generator Sets	2019	251	500	17.492	0.199	2.056	1.015	0.005	0.062	0.062	568.299	0.018
Generator Sets	2019	501	750	28.675	0.202	2.104	1.015	0.005	0.062	0.062	568.299	0.018
Generator Sets	2019	1001	9999	71.228	0.261	3.829	1.103	0.005	0.087	0.087	568.299	0.023
Generator Sets	2020	6	15	1.715	0.646	4.516	3.546	0.008	0.212	0.212	568.299	0.058
Generator Sets	2020	16	25	3.307	0.721	4.538	2.473	0.007	0.205	0.205	568.299	0.065
Generator Sets	2020	26	50	5.508	0.691	4.075	3.995	0.007	0.194	0.194	568.299	0.062
Generator Sets	2020	51	120	7.383	0.364	3.173	3.38	0.006	0.179	0.179	568.299	0.032
Generator Sets	2020	121	175	9.884	0.267	2.38	2.93	0.006	0.105	0.105	568.299	0.024
Generator Sets	2020	176	250	10.963	0.198	2.016	1.026	0.006	0.057	0.057	568.299	0.017
Generator Sets	2020	251	500	16.528	0.188	1.816	1.005	0.005	0.055	0.055	568.299	0.017
Generator Sets	2020	501	750	27.045	0.191	1.858	1.005	0.005	0.056	0.056	568.299	0.017
Generator Sets	2020	1001	9999	66.08	0.242	3.608	1.082	0.005	0.079	0.079	568.3	0.021
Generator Sets	2021	6	15	1.683	0.634	4.441	3.531	0.008	0.201	0.201	568.299	0.057
Generator Sets	2021	16	25	3.268	0.712	4.497	2.446	0.007	0.196	0.196	568.299	0.064
Generator Sets	2021	26	50	4.884	0.613	3.916	3.905	0.007	0.165	0.165	568.299	0.055
Generator Sets	2021	51	120	6.62	0.326	2.888	3.361	0.006	0.153	0.153	568.299	0.029
Generator Sets	2021	121	175	8.995	0.243	2.068	2.925	0.006	0.091	0.091	568.299	0.021
Generator Sets	2021	176	250	10.146	0.183	1.73	1.016	0.006	0.049	0.049	568.299	0.016
Generator Sets	2021	251	500	15.395	0.175	1.562	0.996	0.005	0.048	0.048	568.299	0.015
Generator Sets	2021	501	750	25.135	0.177	1.596	0.996	0.005	0.048	0.048	568.299	0.016
Generator Sets	2021	1001	9999	60.247	0.22	3.372	1.06	0.005	0.07	0.07	568.3	0.019
Generator Sets	2022	6	15	1.662	0.626	4.39	3.519	0.008	0.193	0.193	568.299	0.056
Generator Sets	2022	16	25	3.242	0.706	4.47	2.426	0.007	0.188	0.188	568.299	0.063
Generator Sets	2022	26	50	4.466	0.56	3.796	3.858	0.007	0.143	0.143	568.299	0.05
Generator Sets	2022	51	120	6.113	0.301	2.671	3.353	0.006	0.134	0.134	568.299	0.027
Generator Sets	2022	121	175	8.363	0.226	1.83	2.926	0.006	0.081	0.081	568.299	0.02
Generator Sets	2022	176	250	9.575	0.173	1.508	1.01	0.006	0.043	0.043	568.299	0.015
Generator Sets	2022	251	500	14.616	0.166	1.384	0.99	0.005	0.042	0.042	568.299	0.015
Generator Sets	2022	501	750	23.822	0.168	1.412	0.99	0.005	0.043	0.043	568.299	0.015
Generator Sets	2022	1001	9999	56.346	0.206	3.202	1.045	0.005	0.063	0.063	568.299	0.018
Generator Sets	2023	6	15	1.643	0.618	4.345	3.508	0.008	0.186	0.186	568.299	0.055
Generator Sets	2023	16	25	3.219	0.701	4.447	2.407	0.007	0.182	0.182	568.299	0.063
Generator Sets	2023	26	50	4.102	0.514	3.685	3.819	0.007	0.124	0.124	568.299	0.046
Generator Sets	2023	51	120	5.671	0.279	2.477	3.347	0.006	0.117	0.117	568.299	0.025
Generator Sets	2023	121	175	7.812	0.211	1.635	2.927	0.006	0.071	0.071	568.299	0.019
Generator Sets	2023	176	250	9.077	0.164	1.328	1.006	0.006	0.038	0.038	568.299	0.014
Generator Sets	2023	251	500	13.922	0.158	1.228	0.986	0.005	0.037	0.037	568.299	0.014
Generator Sets	2023	501	750	22.664	0.16	1.253	0.986	0.005	0.037	0.037	568.299	0.014
Generator Sets	2023	1001	9999	53.06	0.194	3.058	1.031	0.005	0.058	0.058	568.299	0.017
Generator Sets	2024	6	15	1.627	0.612	4.305	3.499	0.008	0.181	0.181	568.299	0.055
Generator Sets	2024	16	25	3.2	0.697	4.426	2.39	0.007	0.178	0.178	568.299	0.062
Generator Sets	2024	26	50	3.789	0.475	3.582	3.787	0.007	0.107	0.107	568.299	0.042
Generator Sets	2024	51	120	5.287	0.26	2.321	3.342	0.006	0.101	0.101	568.299	0.023
Generator Sets	2024	121	175	7.312	0.197	1.462	2.929	0.006	0.062	0.062	568.299	0.017
Generator Sets	2024	176	250	8.611	0.155	1.169	1.003	0.006	0.033	0.033	568.299	0.014
Generator Sets	2024	251	500	13.26	0.151	1.082	0.983	0.005	0.032	0.032	568.3	0.013
Generator Sets	2024	501	750	21.567	0.152	1.104	0.983	0.005	0.032	0.032	568.299	0.013
Generator Sets	2024	1001	9999	50.108	0.183	2.929	1.018	0.005	0.052	0.052	568.3	0.016
Generator Sets	2025	6	15	1.613	0.607	4.269	3.491	0.008	0.178	0.178	568.299	0.054
Generator Sets	2025	16	25	3.185	0.694	4.407	2.376	0.007	0.175	0.175	568.299	0.062
Generator Sets	2025	26	50	3.511	0.44	3.481	3.758	0.007	0.093	0.093	568.3	0.039
Generator Sets	2025	51	120	4.942	0.243	2.185	3.338	0.006	0.087	0.087	568.299	0.021
Generator Sets	2025	121	175	6.832	0.184	1.297	2.93	0.006	0.053	0.053	568.299	0.016
Generator Sets	2025	176	250	8.168	0.147	1.02	1	0.006	0.028	0.028	568.299	0.013
Generator Sets	2025	251	500	12.627	0.144	0.945	0.981	0.005	0.027	0.027	568.3	0.013
Generator Sets	2025	501	750	20.518	0.145	0.964	0.981	0.005	0.027	0.027	568.299	0.013
Generator Sets	2025	1001	9999	47.32	0.173	2.812	1.008	0.005	0.047	0.047	568.299	0.015
Generator Sets	2030	6	15	1.573	0.592	4.164	3.47	0.008	0.166	0.166	568.299	0.053
Generator Sets	2030	16	25	3.15	0.686	4.347	2.34	0.007	0.165	0.165	568.299	0.061
Generator Sets	2030	26	50	2.512	0.315	3.107	3.64	0.007	0.038	0.038	568.299	0.028
Generator Sets	2030	51	120	3.616	0.178	1.645	3.316	0.006	0.034	0.034	568.299	0.016
Generator Sets	2030	121	175	4.837	0.13	0.601	2.929	0.006	0.023	0.023	568.299	0.011
Generator Sets	2030	176	250	6.637	0.12	0.504	0.998	0.006	0.016	0.016	568.299	0.01
Generator Sets	2030	251	500	10.441	0.119	0.476	0.978	0.005	0.015	0.015	568.299	0.01
Generator Sets	2030	501	750	16.888	0.119	0.482	0.978	0.005	0.015	0.015	568.299	0.01
Generator Sets	2030	1001	9999	35.17	0.128	2.483	0.979	0.005	0.029	0.029	568.299	0.011
Generator Sets	2035	6	15	1.565	0.589	4.143	3.47	0.008	0.162	0.162	568.299	0.053
Generator Sets	2035	16	25	3.144	0.685	4.332	2.34	0.007	0.162	0.162	568.299	0.061
Generator Sets	2035	26	50	2.206	0.276	2.991	3.607	0.007	0.018	0.018	568.299	0.024
Generator Sets	2035	51	120	3.176	0.156	1.458	3.31	0.006	0.016	0.016	568.299	0.014
Generator Sets	2035	121	175	4.187	0.113	0.373	2.929	0.006	0.013	0.013	568.299	0.01
Generator Sets	2035	176	250	6.1	0.11	0.331	0.998	0.006	0.011	0.011	568.299	0.009
Generator Sets	2035	251	500	9.666	0.11	0.328	0.978	0.005	0.011	0.011	568.299	0.009
Generator Sets	2035	501	750	15.606	0.11	0.328	0.978	0.005	0.011	0.011	568.299	0.009
Generator Sets	2035	1001	9999	31.223	0.114	2.362	0.978	0.005	0.022	0.022	568.299	0.01
Generator Sets	2040	6	15	1.565	0.589	4.142	3.469	0.008	0.161	0.161	568.299	0.053
Generator Sets	2040	16	25	3.144	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061

Generator Sets	2040	26	50	2.182	0.273	2.941	3.601	0.007	0.012	0.012	568.3	0.024
Generator Sets	2040	51	120	3.086	0.152	1.399	3.308	0.006	0.012	0.012	568.299	0.013
Generator Sets	2040	121	175	3.958	0.107	0.293	2.928	0.006	0.01	0.01	568.299	0.009
Generator Sets	2040	176	250	5.86	0.106	0.277	0.997	0.006	0.009	0.009	568.299	0.009
Generator Sets	2040	251	500	9.29	0.106	0.277	0.978	0.005	0.009	0.009	568.299	0.009
Generator Sets	2040	501	750	14.997	0.106	0.277	0.978	0.005	0.009	0.009	568.3	0.009
Generator Sets	2040	1001	9999	29.36	0.107	2.33	0.978	0.005	0.02	0.02	568.299	0.009
Graders	1990	26	50	10.997	4.776	7.935	9.678	0.871	1.265	1.265	568.3	0.431
Graders	1990	51	120	14.614	2.332	14.78	5.658	0.791	1.325	1.325	568.299	0.21
Graders	1990	121	175	17.684	1.707	13.838	5.007	0.758	0.946	0.946	568.299	0.154
Graders	1990	176	250	24.561	1.707	13.838	5.007	0.758	0.946	0.946	568.299	0.154
Graders	1990	251	500	29.01	1.512	13.128	10.95	0.662	0.811	0.811	568.299	0.136
Graders	1990	501	750	61.406	1.512	13.128	10.95	1.018	0.826	0.826	568.3	0.136
Graders	2000	26	50	10.331	4.487	7.082	9.239	0.066	0.935	0.935	568.299	0.404
Graders	2000	51	120	11.628	1.855	10.486	4.675	0.06	0.904	0.904	568.3	0.167
Graders	2000	121	175	13.017	1.256	9.601	3.786	0.057	0.531	0.531	568.299	0.113
Graders	2000	176	250	15.266	1.061	9.264	3.039	0.057	0.437	0.437	568.299	0.095
Graders	2000	251	500	18.455	0.961	8.805	4.848	0.05	0.384	0.384	568.3	0.086
Graders	2000	501	750	39.064	0.961	8.805	4.848	0.052	0.384	0.384	568.299	0.086
Graders	2005	26	50	9.193	3.993	6.612	8.559	0.066	0.868	0.868	568.299	0.36
Graders	2005	51	120	10.174	1.623	9.021	4.406	0.06	0.849	0.849	568.3	0.146
Graders	2005	121	175	11.01	1.062	8.238	3.522	0.057	0.469	0.469	568.299	0.095
Graders	2005	176	250	11.283	0.784	7.837	2.17	0.057	0.314	0.314	568.299	0.07
Graders	2005	251	500	13.286	0.692	7.117	2.913	0.05	0.279	0.279	568.299	0.062
Graders	2005	501	750	28.569	0.703	7.284	2.909	0.052	0.282	0.282	568.299	0.063
Graders	2010	26	50	3.618169	3.04	6.50487	8.828	0.005	0.852	0.783	547.2284	0.159
Graders	2010	51	120	1.572744	1.322	10.4805	4.95239	0.005	0.854	0.786	523.7684	0.152
Graders	2010	121	175	1.025452	0.862	8.98998	3.90428	0.005	0.496	0.456	536.7031	0.156
Graders	2010	176	250	0.425787	0.358	5.73143	1.43786	0.005	0.182	0.167	530.3343	0.154
Graders	2010	251	500	0.323814	0.272	3.80781	1.81115	0.005	0.142	0.13	525.6597	0.153
Graders	2010	501	750	21.764	0.535	5.386	1.861	0.005	0.202	0.202	568.299	0.048
Graders	2011	26	50	3.655035	3.071	6.52829	8.9223	0.005	0.86	0.791	545.8822	0.159
Graders	2011	51	120	1.554125	1.306	10.3495	4.9423	0.005	0.847	0.78	522.5082	0.152
Graders	2011	121	175	1.019798	0.857	8.91245	3.91881	0.005	0.494	0.455	535.2864	0.156
Graders	2011	176	250	0.436805	0.367	5.74733	1.44556	0.005	0.183	0.169	529.0473	0.154
Graders	2011	251	500	0.341103	0.287	3.81827	1.83104	0.005	0.144	0.132	524.3479	0.153
Graders	2011	501	750	20.697	0.509	4.992	1.744	0.005	0.184	0.184	568.299	0.045
Graders	2012	26	50	3.689945	3.101	6.55055	9.01183	0.005	0.867	0.798	544.5383	0.159
Graders	2012	51	120	1.550155	1.303	10.2881	4.94871	0.005	0.848	0.78	521.1967	0.152
Graders	2012	121	175	1.022941	0.86	8.89699	3.94251	0.005	0.496	0.456	533.878	0.156
Graders	2012	176	250	0.449323	0.378	5.777	1.45898	0.005	0.185	0.171	527.8224	0.154
Graders	2012	251	500	0.355329	0.299	3.8123	1.82432	0.005	0.145	0.133	522.8547	0.153
Graders	2012	501	750	19.697	0.485	4.624	1.642	0.005	0.168	0.168	568.299	0.043
Graders	2013	26	50	3.722893	3.128	6.57166	9.0966	0.005	0.874	0.804	541.8285	0.159
Graders	2013	51	120	1.548648	1.301	10.2424	4.95898	0.005	0.849	0.781	518.5552	0.152
Graders	2013	121	175	1.020021	0.857	8.8338	3.95423	0.005	0.495	0.455	530.9753	0.156
Graders	2013	176	250	0.455824	0.383	5.74577	1.45924	0.005	0.185	0.17	525.0407	0.154
Graders	2013	251	500	0.359627	0.302	3.71231	1.7965	0.005	0.141	0.13	520.0526	0.153
Graders	2013	501	750	18.765	0.462	4.281	1.556	0.005	0.152	0.152	568.299	0.041
Graders	2014	26	50	3.681797	3.094	6.54967	9.06534	0.005	0.867	0.798	539.1216	0.159
Graders	2014	51	120	1.510465	1.269	9.98567	4.91977	0.005	0.832	0.765	515.3819	0.152
Graders	2014	121	175	1.007876	0.847	8.70206	3.95083	0.005	0.488	0.449	527.8337	0.156
Graders	2014	176	250	0.463867	0.39	5.73998	1.46245	0.005	0.185	0.171	522.3298	0.154
Graders	2014	251	500	0.373775	0.314	3.71371	1.79096	0.005	0.143	0.131	517.3766	0.153
Graders	2014	501	750	17.784	0.437	3.876	1.483	0.005	0.138	0.138	568.299	0.039
Graders	2015	26	50	3.711306	3.119	6.56967	9.14399	0.005	0.874	0.804	533.6812	0.159
Graders	2015	51	120	1.474627	1.239	9.73775	4.88439	0.005	0.813	0.748	509.597	0.152
Graders	2015	121	175	1.004333	0.844	8.63742	3.95849	0.005	0.486	0.447	522.2182	0.156
Graders	2015	176	250	0.471304	0.396	5.72754	1.46577	0.005	0.186	0.171	517.1275	0.154
Graders	2015	251	500	0.388063	0.326	3.72122	1.79107	0.005	0.144	0.133	512.0975	0.153
Graders	2015	501	750	16.846	0.414	3.501	1.42	0.005	0.124	0.124	568.299	0.037
Graders	2016	26	50	3.670899	3.085	6.51973	9.10623	0.005	0.864	0.795	528.2444	0.159
Graders	2016	51	120	1.419659	1.193	9.41488	4.82948	0.005	0.78	0.718	503.1614	0.152
Graders	2016	121	175	0.963567	0.81	8.24966	3.91624	0.005	0.463	0.426	516.1305	0.156
Graders	2016	176	250	0.473996	0.398	5.6628	1.45911	0.005	0.184	0.169	511.6959	0.154
Graders	2016	251	500	0.397787	0.334	3.6858	1.77374	0.005	0.144	0.132	506.5064	0.153
Graders	2016	501	750	15.959	0.393	3.154	1.367	0.005	0.112	0.112	568.299	0.035
Graders	2017	26	50	3.5783	3.007	6.423	8.97826	0.005	0.843	0.776	520.0747	0.159
Graders	2017	51	120	1.385767	1.164	9.19125	4.81041	0.005	0.759	0.698	495.9186	0.152
Graders	2017	121	175	0.901	0.757	7.66265	3.84518	0.005	0.43	0.396	506.7478	0.155
Graders	2017	176	250	0.471391	0.396	5.52488	1.44905	0.005	0.18	0.166	503.8022	0.154
Graders	2017	251	500	0.397706	0.334	3.55709	1.70747	0.005	0.139	0.128	498.5996	0.153
Graders	2017	501	750	15.127	0.372	2.835	1.323	0.005	0.1	0.1	568.299	0.033
Graders	2018	26	50	3.342571	2.809	6.17962	8.62631	0.005	0.79	0.726	511.9098	0.159
Graders	2018	51	120	1.27956	1.075	8.51954	4.69711	0.005	0.697	0.641	487.6979	0.152
Graders	2018	121	175	0.78708	0.661	6.60465	3.70957	0.005	0.371	0.342	497.3767	0.155
Graders	2018	176	250	0.457376	0.384	5.27094	1.41595	0.005	0.171	0.158	495.431	0.154
Graders	2018	251	500	0.385909	0.324	3.44465	1.56446	0.005	0.129	0.119	490.5758	0.153
Graders	2018	501	750	14.353	0.353	2.543	1.286	0.005	0.09	0.09	568.299	0.031
Graders	2019	26	50	3.11378	2.616	5.94463	8.27912	0.005	0.737	0.678	503.7509	0.159
Graders	2019	51	120	1.228249	1.032	8.1592	4.6424	0.005	0.665	0.612	479.9011	0.152
Graders	2019	121	175	0.724541	0.609	6.01354	3.65586	0.005	0.337	0.31	489.0419	0.155
Graders	2019	176	250	0.428358	0.36	4.85575	1.35927	0.005	0.156	0.144	486.3288	0.154
Graders	2019	251	500	0.384059	0.323	3.21794	1.52849	0.005	0.124	0.114	482.5879	0.153
Graders	2019	501	750	13.635	0.335	2.276	1.255	0.005	0.08	0.08	568.299	0.03
Graders	2020	26	50	2.994737	2.516	5.82549	8.13394	0.005	0.709	0.652	492.8615	0.159
Graders	2020	51	120	1.161574	0.976	7.72513	4.56142	0.005	0.622	0.572	469.3371	0.152
Graders	2020	121	175	0.674427	0.567	5.53045	3.62102	0.005	0.309	0.284	478.0403	0.155
Graders	2020	176	250	0.41877	0.352	4.67787	1.34183	0.005	0.15	0.138	475.3037	0.154

Graders	2020	251	500	0.383198	0.322	3.10731	1.5256	0.005	0.121	0.111	471.9795	0.153
Graders	2020	501	750	12.961	0.319	2.031	1.229	0.005	0.072	0.072	568.299	0.028
Graders	2021	26	50	2.660206	2.235	5.48468	7.62621	0.005	0.631	0.581	492.9352	0.159
Graders	2021	51	120	1.072144	0.901	7.12535	4.45175	0.005	0.57	0.524	469.0701	0.152
Graders	2021	121	175	0.601372	0.505	4.83947	3.55896	0.005	0.27	0.248	478.5289	0.155
Graders	2021	176	250	0.398657	0.335	4.38134	1.30687	0.005	0.139	0.128	474.5386	0.153
Graders	2021	251	500	0.383194	0.322	3.01257	1.46044	0.005	0.117	0.108	471.8981	0.153
Graders	2021	501	750	12.333	0.303	1.808	1.207	0.005	0.064	0.064	568.299	0.027
Graders	2022	26	50	2.506375	2.106	5.33188	7.42848	0.005	0.595	0.547	493.0249	0.159
Graders	2022	51	120	0.947815	0.796	6.36004	4.32966	0.005	0.493	0.453	469.6301	0.152
Graders	2022	121	175	0.524016	0.44	4.12488	3.49283	0.005	0.229	0.211	478.5664	0.155
Graders	2022	176	250	0.365229	0.307	3.8881	1.27327	0.005	0.124	0.114	474.239	0.153
Graders	2022	251	500	0.370143	0.311	2.80191	1.38967	0.005	0.108	0.1	471.9278	0.153
Graders	2022	501	750	11.747	0.289	1.606	1.187	0.005	0.057	0.057	568.299	0.026
Graders	2023	26	50	2.316861	1.947	5.14799	7.19094	0.005	0.549	0.505	494.0202	0.16
Graders	2023	51	120	0.855685	0.719	5.74006	4.22811	0.005	0.436	0.401	469.2859	0.152
Graders	2023	121	175	0.463941	0.39	3.54785	3.45006	0.005	0.195	0.18	478.4629	0.155
Graders	2023	176	250	0.337478	0.284	3.44101	1.25173	0.005	0.111	0.103	473.9256	0.153
Graders	2023	251	500	0.367269	0.309	2.70451	1.38481	0.005	0.105	0.097	471.0306	0.152
Graders	2023	501	750	11.215	0.276	1.425	1.17	0.005	0.051	0.051	568.3	0.024
Graders	2024	26	50	2.201935	1.85	5.0278	7.05059	0.005	0.52	0.479	493.7913	0.16
Graders	2024	51	120	0.812369	0.683	5.43389	4.20033	0.005	0.408	0.375	469.8208	0.152
Graders	2024	121	175	0.433005	0.364	3.20219	3.43239	0.005	0.177	0.163	478.4966	0.155
Graders	2024	176	250	0.312074	0.262	3.07323	1.22497	0.005	0.1	0.092	473.6685	0.153
Graders	2024	251	500	0.348233	0.293	2.43171	1.35613	0.005	0.095	0.088	470.2664	0.152
Graders	2024	501	750	10.734	0.264	1.265	1.155	0.005	0.046	0.046	568.3	0.023
Graders	2025	26	50	2.21878	1.864	5.04301	7.12535	0.005	0.522	0.48	493.5322	0.16
Graders	2025	51	120	0.759044	0.638	5.07379	4.14911	0.005	0.371	0.342	468.3155	0.151
Graders	2025	121	175	0.391287	0.329	2.77396	3.41759	0.005	0.152	0.14	478.5084	0.155
Graders	2025	176	250	0.273788	0.23	2.55629	1.17888	0.005	0.082	0.076	473.4704	0.153
Graders	2025	251	500	0.332717	0.28	2.26485	1.31461	0.005	0.088	0.081	470.7533	0.152
Graders	2025	501	750	10.301	0.253	1.125	1.141	0.005	0.041	0.041	568.3	0.022
Graders	2030	26	50	1.493	0.648	3.53	5.239	0.007	0.065	0.065	568.299	0.058
Graders	2030	51	120	2.028	0.323	1.903	3.775	0.006	0.058	0.058	568.299	0.029
Graders	2030	121	175	2.458	0.237	0.815	3.326	0.006	0.038	0.038	568.3	0.021
Graders	2030	176	250	3.114	0.216	0.684	1.148	0.006	0.024	0.024	568.299	0.019
Graders	2030	251	500	4.115	0.214	0.647	1.097	0.005	0.023	0.023	568.299	0.019
Graders	2030	501	750	8.717	0.214	0.654	1.097	0.005	0.023	0.023	568.299	0.019
Graders	2035	26	50	1.367	0.593	3.356	5.189	0.007	0.037	0.037	568.299	0.053
Graders	2035	51	120	1.837	0.293	1.661	3.767	0.006	0.034	0.034	568.299	0.026
Graders	2035	121	175	2.136	0.206	0.506	3.326	0.006	0.022	0.022	568.3	0.018
Graders	2035	176	250	2.822	0.196	0.452	1.137	0.006	0.016	0.016	568.299	0.017
Graders	2035	251	500	3.746	0.195	0.434	1.083	0.005	0.016	0.016	568.299	0.017
Graders	2035	501	750	7.933	0.195	0.438	1.083	0.005	0.016	0.016	568.299	0.017
Graders	2040	26	50	1.297	0.563	3.298	5.161	0.007	0.026	0.026	568.3	0.05
Graders	2040	51	120	1.747	0.278	1.56	3.764	0.006	0.024	0.024	568.299	0.025
Graders	2040	121	175	2.002	0.193	0.38	3.326	0.006	0.017	0.017	568.299	0.017
Graders	2040	176	250	2.719	0.188	0.36	1.133	0.006	0.013	0.013	568.299	0.017
Graders	2040	251	500	3.619	0.188	0.351	1.079	0.005	0.013	0.013	568.299	0.017
Graders	2040	501	750	7.663	0.188	0.353	1.079	0.005	0.013	0.013	568.299	0.017
Off-Highway Tractors	1990	51	120	7.901	2.432	15.285	5.842	0.791	1.384	1.384	568.299	0.219
Off-Highway Tractors	1990	121	175	8.363	1.85	14.647	5.217	0.758	1.033	1.033	568.299	0.166
Off-Highway Tractors	1990	176	250	8.363	1.85	14.647	5.217	0.758	1.033	1.033	568.299	0.166
Off-Highway Tractors	1990	501	750	32.077	1.629	13.849	11.847	1.018	0.896	0.896	568.3	0.147
Off-Highway Tractors	1990	751	1000	45.779	1.622	13.849	11.847	1.018	0.888	0.888	568.3	0.146
Off-Highway Tractors	2000	51	120	6.648	2.047	11.606	5.046	0.06	0.972	0.972	568.299	0.184
Off-Highway Tractors	2000	121	175	6.386	1.413	10.675	4.213	0.057	0.602	0.602	568.299	0.127
Off-Highway Tractors	2000	176	250	5.736	1.269	10.426	3.665	0.057	0.532	0.532	568.299	0.114
Off-Highway Tractors	2000	501	750	22.339	1.134	9.864	6.836	0.052	0.461	0.461	568.299	0.102
Off-Highway Tractors	2000	751	1000	33.036	1.17	10.29	7.259	0.052	0.444	0.444	568.299	0.105
Off-Highway Tractors	2005	51	120	6.042	1.86	10.379	4.801	0.06	0.932	0.932	568.299	0.167
Off-Highway Tractors	2005	121	175	5.63	1.246	9.479	3.943	0.057	0.547	0.547	568.299	0.112
Off-Highway Tractors	2005	176	250	4.641	1.027	9.16	2.923	0.057	0.425	0.425	568.299	0.092
Off-Highway Tractors	2005	501	750	17.978	0.913	8.543	4.992	0.052	0.372	0.372	568.299	0.082
Off-Highway Tractors	2005	751	1000	27.525	0.975	9.293	5.369	0.052	0.359	0.359	568.299	0.088
Off-Highway Tractors	2010	51	120	1.004164	0.844	7.39576	4.06859	0.005	0.61	0.561	529.8898	0.154
Off-Highway Tractors	2010	121	175	0.623556	0.524	6.19445	3.25207	0.005	0.322	0.297	526.0485	0.153
Off-Highway Tractors	2010	176	250	0.540439	0.454	6.56823	1.80076	0.005	0.241	0.222	522.8212	0.152
Off-Highway Tractors	2010	501	750	0.353776	0.297	4.74911	1.65183	0.005	0.163	0.15	526.6401	0.153
Off-Highway Tractors	2010	751	1000	1.235451	1.038	12.2723	13.844	0.005	0.624	0.574	524.505	0.153
Off-Highway Tractors	2011	51	120	0.958318	0.805	7.12201	4.04749	0.005	0.588	0.541	528.6123	0.154
Off-Highway Tractors	2011	121	175	0.588696	0.495	5.88095	3.25718	0.005	0.307	0.282	524.5528	0.153
Off-Highway Tractors	2011	176	250	0.522937	0.439	6.3706	1.73271	0.005	0.23	0.212	521.5328	0.152
Off-Highway Tractors	2011	501	750	0.366196	0.308	4.77936	1.66137	0.005	0.166	0.153	525.3172	0.153
Off-Highway Tractors	2011	751	1000	1.235451	1.038	12.2723	13.844	0.005	0.624	0.574	523.1938	0.153
Off-Highway Tractors	2012	51	120	0.956826	0.804	7.07175	4.07302	0.005	0.588	0.541	527.1281	0.154
Off-Highway Tractors	2012	121	175	0.573556	0.482	5.70904	3.27598	0.005	0.299	0.276	523.1986	0.153
Off-Highway Tractors	2012	176	250	0.51645	0.434	6.26836	1.70131	0.005	0.225	0.207	520.2636	0.152
Off-Highway Tractors	2012	501	750	0.3785	0.318	4.80904	1.67078	0.005	0.169	0.155	523.9941	0.153
Off-Highway Tractors	2012	751	1000	1.235451	1.038	12.2723	13.844	0.005	0.624	0.574	521.8825	0.153
Off-Highway Tractors	2013	51	120	0.915141	0.769	6.79599	4.04714	0.005	0.564	0.519	524.1555	0.154
Off-Highway Tractors	2013	121	175	0.54434	0.457	5.42114	3.28016	0.005	0.281	0.258	520.6151	0.153
Off-Highway Tractors	2013	176	250	0.508791	0.428	6.11434	1.67153	0.005	0.219	0.201	517.5627	0.152
Off-Highway Tractors	2013	501	750	0.342496	0.288	4.32547	1.42496	0.005	0.149	0.137	519.6246	0.153
Off-Highway Tractors	2013	751	1000	1.235451	1.038	12.2723	13.844	0.005	0.624	0.574	519.26	0.153
Off-Highway Tractors	2014	51	120	0.830806	0.698	6.28073	3.97241	0.005	0.513	0.472	520.8244	0.154
Off-Highway Tractors	2014	121	175	0.504784	0.424	5.02525	3.26511	0.005	0.258	0.237	518.1639	0.153
Off-Highway Tractors	2014	176	250	0.481559	0.405	5.66092	1.62822	0.005	0.203	0.187	514.3699	0.152
Off-Highway Tractors	2014	501	750	0.317193	0.267	4.00651	1.33448	0.005	0.133	0.122	516.904	0.153

Off-Highway Tractors	2014	751	1000	0.100665	0.085	2.27938	0.94694	0.005	0.054	0.05	516.6375	0.153
Off-Highway Tractors	2015	51	120	0.802587	0.674	6.06726	3.96474	0.005	0.494	0.455	515.3203	0.154
Off-Highway Tractors	2015	121	175	0.478075	0.402	4.72365	3.26419	0.005	0.239	0.22	512.6079	0.153
Off-Highway Tractors	2015	176	250	0.476529	0.4	5.52773	1.60534	0.005	0.199	0.183	509.1896	0.152
Off-Highway Tractors	2015	501	750	0.312134	0.262	3.87437	1.17195	0.005	0.126	0.116	511.0814	0.153
Off-Highway Tractors	2015	751	1000	0.114305	0.096	2.29983	0.96003	0.005	0.056	0.051	511.3924	0.153
Off-Highway Tractors	2016	51	120	0.743357	0.625	5.6465	3.92464	0.005	0.454	0.418	509.4472	0.154
Off-Highway Tractors	2016	121	175	0.465284	0.391	4.51093	3.27806	0.005	0.229	0.211	507.6294	0.153
Off-Highway Tractors	2016	176	250	0.426838	0.359	4.92994	1.47177	0.005	0.171	0.157	504.1229	0.152
Off-Highway Tractors	2016	501	750	0.299821	0.252	3.57265	1.14348	0.005	0.117	0.108	505.762	0.153
Off-Highway Tractors	2016	751	1000	0.127675	0.107	2.31987	0.97285	0.005	0.057	0.053	506.1474	0.153
Off-Highway Tractors	2017	51	120	0.697857	0.586	5.31726	3.90108	0.005	0.423	0.389	501.2453	0.154
Off-Highway Tractors	2017	121	175	0.423504	0.356	4.02594	3.2589	0.005	0.205	0.189	499.2446	0.153
Off-Highway Tractors	2017	176	250	0.389773	0.328	4.38216	1.403	0.005	0.151	0.139	496.4983	0.152
Off-Highway Tractors	2017	501	750	0.294592	0.248	3.32351	1.14456	0.005	0.112	0.103	497.6181	0.152
Off-Highway Tractors	2017	751	1000	0.140776	0.118	2.33951	0.98542	0.005	0.059	0.054	498.2798	0.153
Off-Highway Tractors	2018	51	120	0.621057	0.522	4.78732	3.83227	0.005	0.373	0.343	492.8709	0.153
Off-Highway Tractors	2018	121	175	0.374746	0.315	3.49764	3.2191	0.005	0.176	0.162	491.3128	0.153
Off-Highway Tractors	2018	176	250	0.323278	0.272	3.45421	1.29494	0.005	0.119	0.109	488.6765	0.152
Off-Highway Tractors	2018	501	750	0.232675	0.196	2.1656	1.11871	0.005	0.081	0.074	490.1818	0.153
Off-Highway Tractors	2018	751	1000	0.153606	0.129	2.35874	0.99773	0.005	0.06	0.055	490.4122	0.153
Off-Highway Tractors	2019	51	120	0.562974	0.473	4.42145	3.79465	0.005	0.331	0.305	484.2693	0.153
Off-Highway Tractors	2019	121	175	0.350048	0.294	3.20755	3.21895	0.005	0.159	0.146	483.4306	0.153
Off-Highway Tractors	2019	176	250	0.283777	0.238	2.9142	1.21832	0.005	0.098	0.09	481.2751	0.152
Off-Highway Tractors	2019	501	750	0.244248	0.205	2.17682	1.12934	0.005	0.082	0.075	482.3091	0.153
Off-Highway Tractors	2019	751	1000	0.166166	0.14	2.37757	1.00978	0.005	0.062	0.057	482.5446	0.153
Off-Highway Tractors	2020	51	120	0.533073	0.448	4.18317	3.78798	0.005	0.307	0.282	474.1481	0.153
Off-Highway Tractors	2020	121	175	0.322507	0.271	2.89032	3.21511	0.005	0.14	0.129	472.9169	0.153
Off-Highway Tractors	2020	176	250	0.263453	0.221	2.57547	1.1813	0.005	0.086	0.079	470.943	0.152
Off-Highway Tractors	2020	501	750	0.239679	0.201	2.04663	1.13143	0.005	0.076	0.07	471.8151	0.153
Off-Highway Tractors	2020	751	1000	0.178457	0.15	2.39599	1.02156	0.005	0.063	0.058	472.0545	0.153
Off-Highway Tractors	2021	51	120	0.469894	0.395	3.77306	3.74258	0.005	0.261	0.24	474.5155	0.153
Off-Highway Tractors	2021	121	175	0.307902	0.259	2.65962	3.21953	0.005	0.129	0.118	472.9236	0.153
Off-Highway Tractors	2021	176	250	0.237665	0.2	2.11341	1.16179	0.005	0.072	0.067	471.0028	0.152
Off-Highway Tractors	2021	501	750	0.215694	0.181	1.71505	1.12237	0.005	0.063	0.058	471.8056	0.153
Off-Highway Tractors	2021	751	1000	0.190478	0.16	2.41401	1.0331	0.005	0.064	0.059	472.0545	0.153
Off-Highway Tractors	2022	51	120	0.414344	0.348	3.39986	3.70994	0.005	0.219	0.202	475.2338	0.154
Off-Highway Tractors	2022	121	175	0.275155	0.231	2.23877	3.18586	0.005	0.107	0.099	472.8111	0.153
Off-Highway Tractors	2022	176	250	0.213642	0.18	1.73242	1.14284	0.005	0.06	0.055	471.1313	0.152
Off-Highway Tractors	2022	501	750	0.20345	0.171	1.43309	1.12111	0.005	0.055	0.05	471.939	0.153
Off-Highway Tractors	2022	751	1000	0.202228	0.17	2.43162	1.04437	0.005	0.066	0.06	472.0545	0.153
Off-Highway Tractors	2023	51	120	0.37642	0.316	3.09527	3.68654	0.005	0.187	0.172	476.0871	0.154
Off-Highway Tractors	2023	121	175	0.239199	0.201	1.78476	3.14329	0.005	0.085	0.079	472.9962	0.153
Off-Highway Tractors	2023	176	250	0.20356	0.171	1.49148	1.13796	0.005	0.053	0.049	470.845	0.152
Off-Highway Tractors	2023	501	750	0.199838	0.168	1.28868	1.12418	0.005	0.051	0.047	471.9321	0.153
Off-Highway Tractors	2023	751	1000	0.213709	0.18	2.44883	1.05538	0.005	0.067	0.062	472.0545	0.153
Off-Highway Tractors	2024	51	120	0.359218	0.302	2.94932	3.69095	0.005	0.171	0.157	476.3711	0.154
Off-Highway Tractors	2024	121	175	0.21727	0.183	1.49579	3.1328	0.005	0.071	0.066	473.097	0.153
Off-Highway Tractors	2024	176	250	0.200963	0.169	1.37732	1.13461	0.005	0.049	0.045	470.6894	0.152
Off-Highway Tractors	2024	501	750	0.200706	0.169	1.23477	1.13006	0.005	0.048	0.044	471.9247	0.153
Off-Highway Tractors	2024	751	1000	0.22492	0.189	2.46563	1.06613	0.005	0.068	0.063	472.0545	0.153
Off-Highway Tractors	2025	51	120	0.32831	0.276	2.70745	3.66914	0.005	0.144	0.132	476.9211	0.154
Off-Highway Tractors	2025	121	175	0.208537	0.175	1.34858	3.14246	0.005	0.065	0.059	473.3021	0.153
Off-Highway Tractors	2025	176	250	0.183862	0.154	1.11624	1.13017	0.005	0.04	0.037	470.861	0.152
Off-Highway Tractors	2025	501	750	0.199094	0.167	1.11804	1.13452	0.005	0.045	0.041	471.9169	0.153
Off-Highway Tractors	2025	751	1000	0.235862	0.198	2.48203	1.07663	0.005	0.069	0.064	472.0545	0.153
Off-Highway Tractors	2030	51	120	1.683	0.518	2.959	3.944	0.006	0.175	0.175	568.299	0.046
Off-Highway Tractors	2030	121	175	1.689	0.373	1.916	3.435	0.006	0.104	0.104	568.299	0.033
Off-Highway Tractors	2030	176	250	1.423	0.315	1.715	1.286	0.006	0.064	0.064	568.299	0.028
Off-Highway Tractors	2030	501	750	5.992	0.304	1.59	1.351	0.005	0.06	0.06	568.299	0.027
Off-Highway Tractors	2030	751	1000	8.981	0.318	3.569	1.409	0.005	0.078	0.078	568.3	0.028
Off-Highway Tractors	2035	51	120	1.359	0.418	2.35	3.902	0.006	0.107	0.107	568.299	0.037
Off-Highway Tractors	2035	121	175	1.361	0.301	1.252	3.421	0.006	0.065	0.065	568.299	0.027
Off-Highway Tractors	2035	176	250	1.211	0.268	1.115	1.232	0.006	0.042	0.042	568.299	0.024
Off-Highway Tractors	2035	501	750	5.163	0.262	1.045	1.238	0.005	0.04	0.04	568.299	0.023
Off-Highway Tractors	2035	751	1000	7.617	0.269	3.116	1.268	0.005	0.056	0.056	568.299	0.024
Off-Highway Tractors	2040	51	120	1.176	0.362	1.976	3.878	0.006	0.067	0.067	568.299	0.032
Off-Highway Tractors	2040	121	175	1.162	0.257	0.836	3.412	0.006	0.041	0.041	568.299	0.023
Off-Highway Tractors	2040	176	250	1.073	0.237	0.747	1.198	0.006	0.028	0.028	568.299	0.021
Off-Highway Tractors	2040	501	750	4.612	0.234	0.71	1.164	0.005	0.027	0.027	568.299	0.021
Off-Highway Tractors	2040	751	1000	6.743	0.238	2.844	1.183	0.005	0.042	0.042	568.299	0.021
Off-Highway Trucks	1990	121	175	6.457	2.005	15.394	5.36	0.758	1.133	1.133	568.299	0.18
Off-Highway Trucks	1990	176	250	8.597	2.005	15.394	5.36	0.758	1.133	1.133	568.299	0.18
Off-Highway Trucks	1990	251	500	12.319	1.757	14.499	12.538	0.662	0.959	0.959	568.299	0.158
Off-Highway Trucks	1990	501	750	19.982	1.757	14.499	12.538	1.018	0.976	0.976	568.299	0.158
Off-Highway Trucks	1990	751	1000	28.084	1.746	14.499	12.538	1.018	0.963	0.963	568.3	0.157
Off-Highway Trucks	2000	121	175	4.115	1.278	9.57	3.772	0.057	0.548	0.548	568.299	0.115
Off-Highway Trucks	2000	176	250	4.454	1.039	9.178	2.896	0.057	0.425	0.425	568.299	0.093
Off-Highway Trucks	2000	251	500	6.594	0.94	8.675	4.214	0.05	0.376	0.376	568.299	0.084
Off-Highway Trucks	2000	501	750	10.696	0.94	8.675	4.214	0.052	0.376	0.376	568.299	0.084
Off-Highway Trucks	2000	751	1000	16.13	1.003	9.339	4.878	0.052	0.355	0.355	568.3	0.09
Off-Highway Trucks	2005	121	175	3.462	1.075	8.1	3.531	0.057	0.481	0.481	568.299	0.097
Off-Highway Trucks	2005	176	250	3.21	0.748	7.652	1.978	0.057	0.291	0.291	568.299	0.067
Off-Highway Trucks	2005	251	500	4.695	0.669	6.848	2.332	0.05	0.26	0.26	568.299	0.06
Off-Highway Trucks	2005	501	750	7.697	0.677	7.052	2.33	0.052	0.264	0.264	568.299	0.061
Off-Highway Trucks	2005	751	1000	12.436	0.773	8.177	2.812	0.052	0.266	0.266	568.299	0.069
Off-Highway Trucks	2010	121	175	0.758703	0.638	6.59182	3.51002	0.005	0.39	0.359	522.6455	0.152
Off-Highway Trucks	2010	176	250	0.657432	0.552	6.86617	2.13151	0.005	0.29	0.267	521.8781	0.152
Off-Highway Trucks	2010	251	500	0.5118	0.43	5.52051	2.32222	0.005	0.213	0.196	528.8078	0.154

Off-Highway Trucks	2010	501	750	0.633984	0.533	6.54487	3.68555	0.005	0.276	0.254	530.4366	0.154
Off-Highway Trucks	2010	751	1000	0.549873	0.462	7.15365	2.05613	0.005	0.211	0.194	526.5915	0.153
Off-Highway Trucks	2011	121	175	0.704506	0.592	6.13879	3.48667	0.005	0.357	0.328	521.3222	0.152
Off-Highway Trucks	2011	176	250	0.640546	0.538	6.53722	2.08881	0.005	0.278	0.256	520.1539	0.152
Off-Highway Trucks	2011	251	500	0.515485	0.433	5.39802	2.27798	0.005	0.21	0.193	527.2602	0.154
Off-Highway Trucks	2011	501	750	0.643792	0.541	6.51376	3.68121	0.005	0.276	0.254	529.0143	0.154
Off-Highway Trucks	2011	751	1000	0.55014	0.462	7.09609	2.03783	0.005	0.211	0.194	524.7459	0.153
Off-Highway Trucks	2012	121	175	0.704248	0.592	6.0668	3.51164	0.005	0.354	0.325	519.901	0.152
Off-Highway Trucks	2012	176	250	0.646155	0.543	6.43814	2.1013	0.005	0.277	0.255	518.7133	0.152
Off-Highway Trucks	2012	251	500	0.525914	0.442	5.37678	2.29017	0.005	0.21	0.193	525.9398	0.154
Off-Highway Trucks	2012	501	750	0.661317	0.556	6.55684	3.73128	0.005	0.28	0.258	527.6141	0.154
Off-Highway Trucks	2012	751	1000	0.55909	0.47	7.10377	2.05327	0.005	0.213	0.196	523.3305	0.153
Off-Highway Trucks	2013	121	175	0.671819	0.565	5.78297	3.51059	0.005	0.33	0.304	517.0124	0.152
Off-Highway Trucks	2013	176	250	0.623589	0.524	6.05816	2.04802	0.005	0.263	0.242	515.8273	0.152
Off-Highway Trucks	2013	251	500	0.502477	0.422	5.06239	2.17762	0.005	0.197	0.181	523.5459	0.154
Off-Highway Trucks	2013	501	750	0.645495	0.542	6.30864	3.55888	0.005	0.268	0.247	525.1075	0.154
Off-Highway Trucks	2013	751	1000	0.543085	0.456	6.89277	1.9094	0.005	0.205	0.189	520.5876	0.153
Off-Highway Trucks	2014	121	175	0.610195	0.513	5.21922	3.47308	0.005	0.292	0.269	514.0574	0.152
Off-Highway Trucks	2014	176	250	0.574728	0.483	5.4411	1.93163	0.005	0.235	0.217	512.8333	0.152
Off-Highway Trucks	2014	251	500	0.468214	0.393	4.68575	2.07518	0.005	0.18	0.165	521.0573	0.154
Off-Highway Trucks	2014	501	750	0.576983	0.485	5.57816	2.95299	0.005	0.231	0.212	521.2295	0.154
Off-Highway Trucks	2014	751	1000	0.493307	0.415	6.36534	1.77934	0.005	0.187	0.172	516.9385	0.153
Off-Highway Trucks	2015	121	175	0.604782	0.508	5.10449	3.48853	0.005	0.284	0.262	508.7011	0.152
Off-Highway Trucks	2015	176	250	0.563373	0.473	5.24228	1.89994	0.005	0.227	0.209	507.8087	0.152
Off-Highway Trucks	2015	251	500	0.457555	0.384	4.52794	2.0367	0.005	0.173	0.159	515.8419	0.154
Off-Highway Trucks	2015	501	750	0.537539	0.452	5.12427	2.61969	0.005	0.208	0.192	514.6436	0.154
Off-Highway Trucks	2015	751	1000	0.489174	0.411	6.28012	1.77206	0.005	0.185	0.17	511.1369	0.153
Off-Highway Trucks	2016	121	175	0.562854	0.473	4.64707	3.45883	0.005	0.258	0.237	503.5515	0.152
Off-Highway Trucks	2016	176	250	0.530487	0.446	4.82646	1.82377	0.005	0.208	0.191	502.4732	0.152
Off-Highway Trucks	2016	251	500	0.418147	0.351	4.04798	1.88523	0.005	0.153	0.141	509.8604	0.154
Off-Highway Trucks	2016	501	750	0.497396	0.418	4.64247	2.43646	0.005	0.187	0.172	508.3916	0.153
Off-Highway Trucks	2016	751	1000	0.467579	0.393	6.0352	1.70739	0.005	0.175	0.161	505.7218	0.153
Off-Highway Trucks	2017	121	175	0.525186	0.441	4.23649	3.43636	0.005	0.233	0.215	495.924	0.152
Off-Highway Trucks	2017	176	250	0.496493	0.417	4.36785	1.75281	0.005	0.189	0.174	494.7935	0.152
Off-Highway Trucks	2017	251	500	0.387096	0.325	3.66841	1.74773	0.005	0.136	0.125	501.4368	0.154
Off-Highway Trucks	2017	501	750	0.468516	0.394	4.25656	2.35644	0.005	0.17	0.157	500.1987	0.153
Off-Highway Trucks	2017	751	1000	0.430867	0.362	5.65254	1.54555	0.005	0.159	0.146	497.1154	0.152
Off-Highway Trucks	2018	121	175	0.456313	0.383	3.54273	3.38333	0.005	0.192	0.177	488.0439	0.152
Off-Highway Trucks	2018	176	250	0.405448	0.341	3.45071	1.54329	0.005	0.141	0.13	487.6353	0.152
Off-Highway Trucks	2018	251	500	0.341588	0.287	3.08995	1.5595	0.005	0.113	0.104	493.5059	0.154
Off-Highway Trucks	2018	501	750	0.413946	0.348	3.69054	2.17619	0.005	0.143	0.132	492.1136	0.153
Off-Highway Trucks	2018	751	1000	0.352998	0.297	4.85753	1.35734	0.005	0.126	0.116	487.7902	0.152
Off-Highway Trucks	2019	121	175	0.38382	0.323	2.82463	3.32598	0.005	0.149	0.137	480.3623	0.152
Off-Highway Trucks	2019	176	250	0.365362	0.307	2.98481	1.46079	0.005	0.119	0.109	480.1703	0.152
Off-Highway Trucks	2019	251	500	0.313575	0.263	2.66851	1.48346	0.005	0.097	0.089	485.3832	0.154
Off-Highway Trucks	2019	501	750	0.389037	0.327	3.32044	2.04129	0.005	0.129	0.118	483.2182	0.153
Off-Highway Trucks	2019	751	1000	0.351304	0.295	4.76495	1.3561	0.005	0.124	0.114	480.3479	0.152
Off-Highway Trucks	2020	121	175	0.36879	0.31	2.62769	3.3388	0.005	0.137	0.126	470.0967	0.152
Off-Highway Trucks	2020	176	250	0.327003	0.275	2.50726	1.39106	0.005	0.098	0.09	470.1675	0.152
Off-Highway Trucks	2020	251	500	0.292906	0.246	2.34677	1.41417	0.005	0.086	0.079	474.5787	0.153
Off-Highway Trucks	2020	501	750	0.371665	0.312	3.05816	2.02683	0.005	0.12	0.11	472.7499	0.153
Off-Highway Trucks	2020	751	1000	0.360605	0.303	4.79365	1.37163	0.005	0.125	0.115	469.8892	0.152
Off-Highway Trucks	2021	121	175	0.331341	0.278	2.24626	3.32405	0.005	0.113	0.104	470.2898	0.152
Off-Highway Trucks	2021	176	250	0.29675	0.249	2.10869	1.34839	0.005	0.082	0.076	470.1932	0.152
Off-Highway Trucks	2021	251	500	0.267636	0.225	1.95357	1.33781	0.005	0.072	0.066	474.542	0.153
Off-Highway Trucks	2021	501	750	0.348975	0.293	2.66798	1.93522	0.005	0.106	0.098	472.991	0.153
Off-Highway Trucks	2021	751	1000	0.304392	0.256	4.15817	1.25154	0.005	0.099	0.091	471.0552	0.152
Off-Highway Trucks	2022	121	175	0.286556	0.241	1.81091	3.28383	0.005	0.088	0.081	470.1813	0.152
Off-Highway Trucks	2022	176	250	0.255309	0.215	1.61794	1.27852	0.005	0.064	0.059	469.6151	0.152
Off-Highway Trucks	2022	251	500	0.233409	0.196	1.48975	1.24664	0.005	0.054	0.05	474.7136	0.154
Off-Highway Trucks	2022	501	750	0.313397	0.263	2.26799	1.74571	0.005	0.088	0.081	473.9773	0.153
Off-Highway Trucks	2022	751	1000	0.27833	0.234	3.84239	1.2141	0.005	0.086	0.079	472.3437	0.153
Off-Highway Trucks	2023	121	175	0.280582	0.236	1.68277	3.30432	0.005	0.081	0.074	470.2917	0.152
Off-Highway Trucks	2023	176	250	0.24623	0.207	1.45572	1.27325	0.005	0.059	0.054	469.4464	0.152
Off-Highway Trucks	2023	251	500	0.222566	0.187	1.32428	1.22057	0.005	0.048	0.044	475.0488	0.154
Off-Highway Trucks	2023	501	750	0.312722	0.263	2.18151	1.71923	0.005	0.084	0.078	473.7666	0.153
Off-Highway Trucks	2023	751	1000	0.254284	0.214	3.54374	1.19398	0.005	0.074	0.068	472.8574	0.153
Off-Highway Trucks	2024	121	175	0.266426	0.224	1.49436	3.3248	0.005	0.07	0.064	470.2638	0.152
Off-Highway Trucks	2024	176	250	0.240426	0.202	1.35543	1.25915	0.005	0.054	0.05	469.1126	0.152
Off-Highway Trucks	2024	251	500	0.219543	0.184	1.23518	1.20637	0.005	0.044	0.041	475.2203	0.154
Off-Highway Trucks	2024	501	750	0.308071	0.259	2.08486	1.64986	0.005	0.079	0.073	473.8394	0.153
Off-Highway Trucks	2024	751	1000	0.248432	0.209	3.43925	1.19994	0.005	0.069	0.064	473.0969	0.153
Off-Highway Trucks	2025	121	175	0.254265	0.214	1.3354	3.32765	0.005	0.065	0.06	470.0035	0.152
Off-Highway Trucks	2025	176	250	0.220008	0.185	1.12886	1.21268	0.005	0.043	0.04	469.1258	0.152
Off-Highway Trucks	2025	251	500	0.210955	0.177	1.06379	1.18233	0.005	0.038	0.035	474.9697	0.154
Off-Highway Trucks	2025	501	750	0.280009	0.235	1.75055	1.57807	0.005	0.066	0.061	476.314	0.154
Off-Highway Trucks	2025	751	1000	0.222695	0.187	3.13521	1.14565	0.005	0.057	0.052	473.3693	0.153
Off-Highway Trucks	2030	121	175	0.739	0.229	0.563	3.425	0.006	0.025	0.025	568.299	0.02
Off-Highway Trucks	2030	176	250	0.932	0.217	0.481	1.166	0.006	0.017	0.017	568.3	0.019
Off-Highway Trucks	2030	251	500	1.52	0.216	0.458	1.104	0.005	0.017	0.017	568.299	0.019
Off-Highway Trucks	2030	501	750	2.467	0.217	0.463	1.104	0.005	0.017	0.017	568.299	0.019
Off-Highway Trucks	2030	751	1000	3.55	0.22	2.651	1.107	0.005	0.033	0.033	568.3	0.019
Off-Highway Trucks	2035	121	175	0.68	0.211	0.38	3.425	0.006	0.016	0.016	568.299	0.019
Off-Highway Trucks	2035	176	250	0.894	0.208	0.353	1.167	0.006	0.013	0.013	568.299	0.018
Off-Highway Trucks	2035	251	500	1.461	0.208	0.348	1.105	0.005	0.013	0.013	568.299	0.018
Off-Highway Trucks	2035	501	750	2.371	0.208	0.348	1.105	0.005	0.013	0.013	568.299	0.018
Off-Highway Trucks	2035	751	1000	3.368	0.209	2.565	1.105	0.005	0.028	0.028	568.299	0.018
Off-Highway Trucks	2040	121	175	0.662	0.205	0.318	3.426	0.006	0.013	0.013	568.299	0.018
Off-Highway Trucks	2040	176	250	0.877								

Off-Highway Trucks	2040	251	500	1.434	0.204	0.305	1.105	0.005	0.012	0.012	568.299	0.018
Off-Highway Trucks	2040	501	750	2.327	0.204	0.305	1.105	0.005	0.012	0.012	568.299	0.018
Off-Highway Trucks	2040	751	1000	3.296	0.205	2.532	1.105	0.005	0.026	0.026	568.299	0.018
Other Construction Equipn	1990	6	15	5.348	1.804	9.999	4.999	1.049	0.975	0.975	568.3	0.162
Other Construction Equipn	1990	16	25	8.578	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Other Construction Equipn	1990	26	50	39.33	4.791	7.947	9.693	0.871	1.267	1.267	568.299	0.432
Other Construction Equipn	1990	51	120	56.637	2.388	15.176	5.782	0.791	1.343	1.343	568.299	0.215
Other Construction Equipn	1990	121	175	60.86	1.948	15.112	5.191	0.758	1.085	1.085	568.299	0.175
Other Construction Equipn	1990	251	500	128.26	1.72	14.332	11.412	0.662	0.927	0.927	568.299	0.155
Other Construction Equipn	2000	6	15	4.374	1.475	8.242	4.49	0.079	0.676	0.676	568.299	0.133
Other Construction Equipn	2000	16	25	7.591	1.958	6.358	4.53	0.065	0.563	0.563	568.3	0.176
Other Construction Equipn	2000	26	50	30.619	3.73	6.784	7.85	0.066	0.816	0.816	568.299	0.336
Other Construction Equipn	2000	51	120	38.817	1.636	9.507	4.283	0.06	0.786	0.786	568.3	0.147
Other Construction Equipn	2000	121	175	34.573	1.106	8.749	3.417	0.057	0.453	0.453	568.299	0.099
Other Construction Equipn	2000	251	500	61.92	0.83	8.069	3.67	0.05	0.321	0.321	568.299	0.074
Other Construction Equipn	2005	6	15	2.271	0.766	5.228	3.469	0.079	0.361	0.361	568.299	0.069
Other Construction Equipn	2005	16	25	3.564	0.919	5.412	2.642	0.065	0.347	0.347	568.3	0.082
Other Construction Equipn	2005	26	50	26.204	3.192	6.226	7.102	0.066	0.739	0.739	568.299	0.288
Other Construction Equipn	2005	51	120	33.145	1.397	8.067	4.043	0.06	0.725	0.725	568.299	0.126
Other Construction Equipn	2005	121	175	28.235	0.903	7.379	3.208	0.057	0.392	0.392	568.299	0.081
Other Construction Equipn	2005	251	500	41.035	0.55	6.334	2.051	0.05	0.22	0.22	568.299	0.049
Other Construction Equipn	2010	6	15	1.52864	1.284	5.55407	5.29076	0.005	0.497	0.457	587.5495	0.171
Other Construction Equipn	2010	16	25	1.52864	1.284	5.55407	5.29076	0.005	0.497	0.457	587.5495	0.171
Other Construction Equipn	2010	26	50	1.52864	1.284	5.55407	5.29076	0.005	0.497	0.457	587.5495	0.171
Other Construction Equipn	2010	51	120	0.92739	0.779	7.11752	3.89903	0.005	0.549	0.505	523.1661	0.152
Other Construction Equipn	2010	121	175	0.769602	0.647	7.30949	3.47406	0.005	0.38	0.349	522.1244	0.152
Other Construction Equipn	2010	251	500	0.480247	0.404	5.78616	3.20434	0.005	0.219	0.201	530.8514	0.155
Other Construction Equipn	2011	6	15	1.531741	1.287	5.5686	5.36962	0.005	0.499	0.459	586.0703	0.171
Other Construction Equipn	2011	16	25	1.531741	1.287	5.5686	5.36962	0.005	0.499	0.459	586.0703	0.171
Other Construction Equipn	2011	26	50	1.531741	1.287	5.5686	5.36962	0.005	0.499	0.459	586.0703	0.171
Other Construction Equipn	2011	51	120	0.909764	0.764	6.98332	3.89723	0.005	0.542	0.498	521.5282	0.152
Other Construction Equipn	2011	121	175	0.725704	0.61	6.92098	3.41832	0.005	0.361	0.332	520.664	0.152
Other Construction Equipn	2011	251	500	0.449646	0.378	5.42766	2.91483	0.005	0.204	0.188	529.9639	0.155
Other Construction Equipn	2012	6	15	1.548775	1.301	5.58169	5.47004	0.005	0.503	0.463	584.6639	0.171
Other Construction Equipn	2012	16	25	1.548775	1.301	5.58169	5.47004	0.005	0.503	0.463	584.6639	0.171
Other Construction Equipn	2012	26	50	1.548775	1.301	5.58169	5.47004	0.005	0.503	0.463	584.6639	0.171
Other Construction Equipn	2012	51	120	0.910724	0.765	6.95644	3.91674	0.005	0.543	0.5	519.9075	0.152
Other Construction Equipn	2012	121	175	0.730754	0.614	6.91612	3.4429	0.005	0.363	0.334	519.3479	0.152
Other Construction Equipn	2012	251	500	0.458869	0.386	5.42334	2.95715	0.005	0.206	0.189	528.6246	0.155
Other Construction Equipn	2013	6	15	1.571874	1.321	5.60361	5.57699	0.005	0.509	0.468	581.8471	0.171
Other Construction Equipn	2013	16	25	1.571874	1.321	5.60361	5.57699	0.005	0.509	0.468	581.8471	0.171
Other Construction Equipn	2013	26	50	1.571874	1.321	5.60361	5.57699	0.005	0.509	0.468	581.8471	0.171
Other Construction Equipn	2013	51	120	0.892781	0.75	6.82868	3.91866	0.005	0.532	0.489	517.5939	0.152
Other Construction Equipn	2013	121	175	0.708053	0.595	6.69102	3.41257	0.005	0.351	0.323	516.9857	0.152
Other Construction Equipn	2013	251	500	0.440093	0.37	5.14317	2.79519	0.005	0.194	0.179	525.1086	0.154
Other Construction Equipn	2014	6	15	1.547867	1.301	5.56546	5.60223	0.005	0.502	0.462	578.9591	0.171
Other Construction Equipn	2014	16	25	1.547867	1.301	5.56546	5.60223	0.005	0.502	0.462	578.9591	0.171
Other Construction Equipn	2014	26	50	1.547867	1.301	5.56546	5.60223	0.005	0.502	0.462	578.9591	0.171
Other Construction Equipn	2014	51	120	0.866935	0.728	6.63282	3.90558	0.005	0.518	0.476	515.2847	0.152
Other Construction Equipn	2014	121	175	0.674237	0.567	6.37185	3.38516	0.005	0.333	0.307	514.5518	0.152
Other Construction Equipn	2014	251	500	0.392211	0.33	4.5608	2.47571	0.005	0.168	0.155	520.9444	0.154
Other Construction Equipn	2015	6	15	1.557753	1.309	5.56397	5.68113	0.005	0.503	0.463	573.0198	0.171
Other Construction Equipn	2015	16	25	1.557753	1.309	5.56397	5.68113	0.005	0.503	0.463	573.0198	0.171
Other Construction Equipn	2015	26	50	1.557753	1.309	5.56397	5.68113	0.005	0.503	0.463	573.0198	0.171
Other Construction Equipn	2015	51	120	0.860334	0.723	6.53649	3.9159	0.005	0.512	0.471	510.1706	0.152
Other Construction Equipn	2015	121	175	0.66302	0.557	6.2305	3.38183	0.005	0.326	0.3	509.3069	0.152
Other Construction Equipn	2015	251	500	0.386006	0.324	4.41519	2.40724	0.005	0.163	0.15	515.1953	0.154
Other Construction Equipn	2016	6	15	1.524032	1.281	5.49921	5.67687	0.005	0.492	0.453	566.9782	0.171
Other Construction Equipn	2016	16	25	1.524032	1.281	5.49921	5.67687	0.005	0.492	0.453	566.9782	0.171
Other Construction Equipn	2016	26	50	1.524032	1.281	5.49921	5.67687	0.005	0.492	0.453	566.9782	0.171
Other Construction Equipn	2016	51	120	0.837049	0.703	6.32533	3.90894	0.005	0.496	0.456	505.349	0.152
Other Construction Equipn	2016	121	175	0.62413	0.524	5.81763	3.35672	0.005	0.306	0.281	503.9641	0.152
Other Construction Equipn	2016	251	500	0.366005	0.308	4.08972	2.28488	0.005	0.151	0.139	509.7062	0.154
Other Construction Equipn	2017	6	15	1.480652	1.244	5.42066	5.65509	0.005	0.477	0.439	558.0007	0.171
Other Construction Equipn	2017	16	25	1.480652	1.244	5.42066	5.65509	0.005	0.477	0.439	558.0007	0.171
Other Construction Equipn	2017	26	50	1.480652	1.244	5.42066	5.65509	0.005	0.477	0.439	558.0007	0.171
Other Construction Equipn	2017	51	120	0.804436	0.676	6.06955	3.88542	0.005	0.475	0.437	497.3832	0.152
Other Construction Equipn	2017	121	175	0.595557	0.5	5.49424	3.33767	0.005	0.29	0.267	495.9311	0.152
Other Construction Equipn	2017	251	500	0.3449	0.29	3.77706	2.12114	0.005	0.138	0.127	501.1295	0.154
Other Construction Equipn	2018	6	15	1.39068	1.169	5.27161	5.54108	0.005	0.449	0.413	548.9388	0.171
Other Construction Equipn	2018	16	25	1.39068	1.169	5.27161	5.54108	0.005	0.449	0.413	548.9388	0.171
Other Construction Equipn	2018	26	50	1.39068	1.169	5.27161	5.54108	0.005	0.449	0.413	548.9388	0.171
Other Construction Equipn	2018	51	120	0.711314	0.598	5.44123	3.79863	0.005	0.417	0.383	490.018	0.153
Other Construction Equipn	2018	121	175	0.519398	0.436	4.75499	3.26346	0.005	0.25	0.23	487.9859	0.152
Other Construction Equipn	2018	251	500	0.298599	0.251	3.16693	1.81261	0.005	0.115	0.105	493.36	0.154
Other Construction Equipn	2019	6	15	1.370834	1.152	5.20338	5.54123	0.005	0.437	0.402	539.7349	0.171
Other Construction Equipn	2019	16	25	1.370834	1.152	5.20338	5.54123	0.005	0.437	0.402	539.7349	0.171
Other Construction Equipn	2019	26	50	1.370834	1.152	5.20338	5.54123	0.005	0.437	0.402	539.7349	0.171
Other Construction Equipn	2019	51	120	0.655004	0.55	5.04831	3.7535	0.005	0.379	0.349	482.2177	0.153
Other Construction Equipn	2019	121	175	0.490382	0.412	4.4331	3.25619	0.005	0.233	0.215	480.4518	0.152
Other Construction Equipn	2019	251	500	0.277883	0.233	2.85547	1.66739	0.005	0.103	0.094	485.4127	0.154
Other Construction Equipn	2020	6	15	1.276029	1.072	5.03626	5.40446	0.005	0.405	0.373	527.9656	0.171
Other Construction Equipn	2020	16	25	1.276029	1.072	5.03626	5.40446	0.005	0.405	0.373	527.9656	0.171
Other Construction Equipn	2020	26	50	1.276029	1.072	5.03626	5.40446	0.005	0.405	0.373	527.9656	0.171
Other Construction Equipn	2020	51	120	0.617777	0.519	4.7712	3.73189	0.005	0.354	0.325	472.2162	0.153
Other Construction Equipn	2020	121	175	0.461441	0.388	4.11203	3.23528	0.005	0.217	0.2	469.9837	0.152
Other Construction Equipn	2020	251	500	0.266788	0.224	2.63672	1.6338	0.005	0.096	0.088	475.2326	0.154
Other Construction Equipn	2021	6	15	1.201423	1.01	4.90234	5.30749	0.005	0.382	0.351	527.7834	0.171
Other Construction Equipn	2021	16	25	1.201423	1.01	4.90234	5.30749	0.005	0.382	0.351	527.7834	0.171



Other Construction Equipn	2021	26	50	1.201423	1.01	4.90234	5.30749	0.005	0.382	0.351	527.7834	0.171
Other Construction Equipn	2021	51	120	0.573212	0.482	4.4558	3.70304	0.005	0.323	0.298	472.275	0.153
Other Construction Equipn	2021	121	175	0.392185	0.33	3.43847	3.18275	0.005	0.18	0.165	469.7642	0.152
Other Construction Equipn	2021	251	500	0.256006	0.215	2.42822	1.59874	0.005	0.09	0.082	475.2124	0.154
Other Construction Equipn	2022	6	15	1.094466	0.92	4.74117	5.16732	0.005	0.348	0.32	529.1825	0.171
Other Construction Equipn	2022	16	25	1.094466	0.92	4.74117	5.16732	0.005	0.348	0.32	529.1825	0.171
Other Construction Equipn	2022	26	50	1.094466	0.92	4.74117	5.16732	0.005	0.348	0.32	529.1825	0.171
Other Construction Equipn	2022	51	120	0.523663	0.44	4.09846	3.66623	0.005	0.288	0.265	472.3178	0.153
Other Construction Equipn	2022	121	175	0.351187	0.295	2.99437	3.15539	0.005	0.156	0.144	469.6126	0.152
Other Construction Equipn	2022	251	500	0.223796	0.188	1.97544	1.43828	0.005	0.074	0.068	475.9983	0.154
Other Construction Equipn	2023	6	15	1.030598	0.866	4.59446	5.07368	0.005	0.322	0.296	529.3389	0.171
Other Construction Equipn	2023	16	25	1.030598	0.866	4.59446	5.07368	0.005	0.322	0.296	529.3389	0.171
Other Construction Equipn	2023	26	50	1.030598	0.866	4.59446	5.07368	0.005	0.322	0.296	529.3389	0.171
Other Construction Equipn	2023	51	120	0.482844	0.406	3.79013	3.63188	0.005	0.259	0.238	471.9899	0.153
Other Construction Equipn	2023	121	175	0.325455	0.273	2.69821	3.14152	0.005	0.14	0.129	469.5579	0.152
Other Construction Equipn	2023	251	500	0.214667	0.18	1.81226	1.39596	0.005	0.069	0.063	476.1847	0.154
Other Construction Equipn	2024	6	15	0.984979	0.828	4.51017	5.03181	0.005	0.305	0.28	529.2094	0.171
Other Construction Equipn	2024	16	25	0.984979	0.828	4.51017	5.03181	0.005	0.305	0.28	529.2094	0.171
Other Construction Equipn	2024	26	50	0.984979	0.828	4.51017	5.03181	0.005	0.305	0.28	529.2094	0.171
Other Construction Equipn	2024	51	120	0.454266	0.382	3.58173	3.61958	0.005	0.237	0.218	472.1254	0.153
Other Construction Equipn	2024	121	175	0.310043	0.261	2.52019	3.14951	0.005	0.13	0.12	469.5445	0.152
Other Construction Equipn	2024	251	500	0.208244	0.175	1.67692	1.38248	0.005	0.064	0.059	476.4838	0.154
Other Construction Equipn	2025	6	15	0.901061	0.757	4.30575	4.87388	0.005	0.268	0.246	528.9535	0.171
Other Construction Equipn	2025	16	25	0.901061	0.757	4.30575	4.87388	0.005	0.268	0.246	528.9535	0.171
Other Construction Equipn	2025	26	50	0.901061	0.757	4.30575	4.87388	0.005	0.268	0.246	528.9535	0.171
Other Construction Equipn	2025	51	120	0.40612	0.341	3.25221	3.58397	0.005	0.203	0.187	472.7482	0.153
Other Construction Equipn	2025	121	175	0.279358	0.235	2.16742	3.13647	0.005	0.112	0.103	469.843	0.152
Other Construction Equipn	2025	251	500	0.200431	0.168	1.55241	1.3582	0.005	0.059	0.055	476.2959	0.154
Other Construction Equipn	2030	6	15	1.96	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Other Construction Equipn	2030	16	25	2.657	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Other Construction Equipn	2030	26	50	3.526	0.429	3.19	4.39	0.007	0.03	0.03	568.299	0.038
Other Construction Equipn	2030	51	120	5.348	0.225	1.576	3.538	0.006	0.027	0.027	568.3	0.02
Other Construction Equipn	2030	121	175	5.057	0.161	0.459	3.127	0.006	0.019	0.019	568.299	0.014
Other Construction Equipn	2030	251	500	11.523	0.154	0.391	1.028	0.005	0.014	0.014	568.3	0.013
Other Construction Equipn	2035	6	15	1.96	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Other Construction Equipn	2035	16	25	2.657	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Other Construction Equipn	2035	26	50	3.367	0.41	3.124	4.377	0.007	0.018	0.018	568.299	0.037
Other Construction Equipn	2035	51	120	5.057	0.213	1.474	3.536	0.006	0.017	0.017	568.299	0.019
Other Construction Equipn	2035	121	175	4.686	0.15	0.334	3.128	0.006	0.013	0.013	568.299	0.013
Other Construction Equipn	2035	251	500	11.034	0.147	0.311	1.029	0.005	0.011	0.011	568.299	0.013
Other Construction Equipn	2040	6	15	1.96	0.661	4.142	3.47	0.008	0.161	0.161	568.3	0.059
Other Construction Equipn	2040	16	25	2.657	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Other Construction Equipn	2040	26	50	3.359	0.409	3.096	4.377	0.007	0.015	0.015	568.3	0.036
Other Construction Equipn	2040	51	120	4.992	0.21	1.441	3.536	0.006	0.014	0.014	568.299	0.018
Other Construction Equipn	2040	121	175	4.556	0.145	0.29	3.128	0.006	0.011	0.011	568.299	0.013
Other Construction Equipn	2040	251	500	10.825	0.145	0.282	1.029	0.005	0.01	0.01	568.299	0.013
Other General Industrial Ec	1990	6	15	4.264	1.804	9.999	4.999	0.833	0.968	0.968	568.299	0.162
Other General Industrial Ec	1990	16	25	12.555	2.213	6.919	4.999	0.679	0.735	0.735	568.299	0.199
Other General Industrial Ec	1990	26	50	38.808	4.828	7.957	9.768	0.692	1.266	1.266	568.299	0.435
Other General Industrial Ec	1990	51	120	54.2	2.363	14.962	5.72	0.628	1.331	1.331	568.299	0.213
Other General Industrial Ec	1990	121	175	57.106	1.61	13.434	5.066	0.602	0.88	0.88	568.299	0.145
Other General Industrial Ec	1990	176	250	80.71	1.61	13.434	5.066	0.602	0.88	0.88	568.299	0.145
Other General Industrial Ec	1990	251	500	139.861	1.425	12.743	11.207	0.525	0.756	0.756	568.299	0.128
Other General Industrial Ec	1990	501	750	230.516	1.425	12.743	11.207	0.538	0.756	0.756	568.299	0.128
Other General Industrial Ec	1990	751	1000	293.256	1.417	12.743	11.207	0.538	0.746	0.746	568.299	0.127
Other General Industrial Ec	2000	6	15	2.475	1.047	7.362	4.258	0.079	0.428	0.428	568.299	0.094
Other General Industrial Ec	2000	16	25	5.83	1.027	6.284	4.322	0.064	0.431	0.431	568.299	0.092
Other General Industrial Ec	2000	26	50	36.086	4.49	7.09	9.236	0.065	0.935	0.935	568.299	0.405
Other General Industrial Ec	2000	51	120	43.196	1.883	10.664	4.733	0.059	0.91	0.91	568.299	0.169
Other General Industrial Ec	2000	121	175	44.74	1.261	9.686	3.852	0.057	0.536	0.536	568.299	0.113
Other General Industrial Ec	2000	176	250	53	1.057	9.325	3.072	0.057	0.438	0.438	568.299	0.095
Other General Industrial Ec	2000	251	500	93.834	0.956	8.862	5.179	0.049	0.385	0.385	568.299	0.086
Other General Industrial Ec	2000	501	750	154.656	0.956	8.862	5.179	0.051	0.385	0.385	568.3	0.086
Other General Industrial Ec	2000	751	1000	214.063	1.034	9.479	5.791	0.051	0.385	0.385	568.299	0.093
Other General Industrial Ec	2005	6	15	1.674	0.708	4.985	3.469	0.079	0.35	0.35	568.299	0.063
Other General Industrial Ec	2005	16	25	4.288	0.755	5.226	2.4	0.064	0.315	0.315	568.299	0.068
Other General Industrial Ec	2005	26	50	33.133	4.122	6.676	8.765	0.065	0.888	0.888	568.299	0.371
Other General Industrial Ec	2005	51	120	37.812	1.649	9.041	4.418	0.059	0.867	0.867	568.299	0.148
Other General Industrial Ec	2005	121	175	38.439	1.084	8.273	3.513	0.057	0.479	0.479	568.299	0.097
Other General Industrial Ec	2005	176	250	38.228	0.762	7.795	2.065	0.057	0.301	0.301	568.299	0.068
Other General Industrial Ec	2005	251	500	66.246	0.675	7.094	2.681	0.049	0.269	0.269	568.299	0.06
Other General Industrial Ec	2005	501	750	110.94	0.686	7.252	2.681	0.051	0.272	0.272	568.3	0.061
Other General Industrial Ec	2005	751	1000	166.893	0.806	8.322	3.276	0.051	0.28	0.28	568.299	0.072
Other General Industrial Ec	2010	6	15	1.873274	1.574	5.68505	6.00712	0.005	0.563	0.518	584.6401	0.17
Other General Industrial Ec	2010	16	25	1.873274	1.574	5.68505	6.00712	0.005	0.563	0.518	584.6401	0.17
Other General Industrial Ec	2010	26	50	1.873274	1.574	5.68505	6.00712	0.005	0.563	0.518	584.6401	0.17
Other General Industrial Ec	2010	51	120	1.01726	0.855	7.36447	4.0773	0.005	0.611	0.562	522.222	0.152
Other General Industrial Ec	2010	121	175	0.746027	0.627	7.0202	3.51505	0.005	0.379	0.349	524.278	0.153
Other General Industrial Ec	2010	176	250	0.769173	0.646	8.04899	2.61803	0.005	0.359	0.33	525.8035	0.153
Other General Industrial Ec	2010	251	500	0.489206	0.411	5.68219	2.96412	0.005	0.219	0.202	525.4767	0.153
Other General Industrial Ec	2010	501	750	0.368598	0.31	4.78207	1.62081	0.005	0.168	0.154	526.0709	0.153
Other General Industrial Ec	2010	751	1000	0.368913	0.31	6.10226	1.02418	0.005	0.148	0.136	524.505	0.153
Other General Industrial Ec	2011	6	15	1.86071	1.564	5.69446	6.08575	0.005	0.562	0.517	583.1785	0.17
Other General Industrial Ec	2011	16	25	1.86071	1.564	5.69446	6.08575	0.005	0.562	0.517	583.1785	0.17
Other General Industrial Ec	2011	26	50	1.86071	1.564	5.69446	6.08575	0.005	0.562	0.517	583.1785	0.17
Other General Industrial Ec	2011	51	120	1.006419	0.846	7.24885	4.08854	0.005	0.609	0.56	520.9164	0.152
Other General Industrial Ec	2011	121	175	0.688559	0.579	6.5273	3.47165	0.005	0.352	0.324	522.9673	0.153
Other General Industrial Ec	2011	176	250	0.679053	0.571	7.30022	2.33422	0.005	0.313	0.288	524.489	0.153
Other General Industrial Ec	2011	251	500	0.467324	0.393	5.42881	2.74249	0.005	0.207	0.19	524.163	0.153

Other General Industrial Ec	2011	501	750	0.373245	0.314	4.72869	1.62791	0.005	0.163	0.15	524.7557	0.153
Other General Industrial Ec	2011	751	1000	0.37971	0.319	6.1714	1.03813	0.005	0.153	0.141	523.1938	0.153
Other General Industrial Ec	2012	6	15	1.895405	1.593	5.71254	6.24676	0.005	0.569	0.524	581.7169	0.17
Other General Industrial Ec	2012	16	25	1.895405	1.593	5.71254	6.24676	0.005	0.569	0.524	581.7169	0.17
Other General Industrial Ec	2012	26	50	1.895405	1.593	5.71254	6.24676	0.005	0.569	0.524	581.7169	0.17
Other General Industrial Ec	2012	51	120	1.008569	0.847	7.21493	4.12133	0.005	0.612	0.563	519.6109	0.152
Other General Industrial Ec	2012	121	175	0.685664	0.576	6.44491	3.49618	0.005	0.349	0.321	521.6566	0.153
Other General Industrial Ec	2012	176	250	0.675065	0.567	7.14362	2.33594	0.005	0.308	0.284	523.1745	0.153
Other General Industrial Ec	2012	251	500	0.47625	0.4	5.39821	2.75094	0.005	0.207	0.19	522.8493	0.153
Other General Industrial Ec	2012	501	750	0.379047	0.319	4.69855	1.63473	0.005	0.161	0.148	523.4405	0.153
Other General Industrial Ec	2012	751	1000	0.390508	0.328	6.24054	1.05208	0.005	0.158	0.145	521.8825	0.153
Other General Industrial Ec	2013	6	15	1.848739	1.553	5.64536	6.26146	0.005	0.556	0.511	578.7937	0.17
Other General Industrial Ec	2013	16	25	1.848739	1.553	5.64536	6.26146	0.005	0.556	0.511	578.7937	0.17
Other General Industrial Ec	2013	26	50	1.848739	1.553	5.64536	6.26146	0.005	0.556	0.511	578.7937	0.17
Other General Industrial Ec	2013	51	120	0.982208	0.825	7.03299	4.11871	0.005	0.597	0.549	516.9998	0.152
Other General Industrial Ec	2013	121	175	0.6403	0.538	6.02319	3.4592	0.005	0.324	0.298	519.0352	0.153
Other General Industrial Ec	2013	176	250	0.609561	0.512	6.51958	2.15134	0.005	0.273	0.251	520.5455	0.153
Other General Industrial Ec	2013	251	500	0.434695	0.365	4.82071	2.62159	0.005	0.183	0.168	520.2219	0.153
Other General Industrial Ec	2013	501	750	0.344704	0.29	4.12057	1.58393	0.005	0.139	0.128	520.8102	0.153
Other General Industrial Ec	2013	751	1000	0.401306	0.337	6.30968	1.06602	0.005	0.162	0.149	519.26	0.153
Other General Industrial Ec	2014	6	15	1.810128	1.521	5.58361	6.28785	0.005	0.544	0.5	575.8705	0.17
Other General Industrial Ec	2014	16	25	1.810128	1.521	5.58361	6.28785	0.005	0.544	0.5	575.8705	0.17
Other General Industrial Ec	2014	26	50	1.810128	1.521	5.58361	6.28785	0.005	0.544	0.5	575.8705	0.17
Other General Industrial Ec	2014	51	120	0.938561	0.789	6.72277	4.09005	0.005	0.574	0.528	514.3886	0.152
Other General Industrial Ec	2014	121	175	0.621882	0.523	5.79166	3.46929	0.005	0.312	0.287	516.4138	0.153
Other General Industrial Ec	2014	176	250	0.580321	0.488	6.15263	2.05376	0.005	0.255	0.234	517.9164	0.153
Other General Industrial Ec	2014	251	500	0.422239	0.355	4.56494	2.49943	0.005	0.172	0.159	517.5945	0.153
Other General Industrial Ec	2014	501	750	0.304364	0.256	3.62195	1.48882	0.005	0.115	0.106	518.1798	0.153
Other General Industrial Ec	2014	751	1000	0.412103	0.346	6.37883	1.07997	0.005	0.167	0.153	516.6375	0.153
Other General Industrial Ec	2015	6	15	1.779268	1.495	5.52435	6.32452	0.005	0.532	0.49	570.0241	0.17
Other General Industrial Ec	2015	16	25	1.779268	1.495	5.52435	6.32452	0.005	0.532	0.49	570.0241	0.17
Other General Industrial Ec	2015	26	50	1.779268	1.495	5.52435	6.32452	0.005	0.532	0.49	570.0241	0.17
Other General Industrial Ec	2015	51	120	0.905303	0.761	6.50163	4.0811	0.005	0.553	0.509	509.1664	0.152
Other General Industrial Ec	2015	121	175	0.589015	0.495	5.3974	3.45434	0.005	0.294	0.27	511.171	0.153
Other General Industrial Ec	2015	176	250	0.538134	0.452	5.64293	1.9257	0.005	0.23	0.211	512.6584	0.153
Other General Industrial Ec	2015	251	500	0.420225	0.353	4.42481	2.43603	0.005	0.167	0.154	512.3397	0.153
Other General Industrial Ec	2015	501	750	0.298831	0.251	3.36512	1.49062	0.005	0.109	0.1	512.9191	0.153
Other General Industrial Ec	2015	751	1000	0.422901	0.355	6.44797	1.09391	0.005	0.171	0.158	511.3924	0.153
Other General Industrial Ec	2016	6	15	1.690474	1.42	5.40705	6.25866	0.005	0.506	0.466	564.1777	0.17
Other General Industrial Ec	2016	16	25	1.690474	1.42	5.40705	6.25866	0.005	0.506	0.466	564.1777	0.17
Other General Industrial Ec	2016	26	50	1.690474	1.42	5.40705	6.25866	0.005	0.506	0.466	564.1777	0.17
Other General Industrial Ec	2016	51	120	0.851445	0.715	6.14411	4.04541	0.005	0.518	0.476	503.9442	0.152
Other General Industrial Ec	2016	121	175	0.559455	0.47	5.05466	3.43665	0.005	0.276	0.254	505.9282	0.153
Other General Industrial Ec	2016	176	250	0.519923	0.437	5.40733	1.8667	0.005	0.217	0.2	507.4004	0.153
Other General Industrial Ec	2016	251	500	0.407021	0.342	4.14966	2.36652	0.005	0.159	0.146	507.085	0.153
Other General Industrial Ec	2016	501	750	0.289084	0.243	3.10202	1.49061	0.005	0.1	0.092	507.6584	0.153
Other General Industrial Ec	2016	751	1000	0.288345	0.242	4.7462	1.04483	0.005	0.112	0.103	506.1474	0.153
Other General Industrial Ec	2017	6	15	1.605819	1.349	5.27694	6.17923	0.005	0.479	0.441	555.4081	0.17
Other General Industrial Ec	2017	16	25	1.605819	1.349	5.27694	6.17923	0.005	0.479	0.441	555.4081	0.17
Other General Industrial Ec	2017	26	50	1.605819	1.349	5.27694	6.17923	0.005	0.479	0.441	555.4081	0.17
Other General Industrial Ec	2017	51	120	0.785454	0.66	5.72138	3.99811	0.005	0.47	0.433	496.1109	0.152
Other General Industrial Ec	2017	121	175	0.520155	0.437	4.53359	3.39928	0.005	0.25	0.23	498.0641	0.153
Other General Industrial Ec	2017	176	250	0.489435	0.411	5.02246	1.78	0.005	0.199	0.183	499.5133	0.153
Other General Industrial Ec	2017	251	500	0.397215	0.334	3.9491	2.36453	0.005	0.152	0.14	499.2028	0.153
Other General Industrial Ec	2017	501	750	0.260833	0.219	2.59187	1.48016	0.005	0.086	0.079	499.7673	0.153
Other General Industrial Ec	2017	751	1000	0.29828	0.251	4.7865	1.05719	0.005	0.114	0.105	498.2798	0.153
Other General Industrial Ec	2018	6	15	1.373834	1.154	4.97857	5.82717	0.005	0.414	0.381	546.6385	0.17
Other General Industrial Ec	2018	16	25	1.373834	1.154	4.97857	5.82717	0.005	0.414	0.381	546.6385	0.17
Other General Industrial Ec	2018	26	50	1.373834	1.154	4.97857	5.82717	0.005	0.414	0.381	546.6385	0.17
Other General Industrial Ec	2018	51	120	0.663253	0.557	4.95455	3.87633	0.005	0.392	0.36	488.2775	0.152
Other General Industrial Ec	2018	121	175	0.377931	0.318	3.23673	3.23662	0.005	0.172	0.158	490.1999	0.153
Other General Industrial Ec	2018	176	250	0.360768	0.303	3.64819	1.45525	0.005	0.135	0.124	491.6263	0.153
Other General Industrial Ec	2018	251	500	0.301755	0.254	2.90735	1.58301	0.005	0.104	0.095	491.3207	0.153
Other General Industrial Ec	2018	501	750	0.257602	0.216	2.41933	1.48303	0.005	0.083	0.076	491.8763	0.153
Other General Industrial Ec	2018	751	1000	0.306245	0.257	4.81007	1.06646	0.005	0.116	0.107	490.4122	0.153
Other General Industrial Ec	2019	6	15	1.240314	1.042	4.80683	5.66186	0.005	0.374	0.344	537.8689	0.17
Other General Industrial Ec	2019	16	25	1.240314	1.042	4.80683	5.66186	0.005	0.374	0.344	537.8689	0.17
Other General Industrial Ec	2019	26	50	1.240314	1.042	4.80683	5.66186	0.005	0.374	0.344	537.8689	0.17
Other General Industrial Ec	2019	51	120	0.594634	0.5	4.49674	3.82128	0.005	0.343	0.315	480.4442	0.152
Other General Industrial Ec	2019	121	175	0.359068	0.302	2.99891	3.24129	0.005	0.156	0.144	482.3357	0.153
Other General Industrial Ec	2019	176	250	0.307665	0.259	3.01996	1.29893	0.005	0.106	0.097	483.7392	0.153
Other General Industrial Ec	2019	251	500	0.283854	0.239	2.57531	1.56115	0.005	0.092	0.085	483.4385	0.153
Other General Industrial Ec	2019	501	750	0.236758	0.199	2.11518	1.47441	0.005	0.076	0.07	483.9852	0.153
Other General Industrial Ec	2019	751	1000	0.31421	0.264	4.83364	1.07573	0.005	0.117	0.108	482.5446	0.153
Other General Industrial Ec	2020	6	15	1.125869	0.946	4.62219	5.50397	0.005	0.334	0.307	526.1761	0.17
Other General Industrial Ec	2020	16	25	1.125869	0.946	4.62219	5.50397	0.005	0.334	0.307	526.1761	0.17
Other General Industrial Ec	2020	26	50	1.125869	0.946	4.62219	5.50397	0.005	0.334	0.307	526.1761	0.17
Other General Industrial Ec	2020	51	120	0.53075	0.446	4.06079	3.77073	0.005	0.296	0.272	469.9998	0.152
Other General Industrial Ec	2020	121	175	0.319281	0.268	2.57503	3.22922	0.005	0.135	0.124	471.8502	0.153
Other General Industrial Ec	2020	176	250	0.281815	0.237	2.66782	1.23914	0.005	0.09	0.083	473.2231	0.153
Other General Industrial Ec	2020	251	500	0.247036	0.208	2.06187	1.34424	0.005	0.072	0.067	472.929	0.153
Other General Industrial Ec	2020	501	750	0.207847	0.175	1.67591	1.46184	0.005	0.062	0.057	473.4638	0.153
Other General Industrial Ec	2020	751	1000	0.322174	0.271	4.85721	1.085	0.005	0.119	0.109	472.0545	0.153
Other General Industrial Ec	2021	6	15	0.989462	0.831	4.42532	5.31354	0.005	0.289	0.266	526.1761	0.17
Other General Industrial Ec	2021	16	25	0.989462	0.831	4.42532	5.31354	0.005	0.289	0.266	526.1761	0.17
Other General Industrial Ec	2021	26	50	0.989462	0.831	4.42532	5.31354	0.005	0.289	0.266	526.1761	0.17
Other General Industrial Ec	2021	51	120	0.480398	0.404	3.7177	3.74029	0.005	0.256	0.235	469.9998	0.152
Other General Industrial Ec	2021	121	175	0.302394	0.254	2.34745	3.23421	0.005	0.121	0.111	471.8502	0.153
Other General Industrial Ec	2021	176	250	0.242448	0.204	2.0939	1.17138	0.005	0.07	0.064	473.2231	0.153

Other General Industrial Ec	2021	251	500	0.232592	0.195	1.79624	1.32956	0.005	0.064	0.059	472.929	0.153
Other General Industrial Ec	2021	501	750	0.197551	0.166	1.38672	1.46305	0.005	0.054	0.05	473.4638	0.153
Other General Industrial Ec	2021	751	1000	0.328625	0.276	4.87557	1.09291	0.005	0.12	0.11	472.0545	0.153
Other General Industrial Ec	2022	6	15	0.835231	0.702	4.19687	5.07591	0.005	0.238	0.219	526.1761	0.17
Other General Industrial Ec	2022	16	25	0.835231	0.702	4.19687	5.07591	0.005	0.238	0.219	526.1761	0.17
Other General Industrial Ec	2022	26	50	0.835231	0.702	4.19687	5.07591	0.005	0.238	0.219	526.1761	0.17
Other General Industrial Ec	2022	51	120	0.403101	0.339	3.19968	3.66821	0.005	0.199	0.183	469.9998	0.152
Other General Industrial Ec	2022	121	175	0.289798	0.244	2.14959	3.23346	0.005	0.111	0.102	471.8502	0.153
Other General Industrial Ec	2022	176	250	0.222216	0.187	1.75874	1.13752	0.005	0.057	0.052	473.2231	0.153
Other General Industrial Ec	2022	251	500	0.208015	0.175	1.43348	1.17139	0.005	0.05	0.046	472.929	0.153
Other General Industrial Ec	2022	501	750	0.177285	0.149	1.06247	1.45658	0.005	0.046	0.042	473.4638	0.153
Other General Industrial Ec	2022	751	1000	0.223076	0.187	3.942	1.03925	0.005	0.079	0.073	472.0545	0.153
Other General Industrial Ec	2023	6	15	0.717857	0.603	3.99304	4.88317	0.005	0.194	0.178	526.1761	0.17
Other General Industrial Ec	2023	16	25	0.717857	0.603	3.99304	4.88317	0.005	0.194	0.178	526.1761	0.17
Other General Industrial Ec	2023	26	50	0.717857	0.603	3.99304	4.88317	0.005	0.194	0.178	526.1761	0.17
Other General Industrial Ec	2023	51	120	0.366077	0.308	2.92394	3.64703	0.005	0.168	0.155	469.9998	0.152
Other General Industrial Ec	2023	121	175	0.238568	0.2	1.60937	3.17453	0.005	0.08	0.074	471.8502	0.153
Other General Industrial Ec	2023	176	250	0.214876	0.181	1.53043	1.14024	0.005	0.051	0.047	473.2231	0.153
Other General Industrial Ec	2023	251	500	0.195172	0.164	1.25618	1.12057	0.005	0.043	0.04	472.929	0.153
Other General Industrial Ec	2023	501	750	0.131565	0.111	0.62571	1.10458	0.005	0.023	0.021	473.4638	0.153
Other General Industrial Ec	2023	751	1000	0.229255	0.193	3.95649	1.04852	0.005	0.08	0.073	472.0545	0.153
Other General Industrial Ec	2024	6	15	0.649743	0.546	3.85892	4.78022	0.005	0.165	0.152	526.1761	0.17
Other General Industrial Ec	2024	16	25	0.649743	0.546	3.85892	4.78022	0.005	0.165	0.152	526.1761	0.17
Other General Industrial Ec	2024	26	50	0.649743	0.546	3.85892	4.78022	0.005	0.165	0.152	526.1761	0.17
Other General Industrial Ec	2024	51	120	0.341745	0.287	2.70778	3.63929	0.005	0.146	0.134	469.9998	0.152
Other General Industrial Ec	2024	121	175	0.226791	0.191	1.44774	3.18534	0.005	0.073	0.067	471.8502	0.153
Other General Industrial Ec	2024	176	250	0.205547	0.173	1.31888	1.14124	0.005	0.046	0.042	473.2231	0.153
Other General Industrial Ec	2024	251	500	0.187509	0.158	1.15288	1.1102	0.005	0.04	0.036	472.929	0.153
Other General Industrial Ec	2024	501	750	0.137014	0.115	0.62782	1.11228	0.005	0.023	0.021	473.4638	0.153
Other General Industrial Ec	2024	751	1000	0.235434	0.198	3.97098	1.05779	0.005	0.08	0.074	472.0545	0.153
Other General Industrial Ec	2025	6	15	0.585572	0.492	3.71721	4.67981	0.005	0.136	0.125	526.1761	0.17
Other General Industrial Ec	2025	16	25	0.585572	0.492	3.71721	4.67981	0.005	0.136	0.125	526.1761	0.17
Other General Industrial Ec	2025	26	50	0.585572	0.492	3.71721	4.67981	0.005	0.136	0.125	526.1761	0.17
Other General Industrial Ec	2025	51	120	0.306396	0.257	2.43889	3.61204	0.005	0.118	0.109	469.9998	0.152
Other General Industrial Ec	2025	121	175	0.224974	0.189	1.36379	3.20434	0.005	0.07	0.065	471.8502	0.153
Other General Industrial Ec	2025	176	250	0.184121	0.155	1.02801	1.13176	0.005	0.036	0.033	473.2231	0.153
Other General Industrial Ec	2025	251	500	0.180295	0.151	1.05334	1.10932	0.005	0.035	0.032	472.929	0.153
Other General Industrial Ec	2025	501	750	0.139282	0.117	0.629	1.1152	0.005	0.023	0.021	473.4638	0.153
Other General Industrial Ec	2025	751	1000	0.241613	0.203	3.98546	1.06706	0.005	0.081	0.074	472.0545	0.153
Other General Industrial Ec	2030	6	15	1.393	0.589	4.142	3.469	0.008	0.161	0.161	568.299	0.053
Other General Industrial Ec	2030	16	25	3.889	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Other General Industrial Ec	2030	26	50	4.896	0.609	3.46	5.299	0.007	0.048	0.048	568.299	0.054
Other General Industrial Ec	2030	51	120	7.091	0.309	1.766	3.802	0.006	0.043	0.043	568.299	0.027
Other General Industrial Ec	2030	121	175	7.93	0.223	0.641	3.357	0.006	0.028	0.028	568.299	0.02
Other General Industrial Ec	2030	176	250	10.485	0.209	0.536	1.143	0.006	0.018	0.018	568.299	0.018
Other General Industrial Ec	2030	251	500	20.447	0.208	0.506	1.087	0.005	0.018	0.018	568.299	0.018
Other General Industrial Ec	2030	501	750	33.725	0.208	0.512	1.087	0.005	0.018	0.018	568.299	0.018
Other General Industrial Ec	2030	751	1000	44.002	0.212	2.66	1.088	0.005	0.035	0.035	568.299	0.019
Other General Industrial Ec	2035	6	15	1.393	0.589	4.142	3.469	0.008	0.161	0.161	568.299	0.053
Other General Industrial Ec	2035	16	25	3.889	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Other General Industrial Ec	2035	26	50	4.535	0.564	3.334	5.255	0.007	0.025	0.025	568.299	0.05
Other General Industrial Ec	2035	51	120	6.486	0.282	1.567	3.794	0.006	0.022	0.022	568.3	0.025
Other General Industrial Ec	2035	121	175	7.079	0.199	0.399	3.355	0.006	0.016	0.016	568.3	0.018
Other General Industrial Ec	2035	176	250	9.803	0.195	0.355	1.143	0.006	0.013	0.013	568.299	0.017
Other General Industrial Ec	2035	251	500	19.187	0.195	0.351	1.087	0.005	0.013	0.013	568.299	0.017
Other General Industrial Ec	2035	501	750	31.624	0.195	0.351	1.087	0.005	0.013	0.013	568.299	0.017
Other General Industrial Ec	2035	751	1000	40.723	0.196	2.532	1.087	0.005	0.028	0.028	568.299	0.017
Other General Industrial Ec	2040	6	15	1.393	0.589	4.142	3.47	0.008	0.161	0.161	568.299	0.053
Other General Industrial Ec	2040	16	25	3.889	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Other General Industrial Ec	2040	26	50	4.521	0.562	3.283	5.257	0.007	0.019	0.019	568.299	0.05
Other General Industrial Ec	2040	51	120	6.373	0.277	1.506	3.794	0.006	0.017	0.017	568.299	0.025
Other General Industrial Ec	2040	121	175	6.806	0.191	0.315	3.356	0.006	0.012	0.012	568.299	0.017
Other General Industrial Ec	2040	176	250	9.551	0.19	0.299	1.143	0.006	0.011	0.011	568.299	0.017
Other General Industrial Ec	2040	251	500	18.696	0.19	0.299	1.087	0.005	0.011	0.011	568.299	0.017
Other General Industrial Ec	2040	501	750	30.815	0.19	0.299	1.087	0.005	0.011	0.011	568.299	0.017
Other General Industrial Ec	2040	751	1000	39.521	0.191	2.5	1.087	0.005	0.025	0.025	568.299	0.017
Other Material Handling Ec	1990	26	50	12.278	4.763	7.932	9.649	0.692	1.252	1.252	568.3	0.429
Other Material Handling Ec	1990	51	120	12.096	2.346	14.896	5.692	0.628	1.317	1.317	568.299	0.211
Other Material Handling Ec	1990	121	175	16.59	1.599	13.377	5.041	0.602	0.872	0.872	568.299	0.144
Other Material Handling Ec	1990	176	250	19.708	1.599	13.377	5.041	0.602	0.872	0.872	568.3	0.144
Other Material Handling Ec	1990	251	500	23.083	1.417	12.702	11.046	0.525	0.75	0.75	568.299	0.127
Other Material Handling Ec	1990	1001	9999	88.844	1.41	12.702	11.046	0.525	0.741	0.741	568.3	0.127
Other Material Handling Ec	2000	26	50	11.414	4.428	7.068	9.121	0.065	0.925	0.925	568.299	0.399
Other Material Handling Ec	2000	51	120	9.647	1.871	10.623	4.712	0.059	0.901	0.901	568.299	0.168
Other Material Handling Ec	2000	121	175	13	1.253	9.648	3.836	0.057	0.531	0.531	568.299	0.113
Other Material Handling Ec	2000	176	250	12.957	1.051	9.289	3.061	0.057	0.435	0.435	568.3	0.094
Other Material Handling Ec	2000	251	500	15.5	0.951	8.836	5.171	0.049	0.383	0.383	568.299	0.085
Other Material Handling Ec	2000	1001	9999	65.006	1.031	9.45	5.779	0.049	0.384	0.384	568.299	0.093
Other Material Handling Ec	2005	26	50	10.467	4.06	6.65	8.646	0.065	0.878	0.878	568.299	0.366
Other Material Handling Ec	2005	51	120	8.426	1.634	9.001	4.393	0.059	0.857	0.857	568.3	0.147
Other Material Handling Ec	2005	121	175	11.141	1.073	8.235	3.493	0.057	0.473	0.473	568.299	0.096
Other Material Handling Ec	2005	176	250	9.335	0.757	7.76	2.058	0.057	0.299	0.299	568.299	0.068
Other Material Handling Ec	2005	251	500	10.914	0.67	7.071	2.676	0.049	0.268	0.268	568.299	0.06
Other Material Handling Ec	2005	1001	9999	50.601	0.803	8.291	3.267	0.049	0.278	0.278	568.299	0.072
Other Material Handling Ec	2010	26	50	2.513226	2.112	6.11921	7.14242	0.005	0.673	0.619	581.8987	0.169
Other Material Handling Ec	2010	51	120	0.880333	0.74	6.86036	3.91836	0.005	0.55	0.506	526.2094	0.153
Other Material Handling Ec	2010	121	175	0.703937	0.592	6.62945	3.45939	0.005	0.364	0.335	524.6881	0.153
Other Material Handling Ec	2010	176	250	0.639111	0.537	7.05748	2.2178	0.005	0.292	0.269	523.8689	0.152
Other Material Handling Ec	2010	251	500	0.474577	0.399	5.53948	2.89546	0.005	0.225	0.207	522.5525	0.152

Other Material Handling Ec	2010	1001	9999	0.19342	0.163	4.31467	0.96514	0.005	0.1	0.092	524.505	0.153
Other Material Handling Ec	2011	26	50	2.357707	1.981	6.0264	6.95209	0.005	0.644	0.593	580.4439	0.169
Other Material Handling Ec	2011	51	120	0.835489	0.702	6.54765	3.89742	0.005	0.527	0.485	524.8938	0.153
Other Material Handling Ec	2011	121	175	0.695125	0.584	6.48588	3.45599	0.005	0.36	0.331	523.3764	0.153
Other Material Handling Ec	2011	176	250	0.63663	0.535	6.98965	2.18416	0.005	0.288	0.265	522.5592	0.152
Other Material Handling Ec	2011	251	500	0.474482	0.399	5.43165	2.78574	0.005	0.221	0.203	521.2461	0.152
Other Material Handling Ec	2011	1001	9999	0.210247	0.177	4.35542	0.97804	0.005	0.103	0.095	523.1938	0.153
Other Material Handling Ec	2012	26	50	2.238738	1.881	5.92499	6.81597	0.005	0.62	0.57	578.9892	0.169
Other Material Handling Ec	2012	51	120	0.817068	0.687	6.36758	3.90414	0.005	0.516	0.475	523.5783	0.153
Other Material Handling Ec	2012	121	175	0.692769	0.582	6.40913	3.47827	0.005	0.357	0.328	522.0647	0.153
Other Material Handling Ec	2012	176	250	0.646463	0.543	7.02565	2.19514	0.005	0.29	0.267	521.2496	0.152
Other Material Handling Ec	2012	251	500	0.470349	0.395	5.30246	2.61135	0.005	0.214	0.197	519.9397	0.152
Other Material Handling Ec	2012	1001	9999	0.227073	0.191	4.39617	0.99094	0.005	0.106	0.098	521.8825	0.153
Other Material Handling Ec	2013	26	50	2.105942	1.77	5.85572	6.66457	0.005	0.596	0.548	576.0797	0.169
Other Material Handling Ec	2013	51	120	0.724086	0.608	5.76277	3.82317	0.005	0.447	0.411	520.9473	0.153
Other Material Handling Ec	2013	121	175	0.665996	0.56	6.15356	3.43613	0.005	0.333	0.306	519.4412	0.153
Other Material Handling Ec	2013	176	250	0.634565	0.533	6.82184	2.16882	0.005	0.281	0.259	518.6302	0.152
Other Material Handling Ec	2013	251	500	0.438071	0.368	4.87099	2.33558	0.005	0.195	0.179	517.327	0.152
Other Material Handling Ec	2013	1001	9999	0.2439	0.205	4.43692	1.00384	0.005	0.11	0.101	519.26	0.153
Other Material Handling Ec	2014	26	50	2.017454	1.695	5.75119	6.58988	0.005	0.575	0.529	573.1702	0.169
Other Material Handling Ec	2014	51	120	0.66398	0.558	5.37202	3.77914	0.005	0.412	0.379	518.3162	0.153
Other Material Handling Ec	2014	121	175	0.628738	0.528	5.79759	3.43064	0.005	0.313	0.288	516.8178	0.153
Other Material Handling Ec	2014	176	250	0.565441	0.475	6.17254	1.93605	0.005	0.242	0.223	516.0109	0.152
Other Material Handling Ec	2014	251	500	0.394393	0.331	4.35658	1.92674	0.005	0.169	0.155	514.7142	0.152
Other Material Handling Ec	2014	1001	9999	0.168044	0.141	3.4363	0.97804	0.005	0.066	0.061	516.6375	0.153
Other Material Handling Ec	2015	26	50	2.062891	1.733	5.7994	6.75642	0.005	0.586	0.539	567.3512	0.169
Other Material Handling Ec	2015	51	120	0.628094	0.528	4.98312	3.75787	0.005	0.383	0.352	513.0541	0.153
Other Material Handling Ec	2015	121	175	0.624881	0.525	5.6445	3.43301	0.005	0.306	0.282	511.5709	0.153
Other Material Handling Ec	2015	176	250	0.503855	0.423	5.5323	1.74236	0.005	0.207	0.191	510.7722	0.152
Other Material Handling Ec	2015	251	500	0.396328	0.333	4.27243	1.91761	0.005	0.166	0.152	509.4887	0.152
Other Material Handling Ec	2015	1001	9999	0.1762	0.148	3.45753	0.98449	0.005	0.068	0.063	511.3924	0.153
Other Material Handling Ec	2016	26	50	2.100647	1.765	5.80157	6.89161	0.005	0.593	0.546	561.5322	0.169
Other Material Handling Ec	2016	51	120	0.611519	0.514	4.79843	3.76606	0.005	0.367	0.338	507.792	0.153
Other Material Handling Ec	2016	121	175	0.581687	0.489	5.21152	3.41823	0.005	0.279	0.257	506.324	0.153
Other Material Handling Ec	2016	176	250	0.474176	0.398	5.19629	1.64277	0.005	0.189	0.174	505.5335	0.152
Other Material Handling Ec	2016	251	500	0.384009	0.323	4.05322	1.87077	0.005	0.156	0.143	504.2631	0.152
Other Material Handling Ec	2016	1001	9999	0.188654	0.159	3.48884	0.99739	0.005	0.07	0.065	506.1474	0.153
Other Material Handling Ec	2017	26	50	1.922269	1.615	5.57447	6.63527	0.005	0.546	0.502	552.8037	0.169
Other Material Handling Ec	2017	51	120	0.580499	0.488	4.56113	3.75788	0.005	0.341	0.314	499.8989	0.153
Other Material Handling Ec	2017	121	175	0.508007	0.427	4.48809	3.35117	0.005	0.238	0.219	498.4537	0.153
Other Material Handling Ec	2017	176	250	0.42771	0.359	4.70454	1.51249	0.005	0.163	0.15	497.6755	0.152
Other Material Handling Ec	2017	251	500	0.386945	0.325	3.9709	1.86256	0.005	0.154	0.141	496.4249	0.152
Other Material Handling Ec	2017	1001	9999	0.201109	0.169	3.52015	1.01029	0.005	0.072	0.066	498.2798	0.153
Other Material Handling Ec	2018	26	50	1.534491	1.289	5.18225	6.06083	0.005	0.457	0.42	544.0753	0.169
Other Material Handling Ec	2018	51	120	0.484553	0.407	3.9436	3.67482	0.005	0.271	0.249	492.0058	0.153
Other Material Handling Ec	2018	121	175	0.38852	0.326	3.33231	3.21803	0.005	0.173	0.159	490.5834	0.153
Other Material Handling Ec	2018	176	250	0.376195	0.316	4.09187	1.3884	0.005	0.135	0.124	489.8174	0.152
Other Material Handling Ec	2018	251	500	0.352182	0.296	3.52439	1.63271	0.005	0.133	0.123	488.5866	0.152
Other Material Handling Ec	2018	1001	9999	0.213564	0.179	3.55146	1.02319	0.005	0.074	0.068	490.4122	0.153
Other Material Handling Ec	2019	26	50	1.5177	1.275	5.17904	6.13945	0.005	0.452	0.416	535.3468	0.169
Other Material Handling Ec	2019	51	120	0.428699	0.36	3.56573	3.63634	0.005	0.231	0.212	484.1126	0.153
Other Material Handling Ec	2019	121	175	0.332757	0.28	2.77369	3.1852	0.005	0.139	0.128	482.7131	0.153
Other Material Handling Ec	2019	176	250	0.357063	0.3	3.81716	1.34052	0.005	0.123	0.113	481.9594	0.152
Other Material Handling Ec	2019	251	500	0.346245	0.291	3.37078	1.61951	0.005	0.128	0.118	480.7483	0.152
Other Material Handling Ec	2019	1001	9999	0.226018	0.19	3.58277	1.03609	0.005	0.076	0.07	482.5446	0.153
Other Material Handling Ec	2020	26	50	1.481858	1.245	5.13925	6.1671	0.005	0.439	0.404	523.7088	0.169
Other Material Handling Ec	2020	51	120	0.36479	0.307	3.10396	3.58938	0.005	0.182	0.168	473.5884	0.153
Other Material Handling Ec	2020	121	175	0.299922	0.252	2.36653	3.17089	0.005	0.118	0.109	472.2193	0.153
Other Material Handling Ec	2020	176	250	0.346024	0.291	3.59889	1.31882	0.005	0.115	0.106	471.482	0.152
Other Material Handling Ec	2020	251	500	0.336187	0.282	3.20974	1.52346	0.005	0.12	0.11	470.2972	0.152
Other Material Handling Ec	2020	1001	9999	0.238473	0.2	3.61407	1.04898	0.005	0.078	0.072	472.0545	0.153
Other Material Handling Ec	2021	26	50	1.318509	1.108	4.96638	5.95956	0.005	0.396	0.364	523.7088	0.169
Other Material Handling Ec	2021	51	120	0.349969	0.294	2.95622	3.60203	0.005	0.166	0.152	473.5884	0.153
Other Material Handling Ec	2021	121	175	0.296084	0.249	2.24633	3.19638	0.005	0.114	0.105	472.2193	0.153
Other Material Handling Ec	2021	176	250	0.32063	0.269	3.08193	1.30911	0.005	0.102	0.094	471.482	0.152
Other Material Handling Ec	2021	251	500	0.302407	0.254	2.60166	1.44188	0.005	0.101	0.093	470.2972	0.152
Other Material Handling Ec	2021	1001	9999	0.086228	0.072	2.3179	0.97159	0.005	0.019	0.018	472.0545	0.153
Other Material Handling Ec	2022	26	50	1.313129	1.103	4.92048	5.98386	0.005	0.385	0.354	523.7088	0.169
Other Material Handling Ec	2022	51	120	0.294157	0.247	2.56673	3.55673	0.005	0.121	0.111	473.5884	0.153
Other Material Handling Ec	2022	121	175	0.268495	0.226	1.89383	3.17607	0.005	0.103	0.095	472.2193	0.153
Other Material Handling Ec	2022	176	250	0.272302	0.229	2.42542	1.23917	0.005	0.083	0.076	471.482	0.152
Other Material Handling Ec	2022	251	500	0.269417	0.226	2.06254	1.34592	0.005	0.083	0.077	470.2972	0.152
Other Material Handling Ec	2022	1001	9999	0.090526	0.076	2.32798	0.97804	0.005	0.02	0.018	472.0545	0.153
Other Material Handling Ec	2023	26	50	1.203044	1.011	4.68435	5.75727	0.005	0.34	0.313	523.7088	0.169
Other Material Handling Ec	2023	51	120	0.267491	0.225	2.29768	3.51535	0.005	0.104	0.095	473.5884	0.153
Other Material Handling Ec	2023	121	175	0.25813	0.217	1.76898	3.17066	0.005	0.096	0.088	472.2193	0.153
Other Material Handling Ec	2023	176	250	0.246291	0.207	2.00366	1.20917	0.005	0.069	0.064	471.482	0.152
Other Material Handling Ec	2023	251	500	0.258837	0.217	1.87023	1.34382	0.005	0.078	0.072	470.2972	0.152
Other Material Handling Ec	2023	1001	9999	0.064735	0.054	2.26751	0.93935	0.005	0.018	0.017	472.0545	0.153
Other Material Handling Ec	2024	26	50	1.121754	0.943	4.5789	5.6693	0.005	0.314	0.289	523.7088	0.169
Other Material Handling Ec	2024	51	120	0.262084	0.22	2.22162	3.51036	0.005	0.096	0.089	473.5884	0.153
Other Material Handling Ec	2024	121	175	0.247908	0.208	1.63864	3.18111	0.005	0.088	0.081	472.2193	0.153
Other Material Handling Ec	2024	176	250	0.250036	0.21	1.98559	1.21822	0.005	0.068	0.063	471.482	0.152
Other Material Handling Ec	2024	251	500	0.252116	0.212	1.75588	1.26223	0.005	0.072	0.066	470.2972	0.152
Other Material Handling Ec	2024	1001	9999	0.069034	0.058	2.27759	0.9458	0.005	0.018	0.017	472.0545	0.153
Other Material Handling Ec	2025	26	50	0.88573	0.744	4.23278	5.24797	0.005	0.239	0.219	523.7088	0.169
Other Material Handling Ec	2025	51	120	0.241784	0.203	2.05524	3.49652	0.005	0.081	0.074	473.5884	0.153
Other Material Handling Ec	2025	121	175	0.225132	0.189	1.39583	3.1679	0.005	0.072	0.067	472.2193	0.153
Other Material Handling Ec	2025	176	250	0.237677	0.2	1.77352	1.19728	0.005				

Other Material Handling Ec	2025	251	500	0.242568	0.204	1.60116	1.25988	0.005	0.067	0.061	470.2972	0.152
Other Material Handling Ec	2025	1001	9999	0.077631	0.065	2.29775	0.9587	0.005	0.019	0.017	472.0545	0.153
Other Material Handling Ec	2030	26	50	1.542	0.598	3.447	5.237	0.007	0.048	0.048	568.299	0.053
Other Material Handling Ec	2030	51	120	1.57	0.304	1.762	3.784	0.006	0.043	0.043	568.299	0.027
Other Material Handling Ec	2030	121	175	2.287	0.22	0.64	3.341	0.006	0.028	0.028	568.299	0.019
Other Material Handling Ec	2030	176	250	2.539	0.206	0.535	1.138	0.006	0.018	0.018	568.299	0.018
Other Material Handling Ec	2030	251	500	3.342	0.205	0.505	1.083	0.005	0.018	0.018	568.299	0.018
Other Material Handling Ec	2030	1001	9999	13.763	0.218	2.653	1.084	0.005	0.035	0.035	568.299	0.019
Other Material Handling Ec	2035	26	50	1.425	0.552	3.321	5.189	0.007	0.025	0.025	568.299	0.049
Other Material Handling Ec	2035	51	120	1.432	0.277	1.563	3.774	0.006	0.022	0.022	568.299	0.025
Other Material Handling Ec	2035	121	175	2.036	0.196	0.398	3.338	0.006	0.016	0.016	568.299	0.017
Other Material Handling Ec	2035	176	250	2.369	0.192	0.354	1.137	0.006	0.013	0.013	568.299	0.017
Other Material Handling Ec	2035	251	500	3.13	0.192	0.35	1.082	0.005	0.013	0.013	568.299	0.017
Other Material Handling Ec	2035	1001	9999	12.454	0.197	2.525	1.082	0.005	0.027	0.027	568.299	0.017
Other Material Handling Ec	2040	26	50	1.42	0.551	3.269	5.191	0.007	0.018	0.018	568.299	0.049
Other Material Handling Ec	2040	51	120	1.407	0.272	1.502	3.775	0.006	0.017	0.017	568.3	0.024
Other Material Handling Ec	2040	121	175	1.956	0.188	0.314	3.339	0.006	0.012	0.012	568.299	0.017
Other Material Handling Ec	2040	176	250	2.307	0.187	0.298	1.137	0.006	0.011	0.011	568.299	0.016
Other Material Handling Ec	2040	251	500	3.048	0.187	0.298	1.082	0.005	0.011	0.011	568.299	0.016
Other Material Handling Ec	2040	1001	9999	11.917	0.189	2.493	1.082	0.005	0.025	0.025	568.3	0.017
Pavers	1990	16	25	5.971	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Pavers	1990	26	50	19.405	4.794	7.946	9.701	0.871	1.268	1.268	568.299	0.432
Pavers	1990	51	120	23.749	2.373	15.062	5.748	0.791	1.339	1.339	568.299	0.214
Pavers	1990	121	175	33.808	1.822	14.503	5.135	0.758	1.01	1.01	568.3	0.164
Pavers	1990	176	250	51.225	1.822	14.503	5.135	0.758	1.01	1.01	568.299	0.164
Pavers	1990	251	500	54.32	1.61	13.755	11.305	0.662	0.864	0.864	568.3	0.145
Pavers	2000	16	25	5.517	2.044	6.391	4.689	0.065	0.569	0.569	568.299	0.184
Pavers	2000	26	50	18.072	4.464	7.116	9.175	0.066	0.93	0.93	568.299	0.402
Pavers	2000	51	120	19.415	1.94	11.121	4.853	0.06	0.916	0.916	568.299	0.175
Pavers	2000	121	175	24.566	1.324	10.172	4.022	0.057	0.558	0.558	568.299	0.119
Pavers	2000	176	250	33.03	1.175	9.909	3.443	0.057	0.488	0.488	568.299	0.106
Pavers	2000	251	500	35.713	1.058	9.422	6.242	0.05	0.426	0.426	568.299	0.095
Pavers	2005	16	25	3.746	1.388	5.819	3.497	0.065	0.444	0.444	568.299	0.125
Pavers	2005	26	50	16.699	4.125	6.746	8.722	0.066	0.883	0.883	568.299	0.372
Pavers	2005	51	120	17.345	1.733	9.797	4.584	0.06	0.869	0.869	568.299	0.156
Pavers	2005	121	175	21.287	1.147	8.921	3.731	0.057	0.5	0.5	568.299	0.103
Pavers	2005	176	250	26.087	0.928	8.591	2.661	0.057	0.382	0.382	568.299	0.083
Pavers	2005	251	500	27.622	0.818	7.91	4.283	0.05	0.335	0.335	568.299	0.073
Pavers	2010	16	25	2.244446	1.886	5.97127	6.22261	0.005	0.619	0.569	585.4019	0.17
Pavers	2010	26	50	2.244446	1.886	5.97127	6.22261	0.005	0.619	0.569	585.4019	0.17
Pavers	2010	51	120	0.922393	0.775	7.01944	3.82417	0.005	0.54	0.497	521.2606	0.152
Pavers	2010	121	175	0.693583	0.583	6.66867	3.10662	0.005	0.337	0.31	525.3233	0.153
Pavers	2010	176	250	0.236627	0.199	4.38018	1.01703	0.005	0.111	0.102	526.8527	0.153
Pavers	2010	251	500	0.240458	0.202	3.56944	1.1256	0.005	0.123	0.113	517.8758	0.151
Pavers	2011	16	25	2.255759	1.895	5.97418	6.28822	0.005	0.621	0.571	583.8947	0.17
Pavers	2011	26	50	2.255759	1.895	5.97418	6.28822	0.005	0.621	0.571	583.8947	0.17
Pavers	2011	51	120	0.882284	0.741	6.70468	3.7912	0.005	0.521	0.479	519.7431	0.152
Pavers	2011	121	175	0.67473	0.567	6.45159	3.11177	0.005	0.327	0.301	524.0864	0.153
Pavers	2011	176	250	0.244703	0.206	4.38871	1.02596	0.005	0.112	0.103	525.5251	0.153
Pavers	2011	251	500	0.249329	0.21	3.58498	1.13249	0.005	0.125	0.115	516.5811	0.151
Pavers	2012	16	25	2.286702	1.921	5.86068	6.36408	0.005	0.609	0.56	582.5825	0.17
Pavers	2012	26	50	2.286702	1.921	5.86068	6.36408	0.005	0.609	0.56	582.5825	0.17
Pavers	2012	51	120	0.886577	0.745	6.67323	3.81157	0.005	0.523	0.481	518.3581	0.152
Pavers	2012	121	175	0.677654	0.569	6.44162	3.13178	0.005	0.329	0.303	522.8325	0.153
Pavers	2012	176	250	0.2532	0.213	4.41317	1.035	0.005	0.114	0.105	524.2222	0.153
Pavers	2012	251	500	0.257974	0.217	3.59993	1.13914	0.005	0.127	0.117	515.2863	0.151
Pavers	2013	16	25	2.27571	1.912	5.84153	6.39148	0.005	0.605	0.557	580.2093	0.171
Pavers	2013	26	50	2.27571	1.912	5.84153	6.39148	0.005	0.605	0.557	580.2093	0.171
Pavers	2013	51	120	0.845721	0.711	6.43604	3.79289	0.005	0.501	0.461	516.6013	0.152
Pavers	2013	121	175	0.630117	0.529	6.05919	3.11657	0.005	0.304	0.28	519.6823	0.153
Pavers	2013	176	250	0.245733	0.206	4.23038	1.01743	0.005	0.106	0.098	521.5314	0.153
Pavers	2013	251	500	0.242925	0.204	3.39449	1.08604	0.005	0.118	0.108	514.2313	0.151
Pavers	2014	16	25	2.258865	1.898	5.71682	6.3806	0.005	0.595	0.547	577.016	0.171
Pavers	2014	26	50	2.258865	1.898	5.71682	6.3806	0.005	0.595	0.547	577.016	0.171
Pavers	2014	51	120	0.81298	0.683	6.19872	3.77256	0.005	0.483	0.444	514.3769	0.152
Pavers	2014	121	175	0.597911	0.502	5.73631	3.1146	0.005	0.287	0.264	516.745	0.153
Pavers	2014	176	250	0.247393	0.208	4.14032	1.02279	0.005	0.105	0.097	518.7225	0.153
Pavers	2014	251	500	0.214341	0.18	3.04734	1.00469	0.005	0.101	0.093	512.1908	0.151
Pavers	2015	16	25	2.205076	1.853	5.63731	6.34019	0.005	0.579	0.533	571.0859	0.17
Pavers	2015	26	50	2.205076	1.853	5.63731	6.34019	0.005	0.579	0.533	571.0859	0.17
Pavers	2015	51	120	0.809163	0.68	6.14096	3.78832	0.005	0.479	0.441	509.3767	0.152
Pavers	2015	121	175	0.582419	0.489	5.53669	3.11546	0.005	0.277	0.255	511.6457	0.153
Pavers	2015	176	250	0.254974	0.214	4.16051	1.03121	0.005	0.107	0.098	513.4682	0.153
Pavers	2015	251	500	0.209561	0.176	2.91741	0.97787	0.005	0.097	0.089	506.0973	0.151
Pavers	2016	16	25	2.174792	1.827	5.57882	6.33993	0.005	0.569	0.523	565.2336	0.17
Pavers	2016	26	50	2.174792	1.827	5.57882	6.33993	0.005	0.569	0.523	565.2336	0.17
Pavers	2016	51	120	0.773362	0.65	5.88646	3.76854	0.005	0.457	0.42	503.7795	0.152
Pavers	2016	121	175	0.515586	0.433	4.87397	3.08023	0.005	0.242	0.223	506.5401	0.153
Pavers	2016	176	250	0.254126	0.214	4.02384	1.03591	0.005	0.104	0.096	508.0698	0.153
Pavers	2016	251	500	0.214564	0.18	2.88492	0.9829	0.005	0.096	0.089	500.9364	0.151
Pavers	2017	16	25	2.059621	1.731	5.43675	6.19932	0.005	0.54	0.496	556.4528	0.17
Pavers	2017	26	50	2.059621	1.731	5.43675	6.19932	0.005	0.54	0.496	556.4528	0.17
Pavers	2017	51	120	0.744072	0.625	5.69243	3.75882	0.005	0.437	0.402	495.9253	0.152
Pavers	2017	121	175	0.462819	0.389	4.35312	3.06282	0.005	0.214	0.197	498.967	0.153
Pavers	2017	176	250	0.247933	0.208	3.80866	1.03652	0.005	0.1	0.092	499.5617	0.153
Pavers	2017	251	500	0.199578	0.168	2.48674	0.97942	0.005	0.087	0.08	491.7843	0.151
Pavers	2018	16	25	1.831035	1.539	5.12103	5.8493	0.005	0.478	0.44	547.0785	0.17
Pavers	2018	26	50	1.831035	1.539	5.12103	5.8493	0.005	0.478	0.44	547.0785	0.17
Pavers	2018	51	120	0.637446	0.536	5.01936	3.66032	0.005	0.375	0.345	488.1812	0.152

Pavers	2018	121	175	0.403099	0.339	3.7472	3.03913	0.005	0.183	0.168	491.322	0.153
Pavers	2018	176	250	0.235833	0.198	3.47438	1.03446	0.005	0.092	0.085	491.543	0.153
Pavers	2018	251	500	0.195547	0.164	2.32002	0.98125	0.005	0.083	0.076	484.2774	0.151
Pavers	2019	16	25	1.687019	1.418	4.91634	5.65687	0.005	0.436	0.401	538.3246	0.17
Pavers	2019	26	50	1.687019	1.418	4.91634	5.65687	0.005	0.436	0.401	538.3246	0.17
Pavers	2019	51	120	0.589904	0.496	4.67048	3.62215	0.005	0.345	0.318	480.2509	0.152
Pavers	2019	121	175	0.355588	0.299	3.24473	3.01323	0.005	0.159	0.146	483.3938	0.153
Pavers	2019	176	250	0.222293	0.187	3.11084	1.03181	0.005	0.084	0.077	483.5743	0.153
Pavers	2019	251	500	0.198123	0.166	2.26992	0.98586	0.005	0.081	0.075	476.9707	0.151
Pavers	2020	16	25	1.568718	1.318	4.76401	5.52345	0.005	0.402	0.37	526.2098	0.17
Pavers	2020	26	50	1.568718	1.318	4.76401	5.52345	0.005	0.402	0.37	526.2098	0.17
Pavers	2020	51	120	0.558949	0.47	4.42718	3.60405	0.005	0.325	0.299	469.8815	0.152
Pavers	2020	121	175	0.324615	0.273	2.91833	3.0097	0.005	0.142	0.131	472.7746	0.153
Pavers	2020	176	250	0.209036	0.176	2.77699	1.02834	0.005	0.076	0.07	472.8337	0.153
Pavers	2020	251	500	0.195949	0.165	2.13394	0.98677	0.005	0.077	0.071	466.2059	0.151
Pavers	2021	16	25	1.43708	1.208	4.60183	5.30162	0.005	0.37	0.34	526.5153	0.17
Pavers	2021	26	50	1.43708	1.208	4.60183	5.30162	0.005	0.37	0.34	526.5153	0.17
Pavers	2021	51	120	0.499355	0.42	4.02622	3.56251	0.005	0.285	0.262	469.7736	0.152
Pavers	2021	121	175	0.304315	0.256	2.6948	3.01647	0.005	0.13	0.12	472.5552	0.153
Pavers	2021	176	250	0.196899	0.165	2.4844	1.02422	0.005	0.07	0.064	472.4765	0.153
Pavers	2021	251	500	0.195105	0.164	2.05298	0.9877	0.005	0.074	0.068	465.5908	0.151
Pavers	2022	16	25	1.299052	1.092	4.42092	5.11433	0.005	0.33	0.303	526.8963	0.17
Pavers	2022	26	50	1.299052	1.092	4.42092	5.11433	0.005	0.33	0.303	526.8963	0.17
Pavers	2022	51	120	0.443951	0.373	3.65932	3.52511	0.005	0.248	0.228	470.1854	0.152
Pavers	2022	121	175	0.255688	0.215	2.17958	2.99478	0.005	0.104	0.095	472.7599	0.153
Pavers	2022	176	250	0.167123	0.14	1.89985	1.01231	0.005	0.055	0.05	472.3718	0.153
Pavers	2022	251	500	0.178545	0.15	1.81028	0.98238	0.005	0.063	0.058	466.0042	0.151
Pavers	2023	16	25	1.198318	1.007	4.28484	5.00667	0.005	0.299	0.275	526.8595	0.17
Pavers	2023	26	50	1.198318	1.007	4.28484	5.00667	0.005	0.299	0.275	526.8595	0.17
Pavers	2023	51	120	0.415607	0.349	3.42661	3.50733	0.005	0.226	0.208	470.0839	0.152
Pavers	2023	121	175	0.237199	0.199	1.95517	2.99398	0.005	0.092	0.085	472.7178	0.153
Pavers	2023	176	250	0.154288	0.13	1.6106	1.01018	0.005	0.047	0.043	472.6051	0.153
Pavers	2023	251	500	0.18061	0.152	1.77101	0.98653	0.005	0.062	0.057	466.0038	0.151
Pavers	2024	16	25	1.130978	0.95	4.20308	4.95625	0.005	0.279	0.257	526.8565	0.17
Pavers	2024	26	50	1.130978	0.95	4.20308	4.95625	0.005	0.279	0.257	526.8565	0.17
Pavers	2024	51	120	0.40131	0.337	3.2771	3.50784	0.005	0.213	0.196	470.2262	0.152
Pavers	2024	121	175	0.226916	0.191	1.80882	3.0042	0.005	0.084	0.078	472.6605	0.153
Pavers	2024	176	250	0.141914	0.119	1.34323	1.00872	0.005	0.041	0.038	473.2362	0.153
Pavers	2024	251	500	0.169789	0.143	1.54798	0.98624	0.005	0.054	0.049	467.1711	0.151
Pavers	2025	16	25	1.092933	0.918	4.13112	4.94451	0.005	0.265	0.243	526.8533	0.17
Pavers	2025	26	50	1.092933	0.918	4.13112	4.94451	0.005	0.265	0.243	526.8533	0.17
Pavers	2025	51	120	0.373474	0.314	3.06788	3.49286	0.005	0.19	0.175	469.8988	0.152
Pavers	2025	121	175	0.214799	0.18	1.64396	3.0071	0.005	0.077	0.071	472.485	0.153
Pavers	2025	176	250	0.127304	0.107	1.03493	1.00414	0.005	0.034	0.031	473.4832	0.153
Pavers	2025	251	500	0.136633	0.115	1.13351	0.96892	0.005	0.039	0.036	465.8824	0.151
Pavers	2030	16	25	1.849	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Pavers	2030	26	50	3.42	0.845	3.841	5.396	0.007	0.134	0.134	568.299	0.076
Pavers	2030	51	120	4.084	0.408	2.468	3.8	0.006	0.121	0.121	568.3	0.036
Pavers	2030	121	175	5.577	0.3	1.425	3.326	0.006	0.074	0.074	568.299	0.027
Pavers	2030	176	250	7.306	0.259	1.246	1.192	0.006	0.045	0.045	568.299	0.023
Pavers	2030	251	500	8.558	0.253	1.141	1.181	0.005	0.043	0.043	568.299	0.022
Pavers	2035	16	25	1.849	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Pavers	2035	26	50	2.812	0.694	3.555	5.26	0.007	0.076	0.076	568.299	0.062
Pavers	2035	51	120	3.386	0.338	1.986	3.774	0.006	0.069	0.069	568.299	0.03
Pavers	2035	121	175	4.543	0.244	0.889	3.319	0.006	0.043	0.043	568.299	0.022
Pavers	2035	176	250	6.219	0.221	0.772	1.157	0.006	0.027	0.027	568.3	0.019
Pavers	2035	251	500	7.364	0.218	0.722	1.111	0.005	0.026	0.026	568.299	0.019
Pavers	2040	16	25	1.849	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Pavers	2040	26	50	2.504	0.618	3.393	5.189	0.007	0.047	0.047	568.299	0.055
Pavers	2040	51	120	3.03	0.302	1.731	3.763	0.006	0.043	0.043	568.299	0.027
Pavers	2040	121	175	3.958	0.213	0.583	3.319	0.006	0.027	0.027	568.299	0.019
Pavers	2040	176	250	5.625	0.2	0.525	1.138	0.006	0.018	0.018	568.299	0.018
Pavers	2040	251	500	6.703	0.198	0.498	1.085	0.005	0.018	0.018	568.299	0.017
Paving Equipment	1990	16	25	5.257	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Paving Equipment	1990	26	50	21.788	4.84	7.965	9.783	0.871	1.277	1.277	568.299	0.436
Paving Equipment	1990	51	120	24.593	2.398	15.202	5.796	0.791	1.352	1.352	568.299	0.216
Paving Equipment	1990	121	175	35.738	1.88	14.821	5.196	0.758	1.044	1.044	568.3	0.169
Paving Equipment	1990	176	250	43.262	1.88	14.821	5.196	0.758	1.044	1.044	568.299	0.169
Paving Equipment	2000	16	25	4.652	1.958	6.358	4.53	0.065	0.563	0.563	568.299	0.176
Paving Equipment	2000	26	50	19.86	4.412	7.101	9.076	0.066	0.921	0.921	568.299	0.398
Paving Equipment	2000	51	120	19.826	1.933	11.122	4.844	0.06	0.909	0.909	568.299	0.174
Paving Equipment	2000	121	175	25.015	1.316	10.15	4.018	0.057	0.553	0.553	568.299	0.118
Paving Equipment	2000	176	250	26.974	1.172	9.895	3.458	0.057	0.486	0.486	568.299	0.105
Paving Equipment	2005	16	25	2.184	0.919	5.412	2.642	0.065	0.347	0.347	568.299	0.082
Paving Equipment	2005	26	50	18.352	4.077	6.73	8.626	0.066	0.875	0.875	568.299	0.367
Paving Equipment	2005	51	120	17.633	1.719	9.754	4.557	0.06	0.86	0.86	568.299	0.155
Paving Equipment	2005	121	175	21.589	1.135	8.873	3.705	0.057	0.494	0.494	568.299	0.102
Paving Equipment	2005	176	250	21.201	0.921	8.548	2.655	0.057	0.38	0.38	568.299	0.083
Paving Equipment	2010	16	25	1.378997	1.159	5.35696	4.92203	0.005	0.47	0.433	578.6236	0.168
Paving Equipment	2010	26	50	1.378997	1.159	5.35696	4.92203	0.005	0.47	0.433	578.6236	0.168
Paving Equipment	2010	51	120	0.934999	0.786	7.23593	3.90118	0.005	0.553	0.508	526.5834	0.153
Paving Equipment	2010	121	175	0.573407	0.482	6.09511	3.13688	0.005	0.295	0.271	523.4127	0.152
Paving Equipment	2010	176	250	0.486641	0.409	6.03614	1.69744	0.005	0.224	0.206	524.3728	0.153
Paving Equipment	2011	16	25	1.380687	1.16	5.36974	4.99687	0.005	0.472	0.434	577.1303	0.168
Paving Equipment	2011	26	50	1.380687	1.16	5.36974	4.99687	0.005	0.472	0.434	577.1303	0.168
Paving Equipment	2011	51	120	0.895349	0.752	6.99544	3.87125	0.005	0.536	0.493	524.9269	0.153
Paving Equipment	2011	121	175	0.56507	0.475	5.97526	3.14337	0.005	0.29	0.267	522.1549	0.152
Paving Equipment	2011	176	250	0.466258	0.392	5.77978	1.64572	0.005	0.213	0.196	523.0323	0.153
Paving Equipment	2012	16	25	1.384947	1.164	5.34363	5.06516	0.005	0.47	0.432	575.687	0.168

Paving Equipment	2012	26	50	1.384947	1.164	5.34363	5.06516	0.005	0.47	0.432	575.687	0.168
Paving Equipment	2012	51	120	0.910401	0.765	7.04165	3.90635	0.005	0.546	0.503	523.5886	0.153
Paving Equipment	2012	121	175	0.56544	0.475	5.9326	3.15801	0.005	0.29	0.267	520.7286	0.152
Paving Equipment	2012	176	250	0.474854	0.399	5.81292	1.657	0.005	0.215	0.198	521.7154	0.153
Paving Equipment	2013	16	25	1.327494	1.115	5.2986	5.02677	0.005	0.459	0.422	572.4644	0.168
Paving Equipment	2013	26	50	1.327494	1.115	5.2986	5.02677	0.005	0.459	0.422	572.4644	0.168
Paving Equipment	2013	51	120	0.845445	0.71	6.6576	3.86369	0.005	0.507	0.467	520.6724	0.153
Paving Equipment	2013	121	175	0.532035	0.447	5.60344	3.1205	0.005	0.271	0.249	517.6606	0.152
Paving Equipment	2013	176	250	0.40741	0.342	5.25206	1.48037	0.005	0.18	0.166	519.5215	0.153
Paving Equipment	2014	16	25	1.253528	1.053	5.18385	4.95215	0.005	0.437	0.402	569.4822	0.168
Paving Equipment	2014	26	50	1.253528	1.053	5.18385	4.95215	0.005	0.437	0.402	569.4822	0.168
Paving Equipment	2014	51	120	0.805438	0.677	6.36952	3.83664	0.005	0.486	0.447	518.0756	0.153
Paving Equipment	2014	121	175	0.494038	0.415	5.21567	3.09686	0.005	0.249	0.229	515.0343	0.152
Paving Equipment	2014	176	250	0.369032	0.31	4.78232	1.37011	0.005	0.158	0.146	516.8998	0.153
Paving Equipment	2015	16	25	1.166929	0.981	5.02757	4.86895	0.005	0.407	0.374	563.5534	0.168
Paving Equipment	2015	26	50	1.166929	0.981	5.02757	4.86895	0.005	0.407	0.374	563.5534	0.168
Paving Equipment	2015	51	120	0.786628	0.661	6.14454	3.83329	0.005	0.471	0.433	513.1672	0.153
Paving Equipment	2015	121	175	0.48887	0.411	4.96561	3.10403	0.005	0.242	0.223	509.8942	0.152
Paving Equipment	2015	176	250	0.374849	0.315	4.77176	1.37947	0.005	0.159	0.146	511.6544	0.153
Paving Equipment	2016	16	25	1.178909	0.991	4.98487	4.93662	0.005	0.403	0.371	557.7058	0.168
Paving Equipment	2016	26	50	1.178909	0.991	4.98487	4.93662	0.005	0.403	0.371	557.7058	0.168
Paving Equipment	2016	51	120	0.741701	0.623	5.7333	3.79639	0.005	0.438	0.403	507.9102	0.153
Paving Equipment	2016	121	175	0.442497	0.372	4.3217	3.08114	0.005	0.214	0.197	504.8201	0.152
Paving Equipment	2016	176	250	0.353542	0.297	4.42821	1.33145	0.005	0.148	0.136	506.1965	0.153
Paving Equipment	2017	16	25	1.102141	0.926	4.72756	4.80403	0.005	0.359	0.33	548.6481	0.168
Paving Equipment	2017	26	50	1.102141	0.926	4.72756	4.80403	0.005	0.359	0.33	548.6481	0.168
Paving Equipment	2017	51	120	0.670017	0.563	5.20745	3.74146	0.005	0.391	0.359	500.1649	0.153
Paving Equipment	2017	121	175	0.407568	0.342	3.89633	3.07321	0.005	0.195	0.179	497.148	0.152
Paving Equipment	2017	176	250	0.342633	0.288	4.12109	1.333	0.005	0.141	0.13	498.7323	0.153
Paving Equipment	2018	16	25	0.877571	0.737	4.31244	4.41578	0.005	0.286	0.263	540.6115	0.168
Paving Equipment	2018	26	50	0.877571	0.737	4.31244	4.41578	0.005	0.286	0.263	540.6115	0.168
Paving Equipment	2018	51	120	0.534861	0.449	4.27034	3.60743	0.005	0.302	0.278	492.1184	0.153
Paving Equipment	2018	121	175	0.337615	0.284	3.17208	3.02602	0.005	0.155	0.143	489.2024	0.152
Paving Equipment	2018	176	250	0.307374	0.258	3.58656	1.28117	0.005	0.123	0.113	490.6833	0.153
Paving Equipment	2019	16	25	0.838543	0.705	4.23779	4.40798	0.005	0.27	0.248	531.8612	0.168
Paving Equipment	2019	26	50	0.838543	0.705	4.23779	4.40798	0.005	0.27	0.248	531.8612	0.168
Paving Equipment	2019	51	120	0.50594	0.425	4.04152	3.59849	0.005	0.281	0.258	484.387	0.153
Paving Equipment	2019	121	175	0.302373	0.254	2.6924	3.0109	0.005	0.134	0.123	481.2251	0.152
Paving Equipment	2019	176	250	0.286526	0.241	3.25106	1.24449	0.005	0.112	0.103	482.6441	0.153
Paving Equipment	2020	16	25	0.73951	0.621	3.9519	4.22322	0.005	0.217	0.2	520.1235	0.168
Paving Equipment	2020	26	50	0.73951	0.621	3.9519	4.22322	0.005	0.217	0.2	520.1235	0.168
Paving Equipment	2020	51	120	0.472907	0.397	3.78064	3.58172	0.005	0.256	0.235	473.3249	0.153
Paving Equipment	2020	121	175	0.294586	0.248	2.55498	3.02393	0.005	0.128	0.118	470.7359	0.152
Paving Equipment	2020	176	250	0.289784	0.243	3.2202	1.25215	0.005	0.111	0.102	472.1514	0.153
Paving Equipment	2021	16	25	0.698022	0.587	3.88226	4.21072	0.005	0.2	0.184	520.3965	0.168
Paving Equipment	2021	26	50	0.698022	0.587	3.88226	4.21072	0.005	0.2	0.184	520.3965	0.168
Paving Equipment	2021	51	120	0.422572	0.355	3.45065	3.5537	0.005	0.219	0.201	473.2205	0.153
Paving Equipment	2021	121	175	0.272687	0.229	2.31505	3.03229	0.005	0.114	0.105	470.6495	0.152
Paving Equipment	2021	176	250	0.250607	0.211	2.58202	1.20904	0.005	0.092	0.085	472.151	0.153
Paving Equipment	2022	16	25	0.68013	0.571	3.83611	4.24448	0.005	0.188	0.173	520.6594	0.168
Paving Equipment	2022	26	50	0.68013	0.571	3.83611	4.24448	0.005	0.188	0.173	520.6594	0.168
Paving Equipment	2022	51	120	0.351718	0.296	2.99968	3.50075	0.005	0.171	0.157	473.4475	0.153
Paving Equipment	2022	121	175	0.253077	0.213	2.07331	3.03777	0.005	0.101	0.093	470.6646	0.152
Paving Equipment	2022	176	250	0.232653	0.195	2.22813	1.20363	0.005	0.083	0.076	472.169	0.153
Paving Equipment	2023	16	25	0.644074	0.541	3.77446	4.24108	0.005	0.173	0.159	521.1138	0.169
Paving Equipment	2023	26	50	0.644074	0.541	3.77446	4.24108	0.005	0.173	0.159	521.1138	0.169
Paving Equipment	2023	51	120	0.331302	0.278	2.83717	3.50331	0.005	0.152	0.14	473.427	0.153
Paving Equipment	2023	121	175	0.242414	0.204	1.91255	3.05059	0.005	0.093	0.086	470.663	0.152
Paving Equipment	2023	176	250	0.208228	0.175	1.88495	1.16523	0.005	0.07	0.065	472.169	0.153
Paving Equipment	2024	16	25	0.622364	0.523	3.74329	4.27468	0.005	0.164	0.151	521.0575	0.169
Paving Equipment	2024	26	50	0.622364	0.523	3.74329	4.27468	0.005	0.164	0.151	521.0575	0.169
Paving Equipment	2024	51	120	0.311995	0.262	2.67309	3.50288	0.005	0.135	0.125	473.1748	0.153
Paving Equipment	2024	121	175	0.233948	0.197	1.78512	3.06623	0.005	0.086	0.079	470.6614	0.152
Paving Equipment	2024	176	250	0.164733	0.138	1.29567	1.11417	0.005	0.048	0.044	472.2124	0.153
Paving Equipment	2025	16	25	0.566694	0.476	3.62672	4.20347	0.005	0.141	0.13	520.9975	0.169
Paving Equipment	2025	26	50	0.566694	0.476	3.62672	4.20347	0.005	0.141	0.13	520.9975	0.169
Paving Equipment	2025	51	120	0.287394	0.241	2.49628	3.48256	0.005	0.118	0.108	473.4239	0.153
Paving Equipment	2025	121	175	0.208465	0.175	1.509	3.03837	0.005	0.075	0.069	470.4844	0.152
Paving Equipment	2025	176	250	0.158556	0.133	1.10952	1.11653	0.005	0.043	0.04	472.2341	0.153
Paving Equipment	2030	16	25	1.628	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Paving Equipment	2030	26	50	3.613	0.802	3.809	5.309	0.007	0.126	0.126	568.299	0.072
Paving Equipment	2030	51	120	4.007	0.39	2.393	3.774	0.006	0.114	0.114	568.3	0.035
Paving Equipment	2030	121	175	5.525	0.29	1.363	3.306	0.006	0.07	0.07	568.299	0.026
Paving Equipment	2030	176	250	5.771	0.25	1.176	1.171	0.006	0.042	0.042	568.299	0.022
Paving Equipment	2035	16	25	1.628	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Paving Equipment	2035	26	50	2.991	0.664	3.511	5.181	0.007	0.07	0.07	568.3	0.059
Paving Equipment	2035	51	120	3.343	0.326	1.928	3.753	0.006	0.064	0.064	568.299	0.029
Paving Equipment	2035	121	175	4.485	0.235	0.832	3.303	0.006	0.04	0.04	568.299	0.021
Paving Equipment	2035	176	250	4.886	0.212	0.714	1.14	0.006	0.024	0.024	568.299	0.019
Paving Equipment	2040	16	25	1.628	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Paving Equipment	2040	26	50	2.651	0.589	3.361	5.111	0.007	0.042	0.042	568.3	0.053
Paving Equipment	2040	51	120	2.989	0.291	1.687	3.744	0.006	0.039	0.039	568.299	0.026
Paving Equipment	2040	121	175	3.901	0.205	0.536	3.304	0.006	0.025	0.025	568.299	0.018
Paving Equipment	2040	176	250	4.452	0.193	0.485	1.127	0.006	0.017	0.017	568.299	0.017
Plate Compactors	1990	6	15	2.156	1.804	9.999	4.999	1.049	0.975	0.975	568.299	0.162
Plate Compactors	2000	6	15	1.852	1.55	8.519	4.606	0.079	0.708	0.708	568.299	0.139
Plate Compactors	2005	6	15	0.955	0.799	5.435	3.503	0.079	0.377	0.377	568.299	0.072
Plate Compactors	2010	6	15	0.794	0.664	4.178	3.469	0.008	0.198	0.198	568.299	0.059
Plate Compactors	2011	6	15	0.791	0.662	4.15	3.469	0.008	0.172	0.172	568.299	0.059

Plate Compactors	2012	6	15	0.79	0.661	4.142	3.469	0.008	0.165	0.165	568.3	0.059
Plate Compactors	2013	6	15	0.79	0.661	4.142	3.469	0.008	0.162	0.162	568.3	0.059
Plate Compactors	2014	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2015	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2016	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2017	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2018	6	15	0.79	0.661	4.142	3.47	0.008	0.161	0.161	568.3	0.059
Plate Compactors	2019	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2020	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2021	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2022	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2023	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2024	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2025	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2030	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2035	6	15	0.79	0.661	4.142	3.47	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2040	6	15	0.79	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Pressure Washers	1990	6	15	4.972	1.804	9.999	4.999	1.018	0.974	0.974	568.299	0.162
Pressure Washers	1990	16	25	8.915	2.213	6.92	5	0.83	0.74	0.74	568.3	0.199
Pressure Washers	1990	26	50	20.959	2.601	7.129	5.721	0.846	0.821	0.821	568.299	0.234
Pressure Washers	1990	51	120	23.659	1.743	12.634	4.735	0.768	0.874	0.874	568.299	0.157
Pressure Washers	1990	121	175	82.001	1.272	11.763	4.353	1.123	0.649	0.649	568.299	0.114
Pressure Washers	1990	176	250	77.237	0.953	9.035	3.084	1.077	0.476	0.476	568.299	0.086
Pressure Washers	2000	6	15	4.186	1.518	8.846	4.875	0.079	0.613	0.613	568.299	0.137
Pressure Washers	2000	16	25	6.717	1.667	6.405	4.783	0.065	0.51	0.51	568.299	0.15
Pressure Washers	2000	26	50	19.934	2.474	6.381	5.524	0.066	0.615	0.615	568.3	0.223
Pressure Washers	2000	51	120	19.23	1.417	9.062	3.967	0.06	0.613	0.613	568.3	0.127
Pressure Washers	2000	121	175	66.055	1.024	8.685	3.38	0.059	0.399	0.399	568.299	0.092
Pressure Washers	2000	176	250	35.508	0.438	6.315	1.005	0.058	0.143	0.143	568.299	0.039
Pressure Washers	2005	6	15	3.341	1.212	7.615	4.38	0.079	0.505	0.505	568.3	0.109
Pressure Washers	2005	16	25	5.048	1.253	6.014	3.922	0.065	0.432	0.432	568.299	0.113
Pressure Washers	2005	26	50	17.362	2.154	5.932	5.075	0.066	0.566	0.566	568.299	0.194
Pressure Washers	2005	51	120	16.424	1.21	7.651	3.682	0.06	0.566	0.566	568.299	0.109
Pressure Washers	2005	121	175	55.65	0.863	7.441	3.072	0.059	0.349	0.349	568.299	0.077
Pressure Washers	2005	176	250	21.871	0.27	4.822	0.986	0.058	0.111	0.111	568.299	0.024
Pressure Washers	2010	6	15	2.628	0.953	6.387	4.027	0.008	0.38	0.38	568.299	0.086
Pressure Washers	2010	16	25	3.872	0.961	5.477	3.309	0.007	0.342	0.342	568.299	0.086
Pressure Washers	2010	26	50	13.073	1.622	5.501	4.517	0.007	0.453	0.453	568.299	0.146
Pressure Washers	2010	51	120	12.296	0.906	6.273	3.503	0.006	0.451	0.451	568.299	0.081
Pressure Washers	2010	121	175	41.062	0.637	5.773	2.967	0.006	0.275	0.275	568.299	0.057
Pressure Washers	2010	176	250	16.502	0.203	2.5	0.986	0.006	0.1	0.1	568.299	0.018
Pressure Washers	2011	6	15	2.504	0.908	6.134	3.952	0.008	0.358	0.358	568.299	0.081
Pressure Washers	2011	16	25	3.706	0.92	5.36	3.179	0.007	0.325	0.325	568.299	0.083
Pressure Washers	2011	26	50	12.056	1.496	5.405	4.382	0.007	0.428	0.428	568.299	0.135
Pressure Washers	2011	51	120	11.392	0.839	5.939	3.468	0.006	0.43	0.43	568.299	0.075
Pressure Washers	2011	121	175	38.303	0.594	5.441	2.953	0.006	0.263	0.263	568.299	0.053
Pressure Washers	2011	176	250	15.247	0.188	2.086	0.986	0.006	0.072	0.072	568.299	0.016
Pressure Washers	2012	6	15	2.385	0.865	5.874	3.874	0.008	0.338	0.338	568.299	0.078
Pressure Washers	2012	16	25	3.564	0.884	5.239	3.043	0.007	0.307	0.307	568.299	0.079
Pressure Washers	2012	26	50	10.983	1.363	5.306	4.238	0.007	0.402	0.402	568.299	0.123
Pressure Washers	2012	51	120	10.457	0.77	5.578	3.433	0.006	0.4	0.4	568.299	0.069
Pressure Washers	2012	121	175	35.56	0.551	5.109	2.941	0.006	0.244	0.244	568.299	0.049
Pressure Washers	2012	176	250	13.887	0.171	1.749	0.986	0.006	0.046	0.046	568.299	0.015
Pressure Washers	2013	6	15	2.27	0.823	5.616	3.796	0.008	0.318	0.318	568.299	0.074
Pressure Washers	2013	16	25	3.431	0.851	5.117	2.907	0.007	0.289	0.289	568.299	0.076
Pressure Washers	2013	26	50	9.897	1.228	5.086	4.092	0.007	0.367	0.367	568.299	0.11
Pressure Washers	2013	51	120	9.523	0.701	5.226	3.399	0.006	0.366	0.366	568.299	0.063
Pressure Washers	2013	121	175	32.885	0.51	4.803	2.931	0.006	0.225	0.225	568.299	0.046
Pressure Washers	2013	176	250	12.508	0.154	1.468	0.986	0.006	0.021	0.021	568.299	0.013
Pressure Washers	2014	6	15	2.16	0.783	5.369	3.723	0.008	0.298	0.298	568.299	0.07
Pressure Washers	2014	16	25	3.308	0.821	5	2.78	0.007	0.272	0.272	568.299	0.074
Pressure Washers	2014	26	50	8.833	1.096	4.873	3.951	0.007	0.332	0.332	568.299	0.098
Pressure Washers	2014	51	120	8.608	0.634	4.912	3.367	0.006	0.332	0.332	568.299	0.057
Pressure Washers	2014	121	175	30.292	0.469	4.513	2.923	0.006	0.206	0.206	568.299	0.042
Pressure Washers	2014	176	250	11.167	0.137	1.047	0.986	0.006	0.014	0.014	568.299	0.012
Pressure Washers	2015	6	15	2.059	0.747	5.141	3.657	0.008	0.28	0.28	568.299	0.067
Pressure Washers	2015	16	25	3.196	0.793	4.89	2.666	0.007	0.256	0.256	568.299	0.071
Pressure Washers	2015	26	50	7.868	0.976	4.685	3.833	0.007	0.3	0.3	568.299	0.088
Pressure Washers	2015	51	120	7.703	0.567	4.551	3.336	0.006	0.297	0.297	568.299	0.051
Pressure Washers	2015	121	175	27.567	0.427	4.115	2.917	0.006	0.187	0.187	568.299	0.038
Pressure Washers	2015	176	250	9.864	0.121	0.69	0.986	0.006	0.01	0.01	568.299	0.01
Pressure Washers	2016	6	15	1.986	0.72	4.978	3.622	0.008	0.264	0.264	568.299	0.065
Pressure Washers	2016	16	25	3.116	0.773	4.803	2.604	0.007	0.244	0.244	568.299	0.069
Pressure Washers	2016	26	50	6.97	0.865	4.515	3.729	0.007	0.269	0.269	568.299	0.078
Pressure Washers	2016	51	120	6.839	0.504	4.209	3.308	0.006	0.264	0.264	568.299	0.045
Pressure Washers	2016	121	175	24.906	0.386	3.726	2.913	0.006	0.168	0.168	568.299	0.034
Pressure Washers	2016	176	250	8.667	0.107	0.399	0.986	0.006	0.009	0.009	568.299	0.009
Pressure Washers	2017	6	15	1.927	0.699	4.847	3.599	0.008	0.25	0.25	568.299	0.063
Pressure Washers	2017	16	25	3.053	0.757	4.729	2.564	0.007	0.233	0.233	568.299	0.068
Pressure Washers	2017	26	50	6.126	0.76	4.355	3.632	0.007	0.24	0.24	568.299	0.068
Pressure Washers	2017	51	120	6.031	0.444	3.888	3.283	0.006	0.233	0.233	568.3	0.04
Pressure Washers	2017	121	175	22.349	0.346	3.349	2.91	0.006	0.149	0.149	568.299	0.031
Pressure Washers	2017	176	250	8.288	0.102	0.317	0.986	0.006	0.009	0.009	568.299	0.009
Pressure Washers	2018	6	15	1.874	0.679	4.728	3.58	0.008	0.237	0.237	568.299	0.061
Pressure Washers	2018	16	25	2.997	0.744	4.661	2.531	0.007	0.224	0.224	568.299	0.067
Pressure Washers	2018	26	50	5.332	0.661	4.202	3.542	0.007	0.212	0.212	568.299	0.059
Pressure Washers	2018	51	120	5.276	0.388	3.584	3.26	0.006	0.203	0.203	568.299	0.035
Pressure Washers	2018	121	175	19.96	0.309	2.989	2.908	0.006	0.132	0.132	568.299	0.027
Pressure Washers	2018	176	250	8.072	0.099	0.277	0.986	0.006	0.009	0.009	568.299	0.008



Pressure Washers	2019	6	15	1.824	0.662	4.617	3.562	0.008	0.224	0.224	568.299	0.059
Pressure Washers	2019	16	25	2.947	0.731	4.596	2.501	0.007	0.214	0.214	568.299	0.066
Pressure Washers	2019	26	50	4.585	0.569	4.053	3.457	0.007	0.184	0.184	568.299	0.051
Pressure Washers	2019	51	120	4.575	0.337	3.295	3.24	0.006	0.174	0.174	568.299	0.03
Pressure Washers	2019	121	175	18.102	0.28	2.67	2.907	0.006	0.117	0.117	568.299	0.025
Pressure Washers	2019	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2020	6	15	1.78	0.646	4.516	3.546	0.008	0.212	0.212	568.299	0.058
Pressure Washers	2020	16	25	2.904	0.721	4.538	2.473	0.007	0.205	0.205	568.299	0.065
Pressure Washers	2020	26	50	4.025	0.499	3.917	3.393	0.007	0.161	0.161	568.299	0.045
Pressure Washers	2020	51	120	4.048	0.298	3.036	3.225	0.006	0.151	0.151	568.299	0.026
Pressure Washers	2020	121	175	16.638	0.258	2.383	2.907	0.006	0.104	0.104	568.299	0.023
Pressure Washers	2020	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2021	6	15	1.747	0.634	4.441	3.531	0.008	0.201	0.201	568.299	0.057
Pressure Washers	2021	16	25	2.87	0.712	4.497	2.446	0.007	0.196	0.196	568.299	0.064
Pressure Washers	2021	26	50	3.542	0.439	3.765	3.329	0.007	0.136	0.136	568.299	0.039
Pressure Washers	2021	51	120	3.592	0.264	2.766	3.21	0.006	0.129	0.129	568.299	0.023
Pressure Washers	2021	121	175	15.389	0.238	2.118	2.907	0.006	0.093	0.093	568.299	0.021
Pressure Washers	2021	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2022	6	15	1.725	0.626	4.39	3.519	0.008	0.193	0.193	568.299	0.056
Pressure Washers	2022	16	25	2.847	0.706	4.47	2.426	0.007	0.188	0.188	568.299	0.063
Pressure Washers	2022	26	50	3.213	0.398	3.649	3.291	0.007	0.117	0.117	568.3	0.035
Pressure Washers	2022	51	120	3.281	0.241	2.56	3.202	0.006	0.112	0.112	568.299	0.021
Pressure Washers	2022	121	175	14.252	0.221	1.871	2.907	0.006	0.082	0.082	568.299	0.019
Pressure Washers	2022	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2023	6	15	1.706	0.618	4.345	3.508	0.008	0.186	0.186	568.299	0.055
Pressure Washers	2023	16	25	2.827	0.701	4.447	2.407	0.007	0.182	0.182	568.299	0.063
Pressure Washers	2023	26	50	2.928	0.363	3.541	3.26	0.007	0.101	0.101	568.299	0.032
Pressure Washers	2023	51	120	3.012	0.222	2.377	3.196	0.006	0.097	0.097	568.299	0.02
Pressure Washers	2023	121	175	13.244	0.205	1.665	2.907	0.006	0.072	0.072	568.299	0.018
Pressure Washers	2023	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2024	6	15	1.689	0.612	4.305	3.499	0.008	0.181	0.181	568.299	0.055
Pressure Washers	2024	16	25	2.811	0.697	4.426	2.39	0.007	0.178	0.178	568.299	0.062
Pressure Washers	2024	26	50	2.685	0.333	3.441	3.233	0.007	0.087	0.087	568.299	0.03
Pressure Washers	2024	51	120	2.78	0.204	2.229	3.191	0.006	0.084	0.084	568.299	0.018
Pressure Washers	2024	121	175	12.332	0.191	1.482	2.907	0.006	0.062	0.062	568.299	0.017
Pressure Washers	2024	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2025	6	15	1.674	0.607	4.269	3.491	0.008	0.178	0.178	568.299	0.054
Pressure Washers	2025	16	25	2.797	0.694	4.407	2.376	0.007	0.175	0.175	568.299	0.062
Pressure Washers	2025	26	50	2.472	0.306	3.344	3.21	0.007	0.075	0.075	568.299	0.027
Pressure Washers	2025	51	120	2.575	0.189	2.1	3.186	0.006	0.072	0.072	568.299	0.017
Pressure Washers	2025	121	175	11.476	0.178	1.31	2.907	0.006	0.053	0.053	568.299	0.016
Pressure Washers	2025	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2030	6	15	1.632	0.592	4.164	3.47	0.008	0.166	0.166	568.3	0.053
Pressure Washers	2030	16	25	2.766	0.686	4.347	2.34	0.007	0.165	0.165	568.299	0.061
Pressure Washers	2030	26	50	1.735	0.215	2.989	3.124	0.007	0.03	0.03	568.299	0.019
Pressure Washers	2030	51	120	1.821	0.134	1.594	3.167	0.006	0.028	0.028	568.3	0.012
Pressure Washers	2030	121	175	8.178	0.126	0.619	2.907	0.006	0.024	0.024	568.299	0.011
Pressure Washers	2030	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2035	6	15	1.624	0.589	4.143	3.47	0.008	0.162	0.162	568.3	0.053
Pressure Washers	2035	16	25	2.761	0.685	4.332	2.34	0.007	0.162	0.162	568.299	0.061
Pressure Washers	2035	26	50	1.515	0.188	2.882	3.101	0.007	0.015	0.015	568.299	0.016
Pressure Washers	2035	51	120	1.58	0.116	1.421	3.161	0.006	0.014	0.014	568.299	0.01
Pressure Washers	2035	121	175	7.052	0.109	0.382	2.907	0.006	0.013	0.013	568.299	0.009
Pressure Washers	2035	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2040	6	15	1.624	0.589	4.142	3.469	0.008	0.161	0.161	568.299	0.053
Pressure Washers	2040	16	25	2.761	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Pressure Washers	2040	26	50	1.5	0.186	2.836	3.098	0.007	0.01	0.01	568.299	0.016
Pressure Washers	2040	51	120	1.54	0.113	1.365	3.16	0.006	0.01	0.01	568.299	0.01
Pressure Washers	2040	121	175	6.649	0.103	0.293	2.907	0.006	0.01	0.01	568.299	0.009
Pressure Washers	2040	176	250	8.005	0.098	0.265	0.986	0.006	0.009	0.009	568.299	0.008
Pumps	1990	6	15	3.929	1.804	10	4.999	1.018	0.974	0.974	568.299	0.162
Pumps	1990	16	25	12.652	2.213	6.92	4.999	0.83	0.74	0.74	568.299	0.199
Pumps	1990	26	50	33.318	3.307	7.391	7.004	0.846	0.964	0.964	568.299	0.298
Pumps	1990	51	120	44.398	1.941	13.378	5.049	0.768	1.022	1.022	568.299	0.175
Pumps	1990	121	175	54.599	1.328	12.036	4.466	0.736	0.678	0.678	568.299	0.119
Pumps	1990	176	250	78.462	1.328	12.036	4.466	0.736	0.678	0.678	568.299	0.119
Pumps	1990	251	500	123.784	1.222	11.736	7.034	0.642	0.614	0.614	568.3	0.11
Pumps	1990	501	750	204.643	1.222	11.736	7.034	0.658	0.614	0.614	568.299	0.11
Pumps	1990	1001	9999	484.933	1.22	11.736	7.034	0.658	0.612	0.612	568.299	0.11
Pumps	2000	6	15	3.754	1.723	9.08	4.875	0.079	0.747	0.747	568.299	0.155
Pumps	2000	16	25	11.979	2.095	6.405	4.783	0.065	0.569	0.569	568.299	0.189
Pumps	2000	26	50	31.461	3.123	6.608	6.715	0.066	0.718	0.718	568.299	0.281
Pumps	2000	51	120	36.02	1.575	9.604	4.223	0.06	0.711	0.711	568.3	0.142
Pumps	2000	121	175	43.406	1.055	8.734	3.435	0.057	0.419	0.419	568.299	0.095
Pumps	2000	176	250	51.67	0.874	8.397	2.707	0.057	0.339	0.339	568.299	0.078
Pumps	2000	251	500	83.09	0.82	8.188	3.956	0.05	0.311	0.311	568.299	0.074
Pumps	2000	501	750	137.368	0.82	8.188	3.956	0.051	0.311	0.311	568.299	0.074
Pumps	2000	1001	9999	372.377	0.936	8.775	4.533	0.051	0.351	0.351	568.299	0.084
Pumps	2005	6	15	3.036	1.394	7.817	4.38	0.079	0.621	0.621	568.299	0.125
Pumps	2005	16	25	9.278	1.622	6.014	3.922	0.065	0.483	0.483	568.299	0.146
Pumps	2005	26	50	27.809	2.76	6.155	6.203	0.066	0.664	0.664	568.299	0.249
Pumps	2005	51	120	30.825	1.348	8.1	3.91	0.06	0.657	0.657	568.3	0.121
Pumps	2005	121	175	36.106	0.878	7.408	3.114	0.057	0.363	0.363	568.299	0.079
Pumps	2005	176	250	36.853	0.623	6.99	1.836	0.057	0.239	0.239	568.299	0.056
Pumps	2005	251	500	56.766	0.56	6.535	2.32	0.05	0.219	0.219	568.299	0.05
Pumps	2005	501	750	96.43	0.575	6.679	2.32	0.051	0.221	0.221	568.299	0.051
Pumps	2005	1001	9999	289.357	0.728	7.658	2.838	0.051	0.258	0.258	568.299	0.065
Pumps	2010	6	15	2.449	1.124	6.554	4.027	0.008	0.473	0.473	568.299	0.101
Pumps	2010	16	25	7.245	1.267	5.477	3.309	0.007	0.384	0.384	568.299	0.114

Pumps	2010	26	50	22.041	2.188	5.74	5.634	0.007	0.545	0.545	568.3	0.197
Pumps	2010	51	120	23.77	1.039	6.675	3.735	0.006	0.538	0.538	568.299	0.093
Pumps	2010	121	175	28.171	0.685	5.961	3.033	0.006	0.298	0.298	568.299	0.061
Pumps	2010	176	250	26.273	0.444	5.586	1.359	0.006	0.17	0.17	568.299	0.04
Pumps	2010	251	500	40.384	0.398	5.074	1.536	0.005	0.158	0.158	568.299	0.035
Pumps	2010	501	750	68.724	0.41	5.207	1.536	0.005	0.161	0.161	568.299	0.037
Pumps	2010	1001	9999	218.911	0.55	6.617	1.991	0.005	0.196	0.196	568.299	0.049
Pumps	2011	6	15	2.324	1.067	6.283	3.952	0.008	0.441	0.441	568.299	0.096
Pumps	2011	16	25	6.815	1.192	5.36	3.179	0.007	0.361	0.361	568.299	0.107
Pumps	2011	26	50	20.53	2.038	5.645	5.474	0.007	0.518	0.518	568.299	0.183
Pumps	2011	51	120	22.177	0.969	6.322	3.698	0.006	0.514	0.514	568.299	0.087
Pumps	2011	121	175	26.426	0.642	5.63	3.02	0.006	0.286	0.286	568.299	0.058
Pumps	2011	176	250	24.051	0.407	5.206	1.272	0.006	0.153	0.153	568.299	0.036
Pumps	2011	251	500	36.969	0.365	4.71	1.405	0.005	0.143	0.143	568.299	0.032
Pumps	2011	501	750	62.964	0.376	4.841	1.405	0.005	0.145	0.145	568.299	0.033
Pumps	2011	1001	9999	203.755	0.512	6.273	1.835	0.005	0.183	0.183	568.299	0.046
Pumps	2012	6	15	2.194	1.007	5.999	3.874	0.008	0.407	0.407	568.299	0.09
Pumps	2012	16	25	6.363	1.113	5.239	3.043	0.007	0.337	0.337	568.299	0.1
Pumps	2012	26	50	18.887	1.875	5.545	5.296	0.007	0.488	0.488	568.299	0.169
Pumps	2012	51	120	20.51	0.896	5.939	3.66	0.006	0.481	0.481	568.299	0.08
Pumps	2012	121	175	24.576	0.597	5.28	3.009	0.006	0.265	0.265	568.299	0.053
Pumps	2012	176	250	22.301	0.377	4.846	1.218	0.006	0.139	0.139	568.299	0.034
Pumps	2012	251	500	34.322	0.338	4.367	1.311	0.005	0.13	0.13	568.299	0.03
Pumps	2012	501	750	58.469	0.349	4.495	1.311	0.005	0.132	0.132	568.299	0.031
Pumps	2012	1001	9999	188.287	0.473	5.916	1.682	0.005	0.168	0.168	568.299	0.042
Pumps	2013	6	15	2.065	0.948	5.716	3.796	0.008	0.373	0.373	568.299	0.085
Pumps	2013	16	25	5.914	1.034	5.117	2.907	0.007	0.314	0.314	568.3	0.093
Pumps	2013	26	50	17.185	1.706	5.323	5.11	0.007	0.448	0.448	568.299	0.153
Pumps	2013	51	120	18.831	0.823	5.563	3.623	0.006	0.443	0.443	568.299	0.074
Pumps	2013	121	175	22.712	0.552	4.949	2.998	0.006	0.244	0.244	568.299	0.049
Pumps	2013	176	250	20.801	0.352	4.498	1.181	0.006	0.127	0.127	568.3	0.031
Pumps	2013	251	500	32.081	0.316	4.037	1.241	0.005	0.119	0.119	568.299	0.028
Pumps	2013	501	750	54.658	0.326	4.163	1.241	0.005	0.121	0.121	568.299	0.029
Pumps	2013	1001	9999	173.151	0.435	5.558	1.538	0.005	0.154	0.154	568.299	0.039
Pumps	2014	6	15	1.942	0.891	5.445	3.723	0.008	0.341	0.341	568.299	0.08
Pumps	2014	16	25	5.492	0.96	5	2.78	0.007	0.291	0.291	568.299	0.086
Pumps	2014	26	50	15.493	1.538	5.107	4.929	0.007	0.409	0.409	568.299	0.138
Pumps	2014	51	120	17.179	0.751	5.226	3.587	0.006	0.403	0.403	568.299	0.067
Pumps	2014	121	175	20.895	0.508	4.635	2.989	0.006	0.222	0.222	568.299	0.045
Pumps	2014	176	250	19.3	0.326	4.09	1.149	0.006	0.115	0.115	568.299	0.029
Pumps	2014	251	500	29.829	0.294	3.648	1.181	0.005	0.108	0.108	568.299	0.026
Pumps	2014	501	750	50.824	0.303	3.77	1.181	0.005	0.11	0.11	568.299	0.027
Pumps	2014	1001	9999	158.959	0.399	5.21	1.406	0.005	0.141	0.141	568.299	0.036
Pumps	2015	6	15	1.831	0.84	5.196	3.658	0.008	0.311	0.311	568.299	0.075
Pumps	2015	16	25	5.112	0.894	4.89	2.666	0.007	0.27	0.27	568.299	0.08
Pumps	2015	26	50	13.946	1.384	4.916	4.775	0.007	0.371	0.371	568.3	0.124
Pumps	2015	51	120	15.537	0.679	4.842	3.554	0.006	0.364	0.364	568.3	0.061
Pumps	2015	121	175	18.983	0.461	4.202	2.983	0.006	0.2	0.2	568.299	0.041
Pumps	2015	176	250	17.881	0.302	3.693	1.122	0.006	0.104	0.104	568.299	0.027
Pumps	2015	251	500	27.722	0.273	3.272	1.134	0.005	0.097	0.097	568.299	0.024
Pumps	2015	501	750	47.213	0.281	3.389	1.134	0.005	0.099	0.099	568.299	0.025
Pumps	2015	1001	9999	144.304	0.363	4.878	1.293	0.005	0.127	0.127	568.299	0.032
Pumps	2016	6	15	1.762	0.809	5.023	3.622	0.008	0.289	0.289	568.299	0.073
Pumps	2016	16	25	4.893	0.855	4.803	2.604	0.007	0.255	0.255	568.299	0.077
Pumps	2016	26	50	12.497	1.24	4.742	4.64	0.007	0.335	0.335	568.299	0.111
Pumps	2016	51	120	13.964	0.61	4.478	3.523	0.006	0.325	0.325	568.299	0.055
Pumps	2016	121	175	17.155	0.417	3.789	2.978	0.006	0.179	0.179	568.299	0.037
Pumps	2016	176	250	16.558	0.28	3.313	1.099	0.006	0.094	0.094	568.299	0.025
Pumps	2016	251	500	25.804	0.254	2.919	1.093	0.005	0.088	0.088	568.299	0.022
Pumps	2016	501	750	43.884	0.262	3.028	1.093	0.005	0.089	0.089	568.299	0.023
Pumps	2016	1001	9999	133.448	0.335	4.596	1.223	0.005	0.116	0.116	568.3	0.03
Pumps	2017	6	15	1.713	0.786	4.887	3.599	0.008	0.272	0.272	568.299	0.07
Pumps	2017	16	25	4.745	0.83	4.729	2.564	0.007	0.243	0.243	568.299	0.074
Pumps	2017	26	50	11.12	1.104	4.578	4.514	0.007	0.301	0.301	568.299	0.099
Pumps	2017	51	120	12.49	0.546	4.134	3.495	0.006	0.287	0.287	568.299	0.049
Pumps	2017	121	175	15.466	0.376	3.4	2.975	0.006	0.159	0.159	568.299	0.033
Pumps	2017	176	250	15.375	0.26	2.958	1.08	0.006	0.084	0.084	568.299	0.023
Pumps	2017	251	500	24.243	0.239	2.613	1.062	0.005	0.079	0.079	568.299	0.021
Pumps	2017	501	750	40.958	0.244	2.695	1.062	0.005	0.08	0.08	568.299	0.022
Pumps	2017	1001	9999	124.604	0.313	4.343	1.177	0.005	0.106	0.106	568.299	0.028
Pumps	2018	6	15	1.669	0.766	4.762	3.58	0.008	0.256	0.256	568.299	0.069
Pumps	2018	16	25	4.618	0.807	4.661	2.531	0.007	0.232	0.232	568.299	0.072
Pumps	2018	26	50	9.809	0.973	4.422	4.397	0.007	0.267	0.267	568.299	0.087
Pumps	2018	51	120	11.107	0.485	3.808	3.471	0.006	0.252	0.252	568.299	0.043
Pumps	2018	121	175	13.918	0.338	3.035	2.974	0.006	0.14	0.14	568.299	0.03
Pumps	2018	176	250	14.304	0.242	2.624	1.065	0.006	0.075	0.075	568.299	0.021
Pumps	2018	251	500	22.927	0.226	2.34	1.041	0.005	0.071	0.071	568.299	0.02
Pumps	2018	501	750	38.511	0.23	2.401	1.041	0.005	0.072	0.072	568.299	0.02
Pumps	2018	1001	9999	116.529	0.293	4.105	1.144	0.005	0.098	0.098	568.299	0.026
Pumps	2019	6	15	1.63	0.748	4.647	3.562	0.008	0.241	0.241	568.3	0.067
Pumps	2019	16	25	4.503	0.787	4.596	2.501	0.007	0.222	0.222	568.3	0.071
Pumps	2019	26	50	8.56	0.849	4.269	4.284	0.007	0.235	0.235	568.299	0.076
Pumps	2019	51	120	9.812	0.429	3.497	3.449	0.006	0.217	0.217	568.299	0.038
Pumps	2019	121	175	12.706	0.309	2.711	2.974	0.006	0.124	0.124	568.299	0.027
Pumps	2019	176	250	13.378	0.226	2.323	1.052	0.006	0.067	0.067	568.299	0.02
Pumps	2019	251	500	21.711	0.214	2.084	1.027	0.005	0.064	0.064	568.3	0.019
Pumps	2019	501	750	36.35	0.217	2.133	1.027	0.005	0.065	0.065	568.299	0.019
Pumps	2019	1001	9999	108.825	0.273	3.873	1.118	0.005	0.089	0.089	568.299	0.024
Pumps	2020	6	15	1.593	0.731	4.542	3.546	0.008	0.227	0.227	568.299	0.066

Pumps	2020	16	25	4.396	0.769	4.538	2.473	0.007	0.212	0.212	568.299	0.069
Pumps	2020	26	50	7.613	0.755	4.128	4.197	0.007	0.206	0.206	568.299	0.068
Pumps	2020	51	120	8.832	0.386	3.219	3.432	0.006	0.189	0.189	568.299	0.034
Pumps	2020	121	175	11.744	0.285	2.418	2.974	0.006	0.111	0.111	568.299	0.025
Pumps	2020	176	250	12.575	0.212	2.05	1.042	0.006	0.06	0.06	568.299	0.019
Pumps	2020	251	500	20.565	0.203	1.841	1.017	0.005	0.057	0.057	568.3	0.018
Pumps	2020	501	750	34.373	0.205	1.884	1.017	0.005	0.058	0.058	568.299	0.018
Pumps	2020	1001	9999	101.462	0.255	3.649	1.096	0.005	0.081	0.081	568.3	0.023
Pumps	2021	6	15	1.563	0.717	4.462	3.531	0.008	0.214	0.214	568.299	0.064
Pumps	2021	16	25	4.302	0.752	4.497	2.446	0.007	0.201	0.201	568.299	0.067
Pumps	2021	26	50	6.761	0.671	3.966	4.099	0.007	0.175	0.175	568.299	0.06
Pumps	2021	51	120	7.94	0.347	2.928	3.412	0.006	0.162	0.162	568.3	0.031
Pumps	2021	121	175	10.713	0.26	2.101	2.968	0.006	0.096	0.096	568.299	0.023
Pumps	2021	176	250	11.658	0.197	1.759	1.031	0.006	0.052	0.052	568.299	0.017
Pumps	2021	251	500	19.186	0.189	1.584	1.007	0.005	0.05	0.05	568.299	0.017
Pumps	2021	501	750	32.005	0.191	1.618	1.007	0.005	0.05	0.05	568.299	0.017
Pumps	2021	1001	9999	92.954	0.233	3.409	1.074	0.005	0.072	0.072	568.3	0.021
Pumps	2022	6	15	1.54	0.707	4.408	3.519	0.008	0.203	0.203	568.299	0.063
Pumps	2022	16	25	4.229	0.739	4.47	2.426	0.007	0.193	0.193	568.299	0.066
Pumps	2022	26	50	6.194	0.614	3.846	4.048	0.007	0.152	0.152	568.299	0.055
Pumps	2022	51	120	7.351	0.321	2.708	3.404	0.006	0.142	0.142	568.299	0.029
Pumps	2022	121	175	9.985	0.242	1.86	2.969	0.006	0.085	0.085	568.299	0.021
Pumps	2022	176	250	11.025	0.186	1.534	1.025	0.006	0.045	0.045	568.299	0.016
Pumps	2022	251	500	18.249	0.18	1.404	1.001	0.005	0.044	0.044	568.3	0.016
Pumps	2022	501	750	30.396	0.181	1.432	1.001	0.005	0.044	0.044	568.3	0.016
Pumps	2022	1001	9999	87.313	0.219	3.236	1.058	0.005	0.065	0.065	568.299	0.019
Pumps	2023	6	15	1.521	0.698	4.359	3.508	0.008	0.194	0.194	568.299	0.063
Pumps	2023	16	25	4.165	0.728	4.447	2.407	0.007	0.186	0.186	568.299	0.065
Pumps	2023	26	50	5.699	0.565	3.734	4.007	0.007	0.131	0.131	568.299	0.051
Pumps	2023	51	120	6.838	0.299	2.511	3.398	0.006	0.123	0.123	568.299	0.026
Pumps	2023	121	175	9.349	0.227	1.662	2.971	0.006	0.075	0.075	568.299	0.02
Pumps	2023	176	250	10.47	0.177	1.351	1.021	0.006	0.04	0.04	568.299	0.015
Pumps	2023	251	500	17.411	0.171	1.246	0.998	0.005	0.038	0.038	568.3	0.015
Pumps	2023	501	750	28.971	0.173	1.271	0.998	0.005	0.039	0.039	568.299	0.015
Pumps	2023	1001	9999	82.523	0.207	3.09	1.043	0.005	0.059	0.059	568.299	0.018
Pumps	2024	6	15	1.503	0.69	4.316	3.499	0.008	0.188	0.188	568.299	0.062
Pumps	2024	16	25	4.107	0.718	4.426	2.39	0.007	0.181	0.181	568.299	0.064
Pumps	2024	26	50	5.272	0.523	3.63	3.974	0.007	0.114	0.114	568.299	0.047
Pumps	2024	51	120	6.391	0.279	2.352	3.393	0.006	0.107	0.107	568.299	0.025
Pumps	2024	121	175	8.769	0.213	1.486	2.973	0.006	0.065	0.065	568.299	0.019
Pumps	2024	176	250	9.948	0.168	1.189	1.018	0.006	0.034	0.034	568.3	0.015
Pumps	2024	251	500	16.61	0.164	1.098	0.994	0.005	0.033	0.033	568.299	0.014
Pumps	2024	501	750	27.614	0.164	1.12	0.994	0.005	0.034	0.034	568.299	0.014
Pumps	2024	1001	9999	78.184	0.196	2.96	1.031	0.005	0.054	0.054	568.299	0.017
Pumps	2025	6	15	1.488	0.683	4.278	3.491	0.008	0.183	0.183	568.299	0.061
Pumps	2025	16	25	4.058	0.709	4.407	2.376	0.007	0.177	0.177	568.299	0.064
Pumps	2025	26	50	4.891	0.485	3.528	3.943	0.007	0.099	0.099	568.299	0.043
Pumps	2025	51	120	5.988	0.261	2.213	3.389	0.006	0.092	0.092	568.299	0.023
Pumps	2025	121	175	8.209	0.199	1.318	2.974	0.006	0.056	0.056	568.3	0.018
Pumps	2025	176	250	9.449	0.159	1.038	1.016	0.006	0.029	0.029	568.299	0.014
Pumps	2025	251	500	15.837	0.156	0.958	0.992	0.005	0.028	0.028	568.3	0.014
Pumps	2025	501	750	26.308	0.157	0.977	0.992	0.005	0.029	0.029	568.3	0.014
Pumps	2025	1001	9999	74.054	0.186	2.84	1.02	0.005	0.049	0.049	568.299	0.016
Pumps	2030	6	15	1.445	0.663	4.164	3.47	0.008	0.166	0.166	568.299	0.059
Pumps	2030	16	25	3.928	0.687	4.347	2.34	0.007	0.165	0.165	568.3	0.061
Pumps	2030	26	50	3.513	0.348	3.146	3.814	0.007	0.04	0.04	568.299	0.031
Pumps	2030	51	120	4.416	0.193	1.662	3.367	0.006	0.036	0.036	568.299	0.017
Pumps	2030	121	175	5.842	0.142	0.61	2.973	0.006	0.024	0.024	568.299	0.012
Pumps	2030	176	250	7.699	0.13	0.511	1.013	0.006	0.016	0.016	568.299	0.011
Pumps	2030	251	500	13.115	0.129	0.482	0.989	0.005	0.016	0.016	568.299	0.011
Pumps	2030	501	750	21.709	0.129	0.488	0.989	0.005	0.016	0.016	568.299	0.011
Pumps	2030	1001	9999	55.475	0.139	2.504	0.99	0.005	0.03	0.03	568.299	0.012
Pumps	2035	6	15	1.44	0.661	4.143	3.469	0.008	0.162	0.162	568.299	0.059
Pumps	2035	16	25	3.919	0.685	4.332	2.34	0.007	0.162	0.162	568.299	0.061
Pumps	2035	26	50	3.089	0.306	3.028	3.778	0.007	0.019	0.019	568.299	0.027
Pumps	2035	51	120	3.891	0.17	1.47	3.36	0.006	0.017	0.017	568.299	0.015
Pumps	2035	121	175	5.059	0.123	0.377	2.973	0.006	0.014	0.014	568.299	0.011
Pumps	2035	176	250	7.07	0.119	0.335	1.012	0.006	0.011	0.011	568.299	0.01
Pumps	2035	251	500	12.118	0.119	0.331	0.989	0.005	0.011	0.011	568.299	0.01
Pumps	2035	501	750	20.034	0.119	0.331	0.989	0.005	0.011	0.011	568.299	0.01
Pumps	2035	1001	9999	49.373	0.124	2.38	0.989	0.005	0.023	0.023	568.299	0.011
Pumps	2040	6	15	1.44	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Pumps	2040	16	25	3.919	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Pumps	2040	26	50	3.056	0.303	2.976	3.77	0.007	0.013	0.013	568.299	0.027
Pumps	2040	51	120	3.777	0.165	1.41	3.358	0.006	0.012	0.012	568.299	0.014
Pumps	2040	121	175	4.771	0.116	0.295	2.971	0.006	0.01	0.01	568.299	0.01
Pumps	2040	176	250	6.779	0.114	0.279	1.012	0.006	0.009	0.009	568.299	0.01
Pumps	2040	251	500	11.622	0.114	0.279	0.989	0.005	0.009	0.009	568.299	0.01
Pumps	2040	501	750	19.214	0.114	0.279	0.989	0.005	0.009	0.009	568.299	0.01
Pumps	2040	1001	9999	46.343	0.116	2.347	0.989	0.005	0.02	0.02	568.299	0.01
Rollers	1990	6	15	4.21	1.804	9.999	4.999	1.049	0.975	0.975	568.299	0.162
Rollers	1990	16	25	10.903	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Rollers	1990	26	50	45.466	4.738	7.927	9.598	0.871	1.256	1.256	568.299	0.427
Rollers	1990	51	120	51.677	2.372	15.111	5.756	0.791	1.332	1.332	568.3	0.214
Rollers	1990	121	175	75.451	1.889	14.858	5.165	0.758	1.046	1.046	568.299	0.17
Rollers	1990	176	250	106.808	1.889	14.858	5.165	0.758	1.046	1.046	568.299	0.17
Rollers	1990	251	500	135.093	1.669	14.103	11.266	0.662	0.896	0.896	568.299	0.15
Rollers	2000	6	15	3.444	1.475	8.242	4.49	0.079	0.676	0.676	568.3	0.133
Rollers	2000	16	25	9.648	1.958	6.358	4.53	0.065	0.563	0.563	568.299	0.176

Rollers	2000	26	50	38.643	4.027	6.941	8.379	0.066	0.861	0.861	568.299	0.363
Rollers	2000	51	120	39.062	1.793	10.425	4.585	0.06	0.844	0.844	568.299	0.161
Rollers	2000	121	175	48.357	1.21	9.501	3.749	0.057	0.503	0.503	568.299	0.109
Rollers	2000	176	250	59.24	1.047	9.211	3.108	0.057	0.427	0.427	568.299	0.094
Rollers	2000	251	500	77.413	0.956	8.821	5.254	0.05	0.379	0.379	568.299	0.086
Rollers	2005	6	15	1.788	0.766	5.228	3.469	0.079	0.361	0.361	568.299	0.069
Rollers	2005	16	25	4.53	0.919	5.412	2.642	0.065	0.347	0.347	568.299	0.082
Rollers	2005	26	50	34.997	3.647	6.51	7.864	0.066	0.808	0.808	568.299	0.329
Rollers	2005	51	120	34.046	1.563	8.963	4.289	0.06	0.79	0.79	568.299	0.141
Rollers	2005	121	175	40.854	1.023	8.18	3.44	0.057	0.441	0.441	568.299	0.092
Rollers	2005	176	250	44.594	0.788	7.822	2.262	0.057	0.319	0.319	568.299	0.071
Rollers	2005	251	500	56.466	0.697	7.196	3.183	0.05	0.282	0.282	568.299	0.062
Rollers	2010	6	15	1.637529	1.376	5.58863	5.19619	0.005	0.516	0.475	584.6125	0.17
Rollers	2010	16	25	1.637529	1.376	5.58863	5.19619	0.005	0.516	0.475	584.6125	0.17
Rollers	2010	26	50	1.637529	1.376	5.58863	5.19619	0.005	0.516	0.475	584.6125	0.17
Rollers	2010	51	120	0.983879	0.827	7.50147	3.91429	0.005	0.56	0.516	527.6279	0.154
Rollers	2010	121	175	0.511697	0.43	5.60543	3.00505	0.005	0.264	0.243	524.1952	0.153
Rollers	2010	176	250	0.616159	0.518	7.34127	2.19572	0.005	0.268	0.247	526.2539	0.153
Rollers	2010	251	500	0.682816	0.574	7.52047	4.92169	0.005	0.313	0.288	533.878	0.155
Rollers	2011	6	15	1.599963	1.344	5.5647	5.18315	0.005	0.508	0.467	583.1085	0.17
Rollers	2011	16	25	1.599963	1.344	5.5647	5.18315	0.005	0.508	0.467	583.1085	0.17
Rollers	2011	26	50	1.599963	1.344	5.5647	5.18315	0.005	0.508	0.467	583.1085	0.17
Rollers	2011	51	120	0.924436	0.777	7.13388	3.86451	0.005	0.533	0.491	525.9391	0.153
Rollers	2011	121	175	0.498798	0.419	5.44712	3.00845	0.005	0.257	0.237	522.9396	0.153
Rollers	2011	176	250	0.556319	0.467	6.69107	2.03431	0.005	0.242	0.222	524.8924	0.153
Rollers	2011	251	500	0.597293	0.502	6.64358	4.46947	0.005	0.275	0.253	529.5965	0.155
Rollers	2012	6	15	1.624226	1.365	5.568	5.26844	0.005	0.511	0.471	581.6678	0.17
Rollers	2012	16	25	1.624226	1.365	5.568	5.26844	0.005	0.511	0.471	581.6678	0.17
Rollers	2012	26	50	1.624226	1.365	5.568	5.26844	0.005	0.511	0.471	581.6678	0.17
Rollers	2012	51	120	0.924087	0.776	7.08604	3.87893	0.005	0.534	0.491	524.5269	0.153
Rollers	2012	121	175	0.497788	0.418	5.38313	3.02294	0.005	0.255	0.235	521.5511	0.153
Rollers	2012	176	250	0.555818	0.467	6.64215	2.02691	0.005	0.241	0.222	523.5608	0.153
Rollers	2012	251	500	0.604557	0.508	6.66671	4.53336	0.005	0.278	0.256	528.1357	0.155
Rollers	2013	6	15	1.5981	1.343	5.50162	5.27142	0.005	0.5	0.46	578.8662	0.17
Rollers	2013	16	25	1.5981	1.343	5.50162	5.27142	0.005	0.5	0.46	578.8662	0.17
Rollers	2013	26	50	1.5981	1.343	5.50162	5.27142	0.005	0.5	0.46	578.8662	0.17
Rollers	2013	51	120	0.873627	0.734	6.74964	3.84356	0.005	0.504	0.464	521.8163	0.153
Rollers	2013	121	175	0.468308	0.394	5.11335	3.00794	0.005	0.238	0.219	519.0689	0.153
Rollers	2013	176	250	0.495332	0.416	5.94235	1.86858	0.005	0.213	0.196	520.4083	0.153
Rollers	2013	251	500	0.470274	0.395	5.43748	3.53436	0.005	0.213	0.196	524.7654	0.154
Rollers	2014	6	15	1.556684	1.308	5.39309	5.24275	0.005	0.484	0.445	575.7953	0.17
Rollers	2014	16	25	1.556684	1.308	5.39309	5.24275	0.005	0.484	0.445	575.7953	0.17
Rollers	2014	26	50	1.556684	1.308	5.39309	5.24275	0.005	0.484	0.445	575.7953	0.17
Rollers	2014	51	120	0.827072	0.695	6.39036	3.80915	0.005	0.476	0.438	518.7866	0.153
Rollers	2014	121	175	0.43778	0.368	4.72375	2.99804	0.005	0.219	0.202	516.591	0.153
Rollers	2014	176	250	0.453642	0.381	5.40344	1.75988	0.005	0.191	0.176	517.8111	0.153
Rollers	2014	251	500	0.449616	0.378	5.18322	3.3182	0.005	0.202	0.185	522.0518	0.154
Rollers	2015	6	15	1.559602	1.31	5.36547	5.29043	0.005	0.481	0.443	569.9207	0.17
Rollers	2015	16	25	1.559602	1.31	5.36547	5.29043	0.005	0.481	0.443	569.9207	0.17
Rollers	2015	26	50	1.559602	1.31	5.36547	5.29043	0.005	0.481	0.443	569.9207	0.17
Rollers	2015	51	120	0.813228	0.683	6.27158	3.80891	0.005	0.467	0.43	513.5052	0.153
Rollers	2015	121	175	0.433087	0.364	4.63035	3.00605	0.005	0.215	0.198	511.3935	0.153
Rollers	2015	176	250	0.41293	0.347	4.93191	1.65049	0.005	0.171	0.157	512.8234	0.153
Rollers	2015	251	500	0.441373	0.371	5.03147	3.24549	0.005	0.195	0.179	517.2848	0.154
Rollers	2016	6	15	1.498736	1.259	5.2356	5.23066	0.005	0.459	0.423	563.9722	0.17
Rollers	2016	16	25	1.498736	1.259	5.2356	5.23066	0.005	0.459	0.423	563.9722	0.17
Rollers	2016	26	50	1.498736	1.259	5.2356	5.23066	0.005	0.459	0.423	563.9722	0.17
Rollers	2016	51	120	0.747631	0.628	5.80563	3.75537	0.005	0.428	0.393	508.1987	0.153
Rollers	2016	121	175	0.402004	0.338	4.23872	2.99334	0.005	0.197	0.181	505.9041	0.153
Rollers	2016	176	250	0.366563	0.308	4.39492	1.50673	0.005	0.15	0.138	507.6939	0.153
Rollers	2016	251	500	0.397483	0.334	4.45617	2.95647	0.005	0.173	0.159	513.4154	0.155
Rollers	2017	6	15	1.425352	1.198	5.09771	5.14727	0.005	0.436	0.401	555.0199	0.17
Rollers	2017	16	25	1.425352	1.198	5.09771	5.14727	0.005	0.436	0.401	555.0199	0.17
Rollers	2017	26	50	1.425352	1.198	5.09771	5.14727	0.005	0.436	0.401	555.0199	0.17
Rollers	2017	51	120	0.690109	0.58	5.4114	3.71315	0.005	0.392	0.361	500.1525	0.153
Rollers	2017	121	175	0.373471	0.314	3.87384	2.98069	0.005	0.18	0.166	497.9088	0.153
Rollers	2017	176	250	0.326364	0.274	3.92097	1.40849	0.005	0.129	0.119	499.7021	0.153
Rollers	2017	251	500	0.353236	0.297	3.84047	2.68487	0.005	0.15	0.138	505.8318	0.155
Rollers	2018	6	15	1.26668	1.064	4.8416	4.92335	0.005	0.387	0.356	546.2905	0.17
Rollers	2018	16	25	1.26668	1.064	4.8416	4.92335	0.005	0.387	0.356	546.2905	0.17
Rollers	2018	26	50	1.26668	1.064	4.8416	4.92335	0.005	0.387	0.356	546.2905	0.17
Rollers	2018	51	120	0.572467	0.481	4.65049	3.60981	0.005	0.32	0.294	492.2118	0.153
Rollers	2018	121	175	0.315632	0.265	3.18126	2.94895	0.005	0.147	0.135	490.1805	0.153
Rollers	2018	176	250	0.251419	0.211	2.99492	1.24341	0.005	0.094	0.086	491.6643	0.153
Rollers	2018	251	500	0.291314	0.245	3.09814	2.23145	0.005	0.119	0.11	497.9962	0.155
Rollers	2019	6	15	1.156606	0.972	4.64491	4.77841	0.005	0.349	0.321	537.546	0.17
Rollers	2019	16	25	1.156606	0.972	4.64491	4.77841	0.005	0.349	0.321	537.546	0.17
Rollers	2019	26	50	1.156606	0.972	4.64491	4.77841	0.005	0.349	0.321	537.546	0.17
Rollers	2019	51	120	0.502836	0.423	4.17949	3.55726	0.005	0.275	0.253	484.3362	0.153
Rollers	2019	121	175	0.27475	0.231	2.69941	2.93251	0.005	0.124	0.114	482.4531	0.153
Rollers	2019	176	250	0.250477	0.21	2.88327	1.24854	0.005	0.092	0.084	483.7769	0.153
Rollers	2019	251	500	0.278634	0.234	2.90839	2.10142	0.005	0.111	0.102	489.9774	0.155
Rollers	2020	6	15	1.102095	0.926	4.53426	4.72504	0.005	0.329	0.303	525.8798	0.17
Rollers	2020	16	25	1.102095	0.926	4.53426	4.72504	0.005	0.329	0.303	525.8798	0.17
Rollers	2020	26	50	1.102095	0.926	4.53426	4.72504	0.005	0.329	0.303	525.8798	0.17
Rollers	2020	51	120	0.462004	0.388	3.88153	3.53135	0.005	0.247	0.228	473.8594	0.153
Rollers	2020	121	175	0.256128	0.215	2.45176	2.93333	0.005	0.113	0.104	471.9177	0.153
Rollers	2020	176	250	0.248138	0.209	2.75095	1.25343	0.005	0.089	0.082	473.3669	0.153
Rollers	2020	251	500	0.279691	0.235	2.82823	2.11346	0.005	0.109	0.101	479.3254	0.155

Rollers	2021	6	15	1.008559	0.847	4.35097	4.59681	0.005	0.294	0.27	525.7908	0.17
Rollers	2021	16	25	1.008559	0.847	4.35097	4.59681	0.005	0.294	0.27	525.7908	0.17
Rollers	2021	26	50	1.008559	0.847	4.35097	4.59681	0.005	0.294	0.27	525.7908	0.17
Rollers	2021	51	120	0.42061	0.353	3.5889	3.50719	0.005	0.219	0.202	473.9012	0.153
Rollers	2021	121	175	0.229571	0.193	2.11691	2.9256	0.005	0.097	0.09	471.9799	0.153
Rollers	2021	176	250	0.23384	0.196	2.49332	1.22849	0.005	0.081	0.075	473.4704	0.153
Rollers	2021	251	500	0.26246	0.221	2.58936	1.94995	0.005	0.1	0.092	479.3294	0.155
Rollers	2022	6	15	0.878567	0.738	4.12773	4.40241	0.005	0.25	0.23	525.691	0.17
Rollers	2022	16	25	0.878567	0.738	4.12773	4.40241	0.005	0.25	0.23	525.691	0.17
Rollers	2022	26	50	0.878567	0.738	4.12773	4.40241	0.005	0.25	0.23	525.691	0.17
Rollers	2022	51	120	0.369089	0.31	3.21896	3.46973	0.005	0.186	0.171	473.9291	0.153
Rollers	2022	121	175	0.195547	0.164	1.71408	2.91331	0.005	0.079	0.072	471.9475	0.153
Rollers	2022	176	250	0.221959	0.187	2.2116	1.22821	0.005	0.077	0.071	473.5135	0.153
Rollers	2022	251	500	0.259221	0.218	2.46341	1.95495	0.005	0.097	0.089	478.9817	0.155
Rollers	2023	6	15	0.786211	0.661	3.9211	4.25236	0.005	0.212	0.195	525.8616	0.17
Rollers	2023	16	25	0.786211	0.661	3.9211	4.25236	0.005	0.212	0.195	525.8616	0.17
Rollers	2023	26	50	0.786211	0.661	3.9211	4.25236	0.005	0.212	0.195	525.8616	0.17
Rollers	2023	51	120	0.341189	0.287	3.00302	3.45461	0.005	0.165	0.152	473.9363	0.153
Rollers	2023	121	175	0.1784	0.15	1.4833	2.90949	0.005	0.068	0.062	471.9351	0.153
Rollers	2023	176	250	0.223864	0.188	2.17272	1.23448	0.005	0.076	0.07	473.5164	0.153
Rollers	2023	251	500	0.25159	0.211	2.29003	1.95626	0.005	0.093	0.085	478.3028	0.155
Rollers	2024	6	15	0.738433	0.62	3.82449	4.20667	0.005	0.192	0.177	525.9565	0.17
Rollers	2024	16	25	0.738433	0.62	3.82449	4.20667	0.005	0.192	0.177	525.9565	0.17
Rollers	2024	26	50	0.738433	0.62	3.82449	4.20667	0.005	0.192	0.177	525.9565	0.17
Rollers	2024	51	120	0.323417	0.272	2.843	3.45055	0.005	0.15	0.138	474.0072	0.153
Rollers	2024	121	175	0.168235	0.141	1.32428	2.91426	0.005	0.061	0.056	472.012	0.153
Rollers	2024	176	250	0.213553	0.179	1.97675	1.21417	0.005	0.07	0.064	473.512	0.153
Rollers	2024	251	500	0.24978	0.21	2.21612	1.96121	0.005	0.09	0.083	477.9001	0.155
Rollers	2025	6	15	0.677074	0.569	3.68893	4.12543	0.005	0.167	0.154	526.1406	0.17
Rollers	2025	16	25	0.677074	0.569	3.68893	4.12543	0.005	0.167	0.154	526.1406	0.17
Rollers	2025	26	50	0.677074	0.569	3.68893	4.12543	0.005	0.167	0.154	526.1406	0.17
Rollers	2025	51	120	0.303987	0.255	2.69137	3.44432	0.005	0.135	0.125	473.851	0.153
Rollers	2025	121	175	0.150791	0.127	1.10088	2.90859	0.005	0.049	0.045	471.9696	0.153
Rollers	2025	176	250	0.205768	0.173	1.78252	1.21477	0.005	0.066	0.06	473.6813	0.153
Rollers	2025	251	500	0.251787	0.212	2.19998	1.96754	0.005	0.09	0.083	477.5732	0.154
Rollers	2030	6	15	1.543	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Rollers	2030	16	25	3.377	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Rollers	2030	26	50	5.638	0.587	3.48	4.784	0.007	0.073	0.073	568.299	0.053
Rollers	2030	51	120	6.528	0.299	1.95	3.639	0.006	0.066	0.066	568.299	0.027
Rollers	2030	121	175	8.923	0.223	0.907	3.203	0.006	0.042	0.042	568.299	0.02
Rollers	2030	176	250	11.047	0.195	0.745	1.099	0.006	0.024	0.024	568.299	0.017
Rollers	2030	251	500	15.637	0.193	0.697	1.056	0.005	0.023	0.023	568.299	0.017
Rollers	2035	6	15	1.543	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Rollers	2035	16	25	3.377	0.685	4.332	2.34	0.007	0.161	0.161	568.3	0.061
Rollers	2035	26	50	4.867	0.507	3.28	4.711	0.007	0.038	0.038	568.299	0.045
Rollers	2035	51	120	5.632	0.258	1.65	3.629	0.006	0.035	0.035	568.299	0.023
Rollers	2035	121	175	7.351	0.184	0.523	3.204	0.006	0.023	0.023	568.299	0.016
Rollers	2035	176	250	9.79	0.173	0.465	1.091	0.006	0.016	0.016	568.299	0.015
Rollers	2035	251	500	13.949	0.172	0.442	1.048	0.005	0.016	0.016	568.3	0.015
Rollers	2040	6	15	1.543	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Rollers	2040	16	25	3.377	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Rollers	2040	26	50	4.508	0.469	3.207	4.682	0.007	0.024	0.024	568.299	0.042
Rollers	2040	51	120	5.228	0.24	1.525	3.625	0.006	0.021	0.021	568.299	0.021
Rollers	2040	121	175	6.731	0.168	0.373	3.205	0.006	0.015	0.015	568.299	0.015
Rollers	2040	176	250	9.355	0.165	0.348	1.092	0.006	0.012	0.012	568.299	0.014
Rollers	2040	251	500	13.378	0.165	0.341	1.048	0.005	0.012	0.012	568.299	0.014
Rough Terrain Forklifts	1990	26	50	13.299	5.191	8.098	10.416	0.871	1.348	1.348	568.299	0.468
Rough Terrain Forklifts	1990	51	120	11.91	2.52	15.753	6.008	0.791	1.432	1.432	568.299	0.227
Rough Terrain Forklifts	1990	121	175	19.775	2.092	15.888	5.422	0.758	1.178	1.178	568.299	0.188
Rough Terrain Forklifts	1990	176	250	27.042	2.092	15.888	5.422	0.758	1.178	1.178	568.299	0.188
Rough Terrain Forklifts	1990	251	500	35.607	1.834	14.986	12.637	0.662	0.998	0.998	568.299	0.165
Rough Terrain Forklifts	2000	26	50	11.216	4.378	7.041	9.045	0.066	0.919	0.919	568.3	0.395
Rough Terrain Forklifts	2000	51	120	8.517	1.802	10.225	4.574	0.06	0.881	0.881	568.299	0.162
Rough Terrain Forklifts	2000	121	175	11.484	1.215	9.36	3.676	0.057	0.511	0.511	568.3	0.109
Rough Terrain Forklifts	2000	176	250	13.186	1.02	9.021	2.927	0.057	0.418	0.418	568.299	0.092
Rough Terrain Forklifts	2000	251	500	18.049	0.929	8.59	4.415	0.05	0.37	0.37	568.299	0.083
Rough Terrain Forklifts	2005	26	50	9.835	3.839	6.528	8.285	0.066	0.844	0.844	568.299	0.346
Rough Terrain Forklifts	2005	51	120	7.351	1.555	8.677	4.289	0.06	0.82	0.82	568.299	0.14
Rough Terrain Forklifts	2005	121	175	9.61	1.016	7.941	3.403	0.057	0.447	0.447	568.3	0.091
Rough Terrain Forklifts	2005	176	250	9.418	0.728	7.52	1.995	0.057	0.289	0.289	568.299	0.065
Rough Terrain Forklifts	2005	251	500	12.496	0.643	6.82	2.406	0.05	0.258	0.258	568.299	0.058
Rough Terrain Forklifts	2010	26	50	1.514602	1.273	5.57504	4.9076	0.005	0.495	0.455	583.8316	0.17
Rough Terrain Forklifts	2010	51	120	0.607871	0.511	5.81073	3.47103	0.005	0.386	0.355	525.5318	0.153
Rough Terrain Forklifts	2010	121	175	0.37661	0.316	4.78775	2.9137	0.005	0.212	0.195	524.1127	0.153
Rough Terrain Forklifts	2010	176	250	0.759196	0.638	7.87723	2.86785	0.005	0.351	0.323	527.6921	0.154
Rough Terrain Forklifts	2010	251	500	0.386691	0.325	5.79984	1.82955	0.005	0.168	0.155	518.8116	0.151
Rough Terrain Forklifts	2011	26	50	1.444446	1.214	5.52279	4.83823	0.005	0.48	0.442	582.3751	0.17
Rough Terrain Forklifts	2011	51	120	0.549079	0.461	5.4371	3.4365	0.005	0.352	0.324	524.0504	0.153
Rough Terrain Forklifts	2011	121	175	0.339518	0.285	4.45534	2.87624	0.005	0.193	0.177	522.735	0.153
Rough Terrain Forklifts	2011	176	250	0.686556	0.577	7.1588	2.63351	0.005	0.317	0.292	525.8441	0.153
Rough Terrain Forklifts	2011	251	500	0.390538	0.328	5.81691	1.84589	0.005	0.17	0.156	517.5182	0.151
Rough Terrain Forklifts	2012	26	50	1.441034	1.211	5.49331	4.88018	0.005	0.476	0.438	580.9231	0.17
Rough Terrain Forklifts	2012	51	120	0.530399	0.446	5.29115	3.43501	0.005	0.34	0.312	522.6299	0.153
Rough Terrain Forklifts	2012	121	175	0.336361	0.283	4.38447	2.88643	0.005	0.189	0.174	521.4414	0.153
Rough Terrain Forklifts	2012	176	250	0.693119	0.582	7.11155	2.65596	0.005	0.319	0.293	524.4406	0.153
Rough Terrain Forklifts	2012	251	500	0.394706	0.332	5.83389	1.86253	0.005	0.171	0.157	516.2249	0.151
Rough Terrain Forklifts	2013	26	50	1.427232	1.199	5.34043	4.88715	0.005	0.454	0.417	578.2559	0.17
Rough Terrain Forklifts	2013	51	120	0.469882	0.395	4.92337	3.39906	0.005	0.299	0.275	519.906	0.153
Rough Terrain Forklifts	2013	121	175	0.283862	0.239	3.90677	2.86094	0.005	0.153	0.141	518.7027	0.153

Rough Terrain Forklifts	2013	176	250	0.418518	0.352	4.79966	1.88921	0.005	0.184	0.169	521.6392	0.153
Rough Terrain Forklifts	2013	251	500	0.334838	0.281	4.62017	1.86541	0.005	0.141	0.129	514.2815	0.151
Rough Terrain Forklifts	2014	26	50	1.40671	1.182	5.22634	4.88713	0.005	0.436	0.401	575.3526	0.17
Rough Terrain Forklifts	2014	51	120	0.417386	0.351	4.46728	3.36705	0.005	0.261	0.24	517.2602	0.153
Rough Terrain Forklifts	2014	121	175	0.263476	0.221	3.59442	2.85182	0.005	0.139	0.128	516.0907	0.153
Rough Terrain Forklifts	2014	176	250	0.221616	0.186	2.98369	1.21218	0.005	0.087	0.08	517.7663	0.153
Rough Terrain Forklifts	2014	251	500	0.202465	0.17	3.49973	0.95399	0.005	0.076	0.07	511.6567	0.151
Rough Terrain Forklifts	2015	26	50	1.414803	1.189	5.18984	4.93325	0.005	0.431	0.397	569.4875	0.17
Rough Terrain Forklifts	2015	51	120	0.401892	0.338	4.28003	3.36619	0.005	0.247	0.228	512.0859	0.153
Rough Terrain Forklifts	2015	121	175	0.25808	0.217	3.42042	2.85917	0.005	0.133	0.122	510.8541	0.153
Rough Terrain Forklifts	2015	176	250	0.166466	0.14	2.4626	1.01164	0.005	0.058	0.054	512.1638	0.153
Rough Terrain Forklifts	2015	251	500	0.207111	0.174	3.52067	0.95822	0.005	0.077	0.071	506.4349	0.151
Rough Terrain Forklifts	2016	26	50	1.378654	1.158	5.09924	4.91773	0.005	0.415	0.382	563.3598	0.17
Rough Terrain Forklifts	2016	51	120	0.358928	0.302	3.84005	3.34169	0.005	0.213	0.196	507.0659	0.153
Rough Terrain Forklifts	2016	121	175	0.248476	0.209	3.2087	2.865	0.005	0.124	0.114	505.596	0.153
Rough Terrain Forklifts	2016	176	250	0.171278	0.144	2.46843	1.0177	0.005	0.059	0.054	506.8956	0.153
Rough Terrain Forklifts	2016	251	500	0.211667	0.178	3.54169	0.96236	0.005	0.078	0.072	501.2134	0.151
Rough Terrain Forklifts	2017	26	50	1.318488	1.108	4.90253	4.83344	0.005	0.382	0.352	554.6234	0.17
Rough Terrain Forklifts	2017	51	120	0.322506	0.271	3.41759	3.31778	0.005	0.182	0.167	499.1682	0.153
Rough Terrain Forklifts	2017	121	175	0.231401	0.194	2.90167	2.86636	0.005	0.112	0.103	497.7766	0.153
Rough Terrain Forklifts	2017	176	250	0.175965	0.148	2.47389	1.02362	0.005	0.059	0.054	499.0007	0.153
Rough Terrain Forklifts	2017	251	500	0.216551	0.182	3.56771	0.96636	0.005	0.079	0.073	493.3362	0.151
Rough Terrain Forklifts	2018	26	50	1.273116	1.07	4.73469	4.76839	0.005	0.359	0.33	545.8693	0.17
Rough Terrain Forklifts	2018	51	120	0.264415	0.222	2.84496	3.26976	0.005	0.136	0.125	491.2107	0.153
Rough Terrain Forklifts	2018	121	175	0.194786	0.164	2.34168	2.84245	0.005	0.088	0.081	489.9869	0.153
Rough Terrain Forklifts	2018	176	250	0.181003	0.152	2.48748	1.02948	0.005	0.06	0.055	491.0997	0.153
Rough Terrain Forklifts	2018	251	500	0.172771	0.145	2.70063	0.95802	0.005	0.06	0.055	485.9543	0.151
Rough Terrain Forklifts	2019	26	50	1.200779	1.009	4.55745	4.67405	0.005	0.328	0.301	537.3287	0.17
Rough Terrain Forklifts	2019	51	120	0.240277	0.202	2.6222	3.25848	0.005	0.117	0.107	483.3105	0.153
Rough Terrain Forklifts	2019	121	175	0.177689	0.149	2.05752	2.84092	0.005	0.075	0.069	482.1188	0.153
Rough Terrain Forklifts	2019	176	250	0.130153	0.109	1.63905	0.97423	0.005	0.036	0.033	483.0882	0.153
Rough Terrain Forklifts	2019	251	500	0.138302	0.116	1.96109	0.95034	0.005	0.043	0.039	477.2539	0.151
Rough Terrain Forklifts	2020	26	50	1.188595	0.999	4.4946	4.68594	0.005	0.316	0.291	525.6222	0.17
Rough Terrain Forklifts	2020	51	120	0.225188	0.189	2.45218	3.25575	0.005	0.103	0.094	472.9842	0.153
Rough Terrain Forklifts	2020	121	175	0.170092	0.143	1.86888	2.84466	0.005	0.068	0.063	471.7152	0.153
Rough Terrain Forklifts	2020	176	250	0.132727	0.112	1.60906	0.97848	0.005	0.037	0.034	472.5671	0.153
Rough Terrain Forklifts	2020	251	500	0.105484	0.089	1.30199	0.94184	0.005	0.028	0.026	465.7709	0.151
Rough Terrain Forklifts	2021	26	50	1.152538	0.968	4.41145	4.65658	0.005	0.304	0.279	525.3844	0.17
Rough Terrain Forklifts	2021	51	120	0.207836	0.175	2.28534	3.25191	0.005	0.089	0.081	473.11	0.153
Rough Terrain Forklifts	2021	121	175	0.154972	0.13	1.61661	2.8447	0.005	0.06	0.055	471.7575	0.153
Rough Terrain Forklifts	2021	176	250	0.136824	0.115	1.61186	0.98379	0.005	0.037	0.034	472.5469	0.153
Rough Terrain Forklifts	2021	251	500	0.109168	0.092	1.30199	0.94604	0.005	0.028	0.026	465.7442	0.151
Rough Terrain Forklifts	2022	26	50	0.93878	0.789	4.04131	4.3038	0.005	0.238	0.219	525.0151	0.17
Rough Terrain Forklifts	2022	51	120	0.18871	0.159	2.0983	3.24374	0.005	0.073	0.067	473.089	0.153
Rough Terrain Forklifts	2022	121	175	0.142314	0.12	1.40475	2.84439	0.005	0.051	0.047	471.6773	0.153
Rough Terrain Forklifts	2022	176	250	0.140994	0.118	1.61688	0.98924	0.005	0.037	0.034	472.5408	0.153
Rough Terrain Forklifts	2022	251	500	0.081218	0.068	0.55798	0.93709	0.005	0.009	0.008	466.5598	0.151
Rough Terrain Forklifts	2023	26	50	0.82158	0.69	3.85338	4.12519	0.005	0.204	0.187	524.8024	0.17
Rough Terrain Forklifts	2023	51	120	0.178416	0.15	1.9836	3.24217	0.005	0.064	0.059	473.1584	0.153
Rough Terrain Forklifts	2023	121	175	0.132417	0.111	1.21796	2.84289	0.005	0.043	0.04	471.6217	0.153
Rough Terrain Forklifts	2023	176	250	0.137509	0.116	1.47399	0.98987	0.005	0.034	0.032	472.7784	0.153
Rough Terrain Forklifts	2023	251	500	0.082146	0.069	0.55845	0.93788	0.005	0.009	0.008	466.554	0.151
Rough Terrain Forklifts	2024	26	50	0.678189	0.57	3.65343	3.91822	0.005	0.166	0.152	524.9235	0.17
Rough Terrain Forklifts	2024	51	120	0.172725	0.145	1.91392	3.24468	0.005	0.058	0.054	473.0631	0.153
Rough Terrain Forklifts	2024	121	175	0.122467	0.103	1.04413	2.83416	0.005	0.039	0.035	471.5346	0.153
Rough Terrain Forklifts	2024	176	250	0.141528	0.119	1.48012	0.99524	0.005	0.035	0.032	472.8527	0.153
Rough Terrain Forklifts	2024	251	500	0.078846	0.066	0.47582	0.93746	0.005	0.009	0.008	466.5479	0.151
Rough Terrain Forklifts	2025	26	50	0.542352	0.456	3.47668	3.74002	0.005	0.128	0.118	525.027	0.17
Rough Terrain Forklifts	2025	51	120	0.16354	0.137	1.82053	3.23971	0.005	0.051	0.047	473.0366	0.153
Rough Terrain Forklifts	2025	121	175	0.103861	0.087	0.78628	2.82091	0.005	0.03	0.028	471.4745	0.152
Rough Terrain Forklifts	2025	176	250	0.145736	0.122	1.48888	1.00073	0.005	0.035	0.033	472.9267	0.153
Rough Terrain Forklifts	2025	251	500	0.081817	0.069	0.47663	0.94151	0.005	0.009	0.008	466.5414	0.151
Rough Terrain Forklifts	2030	26	50	1.404	0.548	3.359	5.031	0.007	0.039	0.039	568.299	0.049
Rough Terrain Forklifts	2030	51	120	1.321	0.279	1.671	3.725	0.006	0.034	0.034	568.299	0.025
Rough Terrain Forklifts	2030	121	175	1.898	0.2	0.537	3.291	0.006	0.023	0.023	568.299	0.018
Rough Terrain Forklifts	2030	176	250	2.47	0.191	0.463	1.121	0.006	0.016	0.016	568.299	0.017
Rough Terrain Forklifts	2030	251	500	3.702	0.19	0.443	1.07	0.005	0.016	0.016	568.3	0.017
Rough Terrain Forklifts	2035	26	50	1.335	0.521	3.267	5.011	0.007	0.022	0.022	568.299	0.047
Rough Terrain Forklifts	2035	51	120	1.24	0.262	1.53	3.722	0.006	0.02	0.02	568.299	0.023
Rough Terrain Forklifts	2035	121	175	1.742	0.184	0.364	3.292	0.006	0.015	0.015	568.299	0.016
Rough Terrain Forklifts	2035	176	250	2.346	0.181	0.334	1.121	0.006	0.012	0.012	568.299	0.016
Rough Terrain Forklifts	2035	251	500	3.524	0.181	0.331	1.071	0.005	0.012	0.012	568.3	0.016
Rough Terrain Forklifts	2040	26	50	1.331	0.519	3.228	5.01	0.007	0.017	0.017	568.3	0.046
Rough Terrain Forklifts	2040	51	120	1.222	0.258	1.485	3.722	0.006	0.016	0.016	568.299	0.023
Rough Terrain Forklifts	2040	121	175	1.687	0.178	0.303	3.292	0.006	0.012	0.012	568.3	0.016
Rough Terrain Forklifts	2040	176	250	2.296	0.177	0.292	1.121	0.006	0.011	0.011	568.299	0.016
Rough Terrain Forklifts	2040	251	500	3.449	0.177	0.292	1.071	0.005	0.011	0.011	568.299	0.016
Rubber Tired Dozers	1990	121	175	6.172	1.886	14.831	5.29	0.758	1.059	1.059	568.299	0.17
Rubber Tired Dozers	1990	176	250	8.746	1.886	14.831	5.29	0.758	1.059	1.059	568.299	0.17
Rubber Tired Dozers	1990	251	500	11.084	1.655	13.986	12.26	0.662	0.899	0.899	568.299	0.149
Rubber Tired Dozers	1990	501	750	16.688	1.655	13.986	12.26	1.018	0.915	0.915	568.3	0.149
Rubber Tired Dozers	1990	751	1000	24.619	1.645	13.986	12.26	1.018	0.903	0.903	568.299	0.148
Rubber Tired Dozers	2000	121	175	4.761	1.454	10.881	4.295	0.057	0.624	0.624	568.299	0.131
Rubber Tired Dozers	2000	176	250	6.043	1.303	10.625	3.733	0.057	0.548	0.548	568.299	0.117
Rubber Tired Dozers	2000	251	500	7.775	1.161	10.023	6.982	0.05	0.474	0.474	568.299	0.104
Rubber Tired Dozers	2000	501	750	11.706	1.161	10.023	6.982	0.052	0.474	0.474	568.3	0.104
Rubber Tired Dozers	2000	751	1000	17.842	1.192	10.456	7.415	0.052	0.451	0.451	568.3	0.107
Rubber Tired Dozers	2005	121	175	4.21	1.286	9.666	4.026	0.057	0.567	0.567	568.299	0.116
Rubber Tired Dozers	2005	176	250	4.912	1.059	9.344	2.99	0.057	0.437	0.437	568.299	0.095

Rubber Tired Dozers	2005	251	500	6.277	0.937	8.574	5.159	0.05	0.38	0.38	568.299	0.084
Rubber Tired Dozers	2005	501	750	9.496	0.942	8.694	5.15	0.052	0.382	0.382	568.299	0.085
Rubber Tired Dozers	2005	751	1000	14.937	0.998	9.444	5.524	0.052	0.369	0.369	568.299	0.09
Rubber Tired Dozers	2010	121	175	1.12265	0.943	9.78349	4.17063	0.005	0.555	0.511	526.3128	0.153
Rubber Tired Dozers	2010	176	250	0.840919	0.707	8.22344	2.68761	0.005	0.394	0.362	527.9126	0.154
Rubber Tired Dozers	2010	251	500	0.88356	0.742	8.70703	6.7191	0.005	0.406	0.374	533.1476	0.155
Rubber Tired Dozers	2010	501	750	0.619996	0.521	7.42352	3.1214	0.005	0.269	0.248	525.7054	0.153
Rubber Tired Dozers	2010	751	1000	12.178	0.814	8.149	4.027	0.005	0.29	0.29	568.299	0.073
Rubber Tired Dozers	2011	121	175	1.128595	0.948	9.7992	4.18594	0.005	0.557	0.513	524.9639	0.153
Rubber Tired Dozers	2011	176	250	0.852039	0.716	8.24976	2.69892	0.005	0.396	0.364	526.5967	0.154
Rubber Tired Dozers	2011	251	500	0.878525	0.738	8.60406	6.65601	0.005	0.402	0.37	532.0871	0.155
Rubber Tired Dozers	2011	501	750	0.62921	0.529	7.4622	3.13084	0.005	0.272	0.25	524.3841	0.153
Rubber Tired Dozers	2011	751	1000	11.693	0.781	7.805	3.772	0.005	0.276	0.276	568.299	0.07
Rubber Tired Dozers	2012	121	175	1.133798	0.953	9.81194	4.1998	0.005	0.559	0.515	523.6318	0.153
Rubber Tired Dozers	2012	176	250	0.862577	0.725	8.27234	2.70943	0.005	0.398	0.366	525.281	0.154
Rubber Tired Dozers	2012	251	500	0.883165	0.742	8.58436	6.62489	0.005	0.401	0.369	530.6589	0.155
Rubber Tired Dozers	2012	501	750	0.635938	0.534	7.48052	3.13648	0.005	0.274	0.252	523.0626	0.153
Rubber Tired Dozers	2012	751	1000	11.228	0.75	7.474	3.531	0.005	0.262	0.262	568.299	0.067
Rubber Tired Dozers	2013	121	175	1.138698	0.957	9.82334	4.21297	0.005	0.561	0.516	520.9836	0.153
Rubber Tired Dozers	2013	176	250	0.859983	0.723	8.10695	2.71092	0.005	0.395	0.363	522.6456	0.154
Rubber Tired Dozers	2013	251	500	0.864011	0.726	8.33658	6.42295	0.005	0.39	0.359	527.9093	0.155
Rubber Tired Dozers	2013	501	750	0.641687	0.539	7.49129	3.14069	0.005	0.275	0.253	520.4266	0.153
Rubber Tired Dozers	2013	751	1000	10.78	0.72	7.155	3.306	0.005	0.249	0.249	568.299	0.065
Rubber Tired Dozers	2014	121	175	1.143391	0.961	9.83401	4.22564	0.005	0.563	0.518	518.335	0.153
Rubber Tired Dozers	2014	176	250	0.858402	0.721	7.97218	2.71199	0.005	0.392	0.361	520.0105	0.154
Rubber Tired Dozers	2014	251	500	0.841688	0.707	8.05819	6.16471	0.005	0.376	0.346	524.6758	0.155
Rubber Tired Dozers	2014	501	750	0.610646	0.513	7.14705	2.75605	0.005	0.258	0.237	517.7903	0.153
Rubber Tired Dozers	2014	751	1000	10.347	0.691	6.849	3.096	0.005	0.236	0.236	568.3	0.062
Rubber Tired Dozers	2015	121	175	1.147937	0.965	9.84425	4.23794	0.005	0.564	0.519	513.0549	0.153
Rubber Tired Dozers	2015	176	250	0.866859	0.728	7.9837	2.7204	0.005	0.394	0.362	514.7359	0.154
Rubber Tired Dozers	2015	251	500	0.842228	0.708	7.99736	6.10151	0.005	0.373	0.343	519.1472	0.155
Rubber Tired Dozers	2015	501	750	0.616719	0.518	7.15777	2.76062	0.005	0.259	0.238	512.5253	0.153
Rubber Tired Dozers	2015	751	1000	9.895	0.661	6.556	2.901	0.005	0.222	0.222	568.299	0.059
Rubber Tired Dozers	2016	121	175	1.152013	0.968	9.85328	4.24901	0.005	0.566	0.52	507.7744	0.153
Rubber Tired Dozers	2016	176	250	0.875531	0.736	7.99508	2.72943	0.005	0.395	0.364	509.4615	0.154
Rubber Tired Dozers	2016	251	500	0.819146	0.688	7.71034	5.82829	0.005	0.359	0.33	513.3109	0.155
Rubber Tired Dozers	2016	501	750	0.622662	0.523	7.16821	2.7651	0.005	0.26	0.239	507.2601	0.153
Rubber Tired Dozers	2016	751	1000	9.45	0.631	6.277	2.723	0.005	0.208	0.208	568.3	0.057
Rubber Tired Dozers	2017	121	175	1.074198	0.903	9.12915	4.14895	0.005	0.525	0.483	499.4096	0.153
Rubber Tired Dozers	2017	176	250	0.840865	0.707	7.67081	2.65514	0.005	0.375	0.345	501.5475	0.154
Rubber Tired Dozers	2017	251	500	0.787455	0.662	7.33345	5.52569	0.005	0.341	0.313	505.8493	0.155
Rubber Tired Dozers	2017	501	750	0.625767	0.526	7.17226	2.76746	0.005	0.26	0.239	499.3665	0.153
Rubber Tired Dozers	2017	751	1000	9.018	0.602	6.013	2.56	0.005	0.195	0.195	568.299	0.054
Rubber Tired Dozers	2018	121	175	0.954751	0.802	8.02079	3.98965	0.005	0.46	0.424	491.4921	0.153
Rubber Tired Dozers	2018	176	250	0.796398	0.669	7.20787	2.51156	0.005	0.35	0.322	493.6337	0.154
Rubber Tired Dozers	2018	251	500	0.711175	0.598	6.50184	4.98205	0.005	0.3	0.276	498.1862	0.155
Rubber Tired Dozers	2018	501	750	0.602699	0.506	6.72652	2.75902	0.005	0.248	0.228	491.4726	0.153
Rubber Tired Dozers	2018	751	1000	8.6	0.574	5.764	2.413	0.005	0.183	0.183	568.299	0.051
Rubber Tired Dozers	2019	121	175	0.90312	0.759	7.52037	3.94854	0.005	0.433	0.398	483.5585	0.153
Rubber Tired Dozers	2019	176	250	0.774882	0.651	6.92923	2.45855	0.005	0.338	0.311	485.172	0.154
Rubber Tired Dozers	2019	251	500	0.680848	0.572	6.14335	4.74309	0.005	0.283	0.26	490.383	0.155
Rubber Tired Dozers	2019	501	750	0.541107	0.455	6.12249	2.59814	0.005	0.218	0.201	483.5786	0.153
Rubber Tired Dozers	2019	751	1000	8.196	0.547	5.528	2.281	0.005	0.171	0.171	568.299	0.049
Rubber Tired Dozers	2020	121	175	0.864425	0.726	7.18525	3.89288	0.005	0.411	0.378	473.0116	0.153
Rubber Tired Dozers	2020	176	250	0.737248	0.619	6.50332	2.37104	0.005	0.318	0.293	474.7928	0.154
Rubber Tired Dozers	2020	251	500	0.636621	0.535	5.64089	4.41134	0.005	0.259	0.238	479.7569	0.155
Rubber Tired Dozers	2020	501	750	0.543245	0.456	6.12255	2.60108	0.005	0.218	0.201	473.0562	0.153
Rubber Tired Dozers	2020	751	1000	7.811	0.522	5.306	2.164	0.005	0.16	0.16	568.299	0.047
Rubber Tired Dozers	2021	121	175	0.822557	0.691	6.79037	3.84814	0.005	0.386	0.355	472.9751	0.153
Rubber Tired Dozers	2021	176	250	0.714624	0.6	6.29617	2.31719	0.005	0.306	0.281	474.7984	0.154
Rubber Tired Dozers	2021	251	500	0.585817	0.492	5.081	4.04107	0.005	0.232	0.214	478.9868	0.155
Rubber Tired Dozers	2021	501	750	0.545338	0.458	6.12254	2.60396	0.005	0.218	0.201	473.0459	0.153
Rubber Tired Dozers	2021	751	1000	7.448	0.497	5.095	2.057	0.005	0.15	0.15	568.299	0.044
Rubber Tired Dozers	2022	121	175	0.714312	0.6	5.80781	3.75194	0.005	0.326	0.3	473.9122	0.153
Rubber Tired Dozers	2022	176	250	0.571708	0.48	5.04648	2.05563	0.005	0.24	0.22	474.6166	0.154
Rubber Tired Dozers	2022	251	500	0.565033	0.475	4.80775	3.89489	0.005	0.22	0.202	479.3107	0.155
Rubber Tired Dozers	2022	501	750	0.547387	0.46	6.12245	2.60677	0.005	0.218	0.201	473.035	0.153
Rubber Tired Dozers	2022	751	1000	7.106	0.475	4.896	1.961	0.005	0.14	0.14	568.299	0.042
Rubber Tired Dozers	2023	121	175	0.700073	0.588	5.65638	3.7664	0.005	0.316	0.291	473.9009	0.153
Rubber Tired Dozers	2023	176	250	0.467601	0.393	4.09011	1.78266	0.005	0.184	0.169	474.5967	0.153
Rubber Tired Dozers	2023	251	500	0.531484	0.447	4.40835	3.68617	0.005	0.202	0.185	479.4678	0.155
Rubber Tired Dozers	2023	501	750	0.502999	0.423	5.33389	2.59131	0.005	0.196	0.18	473.0234	0.153
Rubber Tired Dozers	2023	751	1000	6.786	0.453	4.709	1.874	0.005	0.131	0.131	568.299	0.04
Rubber Tired Dozers	2024	121	175	0.633623	0.532	5.0144	3.69636	0.005	0.279	0.257	473.5147	0.153
Rubber Tired Dozers	2024	176	250	0.474702	0.399	4.0904	1.79685	0.005	0.184	0.17	474.5854	0.153
Rubber Tired Dozers	2024	251	500	0.495724	0.417	4.03046	3.45746	0.005	0.182	0.168	479.3938	0.155
Rubber Tired Dozers	2024	501	750	0.506146	0.425	5.33372	2.59604	0.005	0.196	0.18	473.0111	0.153
Rubber Tired Dozers	2024	751	1000	6.485	0.433	4.532	1.796	0.005	0.123	0.123	568.299	0.039
Rubber Tired Dozers	2025	121	175	0.548636	0.461	4.22886	3.61238	0.005	0.23	0.212	474.1029	0.153
Rubber Tired Dozers	2025	176	250	0.442605	0.372	3.80547	1.72032	0.005	0.167	0.153	474.5734	0.153
Rubber Tired Dozers	2025	251	500	0.436562	0.367	3.36957	2.95895	0.005	0.151	0.139	479.0915	0.155
Rubber Tired Dozers	2025	501	750	0.509225	0.428	5.33346	2.60066	0.005	0.196	0.18	472.9981	0.153
Rubber Tired Dozers	2025	751	1000	6.203	0.414	4.365	1.725	0.005	0.115	0.115	568.299	0.037
Rubber Tired Dozers	2030	121	175	1.303	0.398	2.034	3.496	0.006	0.111	0.111	568.299	0.035
Rubber Tired Dozers	2030	176	250	1.556	0.335	1.828	1.322	0.006	0.069	0.069	568.299	0.03
Rubber Tired Dozers	2030	251	500	2.16	0.322	1.658	1.401	0.005	0.064	0.064	568.299	0.029
Rubber Tired Dozers	2030	501	750	3.261	0.323	1.694	1.401	0.005	0.064	0.064	568.299	0.029
Rubber Tired Dozers	2030	751	1000	5.063	0.338	3.676	1.465	0.005	0.082	0.082	568.299	0.03
Rubber Tired Dozers	2035	121	175	1.054	0.322	1.345	3.481	0.006	0.071	0.071	568.299	0.029

Rubber Tired Dozers	2035	176	250	1.326	0.286	1.203	1.262	0.006	0.046	0.046	568.299	0.025
Rubber Tired Dozers	2035	251	500	1.868	0.279	1.107	1.279	0.005	0.043	0.043	568.3	0.025
Rubber Tired Dozers	2035	501	750	2.816	0.279	1.126	1.279	0.005	0.043	0.043	568.299	0.025
Rubber Tired Dozers	2035	751	1000	4.306	0.287	3.204	1.312	0.005	0.06	0.06	568.299	0.025
Rubber Tired Dozers	2040	121	175	0.9	0.275	0.903	3.47	0.006	0.045	0.045	568.299	0.024
Rubber Tired Dozers	2040	176	250	1.176	0.253	0.81	1.225	0.006	0.031	0.031	568.299	0.022
Rubber Tired Dozers	2040	251	500	1.672	0.249	0.758	1.198	0.005	0.029	0.029	568.299	0.022
Rubber Tired Dozers	2040	501	750	2.519	0.25	0.767	1.198	0.005	0.029	0.029	568.3	0.022
Rubber Tired Dozers	2040	751	1000	3.814	0.254	2.91	1.218	0.005	0.045	0.045	568.3	0.023
Rubber Tired Loaders	1990	16	25	5.92	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Rubber Tired Loaders	1990	26	50	23.869	4.848	7.964	9.805	0.871	1.279	1.279	568.299	0.437
Rubber Tired Loaders	1990	51	120	22.055	2.368	14.978	5.728	0.791	1.345	1.345	568.299	0.213
Rubber Tired Loaders	1990	121	175	30.1	1.791	14.294	5.094	0.758	0.995	0.995	568.299	0.161
Rubber Tired Loaders	1990	176	250	42.179	1.791	14.294	5.094	0.758	0.995	0.995	568.3	0.161
Rubber Tired Loaders	1990	251	500	59.295	1.583	13.545	11.282	0.662	0.851	0.851	568.3	0.142
Rubber Tired Loaders	1990	501	750	121.471	1.583	13.545	11.282	1.018	0.867	0.867	568.299	0.142
Rubber Tired Loaders	1990	751	1000	147.851	1.575	13.545	11.282	1.018	0.858	0.858	568.299	0.142
Rubber Tired Loaders	2000	16	25	5.105	1.908	6.326	4.438	0.065	0.555	0.555	568.299	0.172
Rubber Tired Loaders	2000	26	50	21.853	4.439	7.065	9.15	0.066	0.928	0.928	568.299	0.4
Rubber Tired Loaders	2000	51	120	17.155	1.842	10.433	4.652	0.06	0.896	0.896	568.299	0.166
Rubber Tired Loaders	2000	121	175	20.951	1.246	9.552	3.765	0.057	0.526	0.526	568.299	0.112
Rubber Tired Loaders	2000	176	250	24.776	1.052	9.216	3.019	0.057	0.433	0.433	568.299	0.094
Rubber Tired Loaders	2000	251	500	35.779	0.955	8.766	4.797	0.05	0.381	0.381	568.299	0.086
Rubber Tired Loaders	2000	501	750	73.296	0.955	8.766	4.797	0.052	0.381	0.381	568.299	0.086
Rubber Tired Loaders	2000	751	1000	95.549	1.018	9.342	5.369	0.052	0.372	0.372	568.299	0.091
Rubber Tired Loaders	2005	16	25	2.273	0.849	5.321	2.519	0.065	0.333	0.333	568.299	0.076
Rubber Tired Loaders	2005	26	50	19.43	3.947	6.59	8.471	0.066	0.86	0.86	568.299	0.356
Rubber Tired Loaders	2005	51	120	14.973	1.608	8.954	4.379	0.06	0.841	0.841	568.3	0.145
Rubber Tired Loaders	2005	121	175	17.677	1.052	8.183	3.496	0.057	0.464	0.464	568.299	0.094
Rubber Tired Loaders	2005	176	250	18.23	0.774	7.781	2.143	0.057	0.31	0.31	568.3	0.069
Rubber Tired Loaders	2005	251	500	25.602	0.683	7.066	2.836	0.05	0.275	0.275	568.3	0.061
Rubber Tired Loaders	2005	501	750	53.332	0.695	7.236	2.831	0.052	0.278	0.278	568.299	0.062
Rubber Tired Loaders	2005	751	1000	74.257	0.791	8.232	3.279	0.052	0.275	0.275	568.299	0.071
Rubber Tired Loaders	2010	16	25	2.807425	2.359	6.29919	7.88269	0.005	0.734	0.675	581.9969	0.169
Rubber Tired Loaders	2010	26	50	2.807425	2.359	6.29919	7.88269	0.005	0.734	0.675	581.9969	0.169
Rubber Tired Loaders	2010	51	120	1.132276	0.951	7.85298	4.28386	0.005	0.68	0.626	519.5038	0.151
Rubber Tired Loaders	2010	121	175	0.772004	0.649	7.01127	3.56499	0.005	0.387	0.356	523.9006	0.152
Rubber Tired Loaders	2010	176	250	0.475737	0.4	5.94632	1.50852	0.005	0.199	0.183	522.3501	0.152
Rubber Tired Loaders	2010	251	500	0.495122	0.416	5.66307	2.61599	0.005	0.211	0.194	521.885	0.152
Rubber Tired Loaders	2010	501	750	0.454547	0.382	5.06362	2.10254	0.005	0.197	0.181	507.2864	0.148
Rubber Tired Loaders	2010	751	1000	0.464861	0.391	6.63966	1.45926	0.005	0.187	0.172	523.2526	0.152
Rubber Tired Loaders	2011	16	25	2.679774	2.252	6.24779	7.77095	0.005	0.711	0.654	581.4262	0.17
Rubber Tired Loaders	2011	26	50	2.679774	2.252	6.24779	7.77095	0.005	0.711	0.654	581.4262	0.17
Rubber Tired Loaders	2011	51	120	1.113092	0.935	7.68957	4.28739	0.005	0.671	0.618	517.9363	0.151
Rubber Tired Loaders	2011	121	175	0.757164	0.636	6.81375	3.57219	0.005	0.378	0.348	522.5315	0.152
Rubber Tired Loaders	2011	176	250	0.481296	0.404	5.87694	1.50155	0.005	0.197	0.181	520.9732	0.152
Rubber Tired Loaders	2011	251	500	0.501144	0.421	5.5868	2.56846	0.005	0.209	0.192	520.154	0.152
Rubber Tired Loaders	2011	501	750	0.472712	0.397	5.09397	2.12943	0.005	0.2	0.184	505.881	0.148
Rubber Tired Loaders	2011	751	1000	0.476526	0.4	6.69396	1.47057	0.005	0.191	0.176	521.9232	0.152
Rubber Tired Loaders	2012	16	25	2.730745	2.295	6.30427	7.96233	0.005	0.724	0.666	579.9785	0.17
Rubber Tired Loaders	2012	26	50	2.730745	2.295	6.30427	7.96233	0.005	0.724	0.666	579.9785	0.17
Rubber Tired Loaders	2012	51	120	1.113822	0.936	7.65616	4.31845	0.005	0.671	0.617	516.6239	0.151
Rubber Tired Loaders	2012	121	175	0.765409	0.643	6.79567	3.60616	0.005	0.38	0.349	521.0995	0.152
Rubber Tired Loaders	2012	176	250	0.492248	0.414	5.85805	1.51119	0.005	0.198	0.182	519.646	0.152
Rubber Tired Loaders	2012	251	500	0.515336	0.433	5.58714	2.59983	0.005	0.211	0.194	518.7236	0.152
Rubber Tired Loaders	2012	501	750	0.485752	0.408	5.07921	2.14848	0.005	0.201	0.185	504.6824	0.148
Rubber Tired Loaders	2012	751	1000	0.48616	0.409	6.73245	1.47877	0.005	0.194	0.178	520.592	0.152
Rubber Tired Loaders	2013	16	25	2.60616	2.19	6.18494	7.83573	0.005	0.695	0.64	577.0156	0.17
Rubber Tired Loaders	2013	26	50	2.60616	2.19	6.18494	7.83573	0.005	0.695	0.64	577.0156	0.17
Rubber Tired Loaders	2013	51	120	1.087575	0.914	7.47698	4.31523	0.005	0.654	0.602	513.9368	0.151
Rubber Tired Loaders	2013	121	175	0.750707	0.631	6.6063	3.60722	0.005	0.369	0.339	518.3787	0.152
Rubber Tired Loaders	2013	176	250	0.496511	0.417	5.75293	1.5142	0.005	0.196	0.181	516.9736	0.152
Rubber Tired Loaders	2013	251	500	0.517428	0.435	5.4738	2.55447	0.005	0.208	0.191	515.9429	0.152
Rubber Tired Loaders	2013	501	750	0.49047	0.412	4.99146	2.0823	0.005	0.199	0.183	502.8589	0.148
Rubber Tired Loaders	2013	751	1000	0.484243	0.407	6.66719	1.45163	0.005	0.193	0.178	517.9506	0.152
Rubber Tired Loaders	2014	16	25	2.51646	2.115	6.10324	7.7699	0.005	0.676	0.622	573.5218	0.169
Rubber Tired Loaders	2014	26	50	2.51646	2.115	6.10324	7.7699	0.005	0.676	0.622	573.5218	0.169
Rubber Tired Loaders	2014	51	120	1.032758	0.868	7.12932	4.26762	0.005	0.619	0.569	510.0099	0.151
Rubber Tired Loaders	2014	121	175	0.720145	0.605	6.27196	3.58536	0.005	0.35	0.322	515.7685	0.152
Rubber Tired Loaders	2014	176	250	0.483874	0.407	5.49539	1.48551	0.005	0.187	0.172	514.2167	0.152
Rubber Tired Loaders	2014	251	500	0.501158	0.421	5.19438	2.40656	0.005	0.196	0.18	512.5095	0.151
Rubber Tired Loaders	2014	501	750	0.483251	0.406	4.81047	1.94616	0.005	0.19	0.175	499.6952	0.148
Rubber Tired Loaders	2014	751	1000	0.492279	0.414	6.69249	1.45724	0.005	0.195	0.179	515.307	0.152
Rubber Tired Loaders	2015	16	25	2.508512	2.108	6.11232	7.83443	0.005	0.675	0.621	567.672	0.169
Rubber Tired Loaders	2015	26	50	2.508512	2.108	6.11232	7.83443	0.005	0.675	0.621	567.672	0.169
Rubber Tired Loaders	2015	51	120	1.018295	0.856	7.01153	4.27362	0.005	0.606	0.558	505.0231	0.151
Rubber Tired Loaders	2015	121	175	0.708161	0.595	6.09735	3.58815	0.005	0.341	0.313	510.4677	0.152
Rubber Tired Loaders	2015	176	250	0.482642	0.406	5.36927	1.47986	0.005	0.183	0.169	508.9127	0.152
Rubber Tired Loaders	2015	251	500	0.494223	0.415	5.0195	2.33208	0.005	0.19	0.174	506.3723	0.151
Rubber Tired Loaders	2015	501	750	0.469822	0.395	4.55578	1.78908	0.005	0.179	0.165	495.31	0.148
Rubber Tired Loaders	2015	751	1000	0.499538	0.42	6.71262	1.46167	0.005	0.197	0.181	510.0449	0.152
Rubber Tired Loaders	2016	16	25	2.445921	2.055	6.05258	7.79111	0.005	0.66	0.607	561.9032	0.169
Rubber Tired Loaders	2016	26	50	2.445921	2.055	6.05258	7.79111	0.005	0.66	0.607	561.9032	0.169
Rubber Tired Loaders	2016	51	120	0.955142	0.803	6.58334	4.21236	0.005	0.565	0.52	499.5935	0.151
Rubber Tired Loaders	2016	121	175	0.67267	0.565	5.72558	3.56236	0.005	0.319	0.294	505.1308	0.152
Rubber Tired Loaders	2016	176	250	0.468005	0.393	5.1151	1.45212	0.005	0.174	0.16	503.6542	0.152
Rubber Tired Loaders	2016	251	500	0.465473	0.391	4.62743	2.15506	0.005	0.174	0.16	500.4314	0.151
Rubber Tired Loaders	2016	501	750	0.443728	0.373	4.17165	1.70263	0.005	0.164	0.151	491.9183	0.148
Rubber Tired Loaders	2016	751	1000	0.505153	0.424	6.72411	1.46404	0.005	0.198	0.182	504.7801	0.152



Rubber Tired Loaders	2017	16	25	2.32856	1.957	5.95377	7.65953	0.005	0.633	0.582	553.5831	0.17
Rubber Tired Loaders	2017	26	50	2.32856	1.957	5.95377	7.65953	0.005	0.633	0.582	553.5831	0.17
Rubber Tired Loaders	2017	51	120	0.900842	0.757	6.23569	4.17083	0.005	0.53	0.487	491.8531	0.151
Rubber Tired Loaders	2017	121	175	0.620654	0.522	5.19525	3.5175	0.005	0.289	0.266	497.3533	0.152
Rubber Tired Loaders	2017	176	250	0.443532	0.373	4.75473	1.4172	0.005	0.162	0.149	495.9499	0.152
Rubber Tired Loaders	2017	251	500	0.439436	0.369	4.25314	2.06046	0.005	0.16	0.147	492.2764	0.151
Rubber Tired Loaders	2017	501	750	0.436922	0.367	4.05049	1.70044	0.005	0.16	0.147	484.3661	0.148
Rubber Tired Loaders	2017	751	1000	0.493245	0.414	6.55319	1.45641	0.005	0.192	0.176	496.8966	0.152
Rubber Tired Loaders	2018	16	25	2.100538	1.765	5.67925	7.29915	0.005	0.576	0.53	545.0529	0.17
Rubber Tired Loaders	2018	26	50	2.100538	1.765	5.67925	7.29915	0.005	0.576	0.53	545.0529	0.17
Rubber Tired Loaders	2018	51	120	0.779856	0.655	5.47032	4.04742	0.005	0.452	0.416	484.0931	0.151
Rubber Tired Loaders	2018	121	175	0.533198	0.448	4.36814	3.42332	0.005	0.242	0.223	489.5114	0.152
Rubber Tired Loaders	2018	176	250	0.396861	0.333	4.13133	1.34644	0.005	0.14	0.129	487.9023	0.152
Rubber Tired Loaders	2018	251	500	0.397312	0.334	3.72607	1.86807	0.005	0.14	0.128	484.5709	0.151
Rubber Tired Loaders	2018	501	750	0.393495	0.331	3.5437	1.55549	0.005	0.14	0.129	476.5663	0.148
Rubber Tired Loaders	2018	751	1000	0.399711	0.336	5.67315	1.21289	0.005	0.154	0.142	488.4037	0.152
Rubber Tired Loaders	2019	16	25	1.906195	1.602	5.43193	6.97769	0.005	0.518	0.476	536.2254	0.17
Rubber Tired Loaders	2019	26	50	1.906195	1.602	5.43193	6.97769	0.005	0.518	0.476	536.2254	0.17
Rubber Tired Loaders	2019	51	120	0.707701	0.595	5.00611	3.97887	0.005	0.402	0.37	475.8636	0.151
Rubber Tired Loaders	2019	121	175	0.482139	0.405	3.85918	3.38084	0.005	0.213	0.196	481.7364	0.152
Rubber Tired Loaders	2019	176	250	0.368194	0.309	3.74452	1.30248	0.005	0.126	0.116	480.0997	0.152
Rubber Tired Loaders	2019	251	500	0.363843	0.306	3.28755	1.7248	0.005	0.123	0.113	477.0415	0.151
Rubber Tired Loaders	2019	501	750	0.348958	0.293	3.01875	1.45157	0.005	0.118	0.109	471.1874	0.149
Rubber Tired Loaders	2019	751	1000	0.384887	0.323	5.45926	1.20834	0.005	0.146	0.134	480.523	0.152
Rubber Tired Loaders	2020	16	25	1.761913	1.48	5.25369	6.76793	0.005	0.474	0.436	524.6967	0.17
Rubber Tired Loaders	2020	26	50	1.761913	1.48	5.25369	6.76793	0.005	0.474	0.436	524.6967	0.17
Rubber Tired Loaders	2020	51	120	0.661113	0.556	4.68644	3.94839	0.005	0.367	0.338	465.6735	0.151
Rubber Tired Loaders	2020	121	175	0.450696	0.379	3.51735	3.36809	0.005	0.194	0.178	471.2135	0.152
Rubber Tired Loaders	2020	176	250	0.345399	0.29	3.42116	1.26885	0.005	0.114	0.104	469.5127	0.152
Rubber Tired Loaders	2020	251	500	0.343959	0.289	3.01666	1.6304	0.005	0.112	0.103	466.7831	0.151
Rubber Tired Loaders	2020	501	750	0.329462	0.277	2.76722	1.39991	0.005	0.107	0.099	462.193	0.149
Rubber Tired Loaders	2020	751	1000	0.370676	0.311	5.25309	1.20366	0.005	0.139	0.127	469.9352	0.152
Rubber Tired Loaders	2021	16	25	1.577419	1.325	4.97419	6.44855	0.005	0.409	0.376	524.5505	0.17
Rubber Tired Loaders	2021	26	50	1.577419	1.325	4.97419	6.44855	0.005	0.409	0.376	524.5505	0.17
Rubber Tired Loaders	2021	51	120	0.592559	0.498	4.21491	3.8917	0.005	0.316	0.291	466.4213	0.151
Rubber Tired Loaders	2021	121	175	0.411896	0.346	3.11886	3.35381	0.005	0.171	0.157	471.0804	0.152
Rubber Tired Loaders	2021	176	250	0.316703	0.266	2.9977	1.24034	0.005	0.1	0.092	469.5642	0.152
Rubber Tired Loaders	2021	251	500	0.314488	0.264	2.61037	1.52922	0.005	0.097	0.09	467.9277	0.151
Rubber Tired Loaders	2021	501	750	0.322962	0.271	2.64092	1.39703	0.005	0.102	0.094	462.0548	0.149
Rubber Tired Loaders	2021	751	1000	0.350105	0.294	4.97489	1.2055	0.005	0.128	0.118	471.2577	0.152
Rubber Tired Loaders	2022	16	25	1.402643	1.179	4.74817	6.20445	0.005	0.354	0.326	524.7914	0.17
Rubber Tired Loaders	2022	26	50	1.402643	1.179	4.74817	6.20445	0.005	0.354	0.326	524.7914	0.17
Rubber Tired Loaders	2022	51	120	0.523774	0.44	3.7684	3.83931	0.005	0.267	0.245	466.4936	0.151
Rubber Tired Loaders	2022	121	175	0.350975	0.295	2.5181	3.30208	0.005	0.136	0.125	470.9274	0.152
Rubber Tired Loaders	2022	176	250	0.269035	0.226	2.34693	1.188	0.005	0.079	0.072	469.9041	0.152
Rubber Tired Loaders	2022	251	500	0.281674	0.237	2.17525	1.441	0.005	0.081	0.075	468.1288	0.151
Rubber Tired Loaders	2022	501	750	0.27713	0.233	2.0971	1.31524	0.005	0.08	0.074	463.8194	0.15
Rubber Tired Loaders	2022	751	1000	0.229104	0.193	3.61655	1.16216	0.005	0.074	0.069	472.8577	0.153
Rubber Tired Loaders	2023	16	25	1.248748	1.049	4.52113	5.97233	0.005	0.304	0.279	524.304	0.17
Rubber Tired Loaders	2023	26	50	1.248748	1.049	4.52113	5.97233	0.005	0.304	0.279	524.304	0.17
Rubber Tired Loaders	2023	51	120	0.490267	0.412	3.51183	3.82678	0.005	0.238	0.219	466.5584	0.151
Rubber Tired Loaders	2023	121	175	0.320411	0.269	2.19586	3.29198	0.005	0.118	0.108	470.6601	0.152
Rubber Tired Loaders	2023	176	250	0.249759	0.21	2.05963	1.17136	0.005	0.069	0.063	469.824	0.152
Rubber Tired Loaders	2023	251	500	0.258421	0.217	1.86629	1.38396	0.005	0.069	0.064	468.466	0.152
Rubber Tired Loaders	2023	501	750	0.269537	0.226	1.92719	1.32307	0.005	0.074	0.069	464.5553	0.15
Rubber Tired Loaders	2023	751	1000	0.229405	0.193	3.52792	1.17379	0.005	0.071	0.065	472.3032	0.153
Rubber Tired Loaders	2024	16	25	1.200513	1.009	4.46751	5.98698	0.005	0.286	0.263	524.2299	0.17
Rubber Tired Loaders	2024	26	50	1.200513	1.009	4.46751	5.98698	0.005	0.286	0.263	524.2299	0.17
Rubber Tired Loaders	2024	51	120	0.472864	0.397	3.33895	3.83209	0.005	0.22	0.203	466.8084	0.151
Rubber Tired Loaders	2024	121	175	0.292737	0.246	1.88365	3.28823	0.005	0.1	0.092	470.3567	0.152
Rubber Tired Loaders	2024	176	250	0.234511	0.197	1.80598	1.1607	0.005	0.06	0.056	469.7875	0.152
Rubber Tired Loaders	2024	251	500	0.249195	0.209	1.70166	1.3518	0.005	0.063	0.058	468.5133	0.152
Rubber Tired Loaders	2024	501	750	0.268468	0.226	1.88137	1.33327	0.005	0.072	0.066	464.8656	0.15
Rubber Tired Loaders	2024	751	1000	0.238754	0.201	3.54358	1.19144	0.005	0.071	0.066	472.3454	0.153
Rubber Tired Loaders	2025	16	25	1.142731	0.96	4.34846	5.9413	0.005	0.259	0.238	523.9076	0.169
Rubber Tired Loaders	2025	26	50	1.142731	0.96	4.34846	5.9413	0.005	0.259	0.238	523.9076	0.169
Rubber Tired Loaders	2025	51	120	0.418779	0.352	2.97026	3.79086	0.005	0.179	0.165	466.8982	0.151
Rubber Tired Loaders	2025	121	175	0.266202	0.224	1.59023	3.28059	0.005	0.084	0.077	470.4594	0.152
Rubber Tired Loaders	2025	176	250	0.211073	0.177	1.44207	1.1417	0.005	0.048	0.045	469.8711	0.152
Rubber Tired Loaders	2025	251	500	0.22979	0.193	1.43264	1.2763	0.005	0.053	0.048	469.1434	0.152
Rubber Tired Loaders	2025	501	750	0.252566	0.212	1.65408	1.33262	0.005	0.064	0.059	465.0523	0.15
Rubber Tired Loaders	2025	751	1000	0.196905	0.165	3.08852	1.12172	0.005	0.052	0.048	472.4559	0.153
Rubber Tired Loaders	2030	16	25	1.834	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Rubber Tired Loaders	2030	26	50	3.121	0.634	3.5	5.181	0.007	0.062	0.062	568.3	0.057
Rubber Tired Loaders	2030	51	120	2.953	0.317	1.875	3.759	0.006	0.056	0.056	568.299	0.028
Rubber Tired Loaders	2030	121	175	3.898	0.232	0.787	3.312	0.006	0.036	0.036	568.299	0.02
Rubber Tired Loaders	2030	176	250	4.951	0.21	0.655	1.138	0.006	0.022	0.022	568.299	0.018
Rubber Tired Loaders	2030	251	500	7.812	0.208	0.619	1.085	0.005	0.021	0.021	568.299	0.018
Rubber Tired Loaders	2030	501	750	16.018	0.208	0.627	1.085	0.005	0.022	0.022	568.299	0.018
Rubber Tired Loaders	2030	751	1000	20.168	0.214	2.722	1.099	0.005	0.039	0.039	568.299	0.019
Rubber Tired Loaders	2035	16	25	1.834	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Rubber Tired Loaders	2035	26	50	2.833	0.575	3.337	5.126	0.007	0.035	0.035	568.299	0.051
Rubber Tired Loaders	2035	51	120	2.663	0.286	1.639	3.751	0.006	0.033	0.033	568.299	0.025
Rubber Tired Loaders	2035	121	175	3.376	0.2	0.481	3.312	0.006	0.022	0.022	568.299	0.018
Rubber Tired Loaders	2035	176	250	4.514	0.191	0.434	1.129	0.006	0.015	0.015	568.299	0.017
Rubber Tired Loaders	2035	251	500	7.156	0.191	0.416	1.076	0.005	0.015	0.015	568.299	0.017
Rubber Tired Loaders	2035	501	750	14.669	0.191	0.421	1.076	0.005	0.015	0.015	568.299	0.017
Rubber Tired Loaders	2035	751	1000	18.204	0.193	2.584	1.082	0.005	0.03	0.03	568.299	0.017
Rubber Tired Loaders	2040	16	25	1.834	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061

Rubber Tired Loaders	2040	26	50	2.684	0.545	3.283	5.102	0.007	0.024	0.024	568.3	0.049
Rubber Tired Loaders	2040	51	120	2.53	0.271	1.543	3.748	0.006	0.022	0.022	568.3	0.024
Rubber Tired Loaders	2040	121	175	3.172	0.188	0.365	3.314	0.006	0.016	0.016	568.299	0.017
Rubber Tired Loaders	2040	176	250	4.375	0.185	0.346	1.128	0.006	0.013	0.013	568.299	0.016
Rubber Tired Loaders	2040	251	500	6.953	0.185	0.338	1.076	0.005	0.013	0.013	568.3	0.016
Rubber Tired Loaders	2040	501	750	14.247	0.185	0.34	1.076	0.005	0.013	0.013	568.299	0.016
Rubber Tired Loaders	2040	751	1000	17.496	0.186	2.522	1.076	0.005	0.026	0.026	568.299	0.016
Scrapers	1990	51	120	7.335	2.413	15.182	5.806	0.791	1.373	1.373	568.299	0.217
Scrapers	1990	121	175	8.743	1.823	14.491	5.174	0.758	1.017	1.017	568.299	0.164
Scrapers	1990	176	250	12.369	1.823	14.491	5.174	0.758	1.017	1.017	568.299	0.164
Scrapers	1990	251	500	16.73	1.607	13.709	11.673	0.662	0.867	0.867	568.299	0.145
Scrapers	1990	501	750	28.902	1.607	13.709	11.673	1.018	0.883	0.883	568.299	0.145
Scrapers	2000	51	120	6.006	1.975	11.177	4.906	0.06	0.949	0.949	568.299	0.178
Scrapers	2000	121	175	6.456	1.346	10.226	4.046	0.057	0.572	0.572	568.299	0.121
Scrapers	2000	176	250	8.023	1.183	9.944	3.423	0.057	0.493	0.493	568.299	0.106
Scrapers	2000	251	500	11.061	1.062	9.42	6.04	0.05	0.43	0.43	568.299	0.095
Scrapers	2000	501	750	19.108	1.062	9.42	6.04	0.052	0.43	0.43	568.299	0.095
Scrapers	2005	51	120	5.36	1.763	9.807	4.636	0.06	0.901	0.901	568.299	0.159
Scrapers	2005	121	175	5.592	1.166	8.934	3.76	0.057	0.514	0.514	568.299	0.105
Scrapers	2005	176	250	6.251	0.921	8.58	2.602	0.057	0.377	0.377	568.299	0.083
Scrapers	2005	251	500	8.477	0.814	7.854	4.07	0.05	0.331	0.331	568.3	0.073
Scrapers	2005	501	750	14.794	0.822	7.99	4.063	0.052	0.333	0.333	568.299	0.074
Scrapers	2010	51	120	0.828186	0.696	7.09453	3.97834	0.005	0.507	0.466	537.9051	0.157
Scrapers	2010	121	175	0.907518	0.763	8.55764	3.83189	0.005	0.444	0.408	532.551	0.155
Scrapers	2010	176	250	0.939807	0.79	9.42837	3.25278	0.005	0.434	0.399	520.9381	0.152
Scrapers	2010	251	500	0.595043	0.5	6.75544	4.1939	0.005	0.272	0.25	525.1553	0.153
Scrapers	2010	501	750	0.454495	0.382	5.53444	3.13671	0.005	0.209	0.192	525.522	0.153
Scrapers	2011	51	120	0.831534	0.699	7.06921	4.00655	0.005	0.509	0.469	536.4691	0.157
Scrapers	2011	121	175	0.907072	0.762	8.51777	3.84357	0.005	0.444	0.409	531.1835	0.155
Scrapers	2011	176	250	0.933155	0.784	9.34756	3.22574	0.005	0.43	0.396	519.6705	0.152
Scrapers	2011	251	500	0.590447	0.496	6.64672	4.14563	0.005	0.268	0.246	523.9083	0.153
Scrapers	2011	501	750	0.45862	0.385	5.48614	3.14165	0.005	0.208	0.191	524.1241	0.153
Scrapers	2012	51	120	0.847004	0.712	7.11199	4.04661	0.005	0.519	0.477	535.1238	0.157
Scrapers	2012	121	175	0.915185	0.769	8.53485	3.8659	0.005	0.448	0.412	529.8158	0.155
Scrapers	2012	176	250	0.935111	0.786	9.33173	3.22909	0.005	0.43	0.396	518.3695	0.152
Scrapers	2012	251	500	0.596548	0.501	6.64299	4.16192	0.005	0.269	0.247	522.6784	0.153
Scrapers	2012	501	750	0.468161	0.393	5.49999	3.16628	0.005	0.209	0.193	522.7621	0.153
Scrapers	2013	51	120	0.850862	0.715	7.08801	4.06971	0.005	0.523	0.482	532.4144	0.157
Scrapers	2013	121	175	0.895558	0.753	8.33026	3.85136	0.005	0.438	0.403	527.0754	0.155
Scrapers	2013	176	250	0.923168	0.776	9.20338	3.18463	0.005	0.423	0.389	515.7585	0.152
Scrapers	2013	251	500	0.590637	0.496	6.51716	4.08663	0.005	0.264	0.242	520.0884	0.153
Scrapers	2013	501	750	0.462466	0.389	5.3398	3.09865	0.005	0.204	0.187	520.1031	0.153
Scrapers	2014	51	120	0.855598	0.719	7.0654	4.09983	0.005	0.526	0.484	529.9445	0.157
Scrapers	2014	121	175	0.85473	0.718	7.90715	3.80661	0.005	0.419	0.385	524.1709	0.155
Scrapers	2014	176	250	0.882887	0.742	8.81494	3.06131	0.005	0.403	0.371	512.8529	0.152
Scrapers	2014	251	500	0.569739	0.479	6.23299	3.89824	0.005	0.251	0.231	517.3608	0.153
Scrapers	2014	501	750	0.438954	0.369	5.01248	2.84564	0.005	0.19	0.174	517.3937	0.153
Scrapers	2015	51	120	0.869823	0.731	7.10509	4.13678	0.005	0.535	0.492	524.5601	0.157
Scrapers	2015	121	175	0.849601	0.714	7.76471	3.80865	0.005	0.415	0.382	518.8294	0.155
Scrapers	2015	176	250	0.868271	0.73	8.66317	3.00753	0.005	0.395	0.364	507.5699	0.152
Scrapers	2015	251	500	0.561967	0.472	6.08577	3.788	0.005	0.246	0.226	511.9471	0.153
Scrapers	2015	501	750	0.427981	0.36	4.83862	2.68469	0.005	0.182	0.167	512.0837	0.153
Scrapers	2016	51	120	0.883537	0.742	7.14312	4.17273	0.005	0.543	0.5	519.1668	0.157
Scrapers	2016	121	175	0.818244	0.688	7.3844	3.78062	0.005	0.397	0.365	513.4363	0.155
Scrapers	2016	176	250	0.814194	0.684	8.10864	2.8398	0.005	0.367	0.338	502.255	0.151
Scrapers	2016	251	500	0.538344	0.452	5.75749	3.60633	0.005	0.232	0.213	506.3503	0.153
Scrapers	2016	501	750	0.404454	0.34	4.48425	2.48181	0.005	0.167	0.154	506.6381	0.153
Scrapers	2017	51	120	0.896722	0.753	7.17946	4.20744	0.005	0.551	0.507	511.1123	0.157
Scrapers	2017	121	175	0.748819	0.629	6.67066	3.70478	0.005	0.359	0.331	505.3309	0.155
Scrapers	2017	176	250	0.74607	0.627	7.39867	2.64676	0.005	0.333	0.306	494.5231	0.152
Scrapers	2017	251	500	0.505877	0.425	5.33951	3.33699	0.005	0.214	0.197	498.4571	0.153
Scrapers	2017	501	750	0.386598	0.325	4.21648	2.29479	0.005	0.156	0.143	498.6929	0.153
Scrapers	2018	51	120	0.881019	0.74	7.03577	4.20429	0.005	0.543	0.499	502.8288	0.157
Scrapers	2018	121	175	0.640866	0.539	5.64105	3.56847	0.005	0.303	0.279	497.3396	0.155
Scrapers	2018	176	250	0.662403	0.557	6.56304	2.40704	0.005	0.29	0.267	486.9908	0.152
Scrapers	2018	251	500	0.439318	0.369	4.56771	2.82811	0.005	0.18	0.166	490.7734	0.153
Scrapers	2018	501	750	0.349618	0.294	3.74582	1.96493	0.005	0.135	0.124	490.5775	0.153
Scrapers	2019	51	120	0.854498	0.718	6.84136	4.19661	0.005	0.525	0.483	494.1	0.156
Scrapers	2019	121	175	0.606989	0.51	5.26356	3.53297	0.005	0.283	0.261	489.2546	0.155
Scrapers	2019	176	250	0.596624	0.501	5.83102	2.23321	0.005	0.257	0.236	479.0317	0.152
Scrapers	2019	251	500	0.40804	0.343	4.15646	2.59466	0.005	0.163	0.15	482.7319	0.153
Scrapers	2019	501	750	0.329384	0.277	3.43103	1.82903	0.005	0.123	0.113	482.5963	0.153
Scrapers	2020	51	120	0.834143	0.701	6.6767	4.19756	0.005	0.51	0.469	483.745	0.156
Scrapers	2020	121	175	0.568453	0.478	4.86851	3.50114	0.005	0.262	0.241	478.6077	0.155
Scrapers	2020	176	250	0.531032	0.446	5.089	2.06469	0.005	0.223	0.205	468.9883	0.152
Scrapers	2020	251	500	0.380326	0.32	3.78254	2.40063	0.005	0.148	0.136	472.1751	0.153
Scrapers	2020	501	750	0.311991	0.262	3.12592	1.72502	0.005	0.113	0.104	471.7776	0.153
Scrapers	2021	51	120	0.837922	0.704	6.65882	4.21819	0.005	0.512	0.471	483.7128	0.156
Scrapers	2021	121	175	0.514014	0.432	4.34133	3.45599	0.005	0.232	0.213	478.654	0.155
Scrapers	2021	176	250	0.464853	0.391	4.36706	1.88374	0.005	0.189	0.174	469.1258	0.152
Scrapers	2021	251	500	0.356021	0.299	3.44481	2.25454	0.005	0.134	0.123	472.4636	0.153
Scrapers	2021	501	750	0.298025	0.25	2.88702	1.65772	0.005	0.105	0.097	471.7859	0.153
Scrapers	2022	51	120	0.809995	0.681	6.45548	4.20484	0.005	0.494	0.454	483.4481	0.156
Scrapers	2022	121	175	0.463814	0.39	3.83296	3.41662	0.005	0.204	0.187	478.7411	0.155
Scrapers	2022	176	250	0.406319	0.341	3.66905	1.74265	0.005	0.16	0.147	469.2686	0.152
Scrapers	2022	251	500	0.313802	0.264	2.87856	2.05212	0.005	0.112	0.103	473.2304	0.153
Scrapers	2022	501	750	0.266627	0.224	2.47537	1.50816	0.005	0.09	0.083	471.2788	0.152
Scrapers	2023	51	120	0.7496	0.63	6.02603	4.14443	0.005	0.458	0.421	483.0296	0.156
Scrapers	2023	121	175	0.430003	0.361	3.47913	3.39533	0.005	0.184	0.169	478.6814	0.155

Scrapers	2023	176	250	0.37772	0.317	3.2838	1.67839	0.005	0.144	0.133	469.5597	0.152
Scrapers	2023	251	500	0.301363	0.253	2.66611	1.97527	0.005	0.105	0.096	473.1772	0.153
Scrapers	2023	501	750	0.26361	0.222	2.38587	1.51295	0.005	0.087	0.08	471.2953	0.152
Scrapers	2024	51	120	0.683919	0.575	5.63222	4.09486	0.005	0.414	0.381	482.7009	0.156
Scrapers	2024	121	175	0.399992	0.336	3.15631	3.37249	0.005	0.166	0.153	478.8089	0.155
Scrapers	2024	176	250	0.358714	0.301	3.01379	1.62739	0.005	0.133	0.122	469.3521	0.152
Scrapers	2024	251	500	0.291137	0.245	2.47694	1.92055	0.005	0.098	0.09	472.8455	0.153
Scrapers	2024	501	750	0.253257	0.213	2.18653	1.46065	0.005	0.081	0.074	471.4291	0.152
Scrapers	2025	51	120	0.673967	0.566	5.50259	4.09423	0.005	0.405	0.372	482.3629	0.156
Scrapers	2025	121	175	0.34526	0.29	2.63098	3.3209	0.005	0.137	0.126	478.9476	0.155
Scrapers	2025	176	250	0.346529	0.291	2.80326	1.60249	0.005	0.125	0.115	469.4459	0.152
Scrapers	2025	251	500	0.257328	0.216	2.05051	1.7318	0.005	0.081	0.074	472.5394	0.153
Scrapers	2025	501	750	0.218534	0.184	1.71287	1.33825	0.005	0.064	0.059	472.115	0.153
Scrapers	2030	51	120	1.248	0.41	2.384	3.866	0.006	0.111	0.111	568.299	0.037
Scrapers	2030	121	175	1.445	0.301	1.32	3.389	0.006	0.068	0.068	568.299	0.027
Scrapers	2030	176	250	1.794	0.264	1.149	1.206	0.006	0.042	0.042	568.299	0.023
Scrapers	2030	251	500	2.697	0.259	1.057	1.184	0.005	0.04	0.04	568.299	0.023
Scrapers	2030	501	750	4.666	0.259	1.075	1.184	0.005	0.04	0.04	568.299	0.023
Scrapers	2035	51	120	1.058	0.348	1.943	3.842	0.006	0.064	0.064	568.299	0.031
Scrapers	2035	121	175	1.199	0.25	0.824	3.382	0.006	0.04	0.04	568.299	0.022
Scrapers	2035	176	250	1.553	0.229	0.717	1.175	0.006	0.026	0.026	568.299	0.02
Scrapers	2035	251	500	2.356	0.226	0.674	1.123	0.005	0.025	0.025	568.3	0.02
Scrapers	2035	501	750	4.075	0.226	0.682	1.123	0.005	0.025	0.025	568.299	0.02
Scrapers	2040	51	120	0.962	0.316	1.715	3.833	0.006	0.04	0.04	568.299	0.028
Scrapers	2040	121	175	1.063	0.221	0.549	3.381	0.006	0.026	0.026	568.299	0.02
Scrapers	2040	176	250	1.425	0.21	0.498	1.159	0.006	0.018	0.018	568.3	0.018
Scrapers	2040	251	500	2.175	0.209	0.475	1.1	0.005	0.017	0.017	568.299	0.018
Scrapers	2040	501	750	3.76	0.209	0.48	1.1	0.005	0.017	0.017	568.299	0.018
Signal Boards	1990	6	15	2.838	1.804	9.999	4.999	1.049	0.975	0.975	568.299	0.162
Signal Boards	1990	26	50	33.688	3.65	7.518	7.626	0.871	1.035	1.035	568.299	0.329
Signal Boards	1990	51	120	41.675	2.037	13.738	5.201	0.791	1.095	1.095	568.3	0.183
Signal Boards	1990	121	175	54.982	1.395	12.364	4.603	0.758	0.728	0.728	568.3	0.125
Signal Boards	1990	176	250	90.827	1.685	14.94	5.563	0.917	0.88	0.88	686.695	0.152
Signal Boards	2000	6	15	2.085	1.325	7.675	4.257	0.079	0.61	0.61	568.299	0.119
Signal Boards	2000	26	50	31.608	3.424	6.709	7.268	0.066	0.765	0.765	568.299	0.309
Signal Boards	2000	51	120	33.68	1.646	9.835	4.338	0.06	0.756	0.756	568.299	0.148
Signal Boards	2000	121	175	43.484	1.103	8.941	3.53	0.057	0.447	0.447	568.299	0.099
Signal Boards	2000	176	250	59.587	1.105	10.385	3.359	0.069	0.438	0.438	686.695	0.099
Signal Boards	2005	6	15	1.168	0.742	4.981	3.469	0.079	0.35	0.35	568.299	0.066
Signal Boards	2005	26	50	27.711	3.002	6.227	6.663	0.066	0.704	0.704	568.299	0.27
Signal Boards	2005	51	120	28.596	1.398	8.234	4	0.06	0.695	0.695	568.299	0.126
Signal Boards	2005	121	175	35.881	0.91	7.528	3.185	0.057	0.383	0.383	568.3	0.082
Signal Boards	2005	176	250	41.93	0.778	8.577	2.245	0.069	0.303	0.303	686.695	0.07
Signal Boards	2010	6	15	1.04	0.661	4.142	3.469	0.008	0.155	0.155	568.299	0.059
Signal Boards	2010	26	50	21.63	2.343	5.792	6.009	0.007	0.571	0.571	568.299	0.211
Signal Boards	2010	51	120	21.667	1.059	6.693	3.811	0.006	0.56	0.56	568.299	0.095
Signal Boards	2010	121	175	27.641	0.701	5.958	3.102	0.006	0.311	0.311	568.299	0.063
Signal Boards	2010	176	250	29.698	0.551	6.749	1.651	0.007	0.212	0.212	686.695	0.049
Signal Boards	2011	6	15	1.04	0.661	4.142	3.469	0.008	0.156	0.156	568.299	0.059
Signal Boards	2011	26	50	20.109	2.178	5.698	5.834	0.007	0.541	0.541	568.299	0.196
Signal Boards	2011	51	120	20.187	0.986	6.327	3.774	0.006	0.535	0.535	568.299	0.089
Signal Boards	2011	121	175	25.933	0.658	5.615	3.09	0.006	0.298	0.298	568.299	0.059
Signal Boards	2011	176	250	27.264	0.506	6.272	1.548	0.007	0.19	0.19	686.695	0.045
Signal Boards	2012	6	15	1.04	0.661	4.142	3.469	0.008	0.16	0.16	568.299	0.059
Signal Boards	2012	26	50	18.413	1.995	5.596	5.632	0.007	0.508	0.508	568.299	0.18
Signal Boards	2012	51	120	18.605	0.909	5.923	3.733	0.006	0.498	0.498	568.299	0.082
Signal Boards	2012	121	175	24.082	0.611	5.246	3.077	0.006	0.275	0.275	568.3	0.055
Signal Boards	2012	176	250	25.308	0.469	5.81	1.483	0.007	0.171	0.171	686.695	0.042
Signal Boards	2013	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2013	26	50	16.687	1.808	5.362	5.427	0.007	0.465	0.465	568.299	0.163
Signal Boards	2013	51	120	17.043	0.833	5.532	3.694	0.006	0.456	0.456	568.299	0.075
Signal Boards	2013	121	175	22.253	0.564	4.903	3.067	0.006	0.252	0.252	568.3	0.05
Signal Boards	2013	176	250	23.66	0.439	5.369	1.439	0.007	0.156	0.156	686.695	0.039
Signal Boards	2014	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2014	26	50	15.005	1.625	5.139	5.231	0.007	0.422	0.422	568.299	0.146
Signal Boards	2014	51	120	15.539	0.759	5.186	3.658	0.006	0.414	0.414	568.299	0.068
Signal Boards	2014	121	175	20.512	0.52	4.582	3.058	0.006	0.228	0.228	568.299	0.046
Signal Boards	2014	176	250	22.034	0.408	4.857	1.402	0.007	0.141	0.141	686.695	0.036
Signal Boards	2015	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2015	26	50	13.489	1.461	4.943	5.068	0.007	0.382	0.382	568.299	0.131
Signal Boards	2015	51	120	14.067	0.687	4.791	3.624	0.006	0.371	0.371	568.299	0.062
Signal Boards	2015	121	175	18.694	0.474	4.136	3.052	0.006	0.205	0.205	568.299	0.042
Signal Boards	2015	176	250	20.523	0.38	4.365	1.371	0.007	0.127	0.127	686.695	0.034
Signal Boards	2016	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2016	26	50	12.061	1.306	4.761	4.921	0.007	0.343	0.343	568.299	0.117
Signal Boards	2016	51	120	12.653	0.618	4.414	3.594	0.006	0.33	0.33	568.299	0.055
Signal Boards	2016	121	175	16.949	0.43	3.708	3.047	0.006	0.183	0.183	568.299	0.038
Signal Boards	2016	176	250	19.106	0.354	3.894	1.344	0.007	0.114	0.114	686.695	0.031
Signal Boards	2017	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2017	26	50	10.695	1.158	4.59	4.785	0.007	0.306	0.306	568.299	0.104
Signal Boards	2017	51	120	11.32	0.553	4.059	3.566	0.006	0.29	0.29	568.299	0.049
Signal Boards	2017	121	175	15.322	0.388	3.305	3.044	0.006	0.161	0.161	568.299	0.035
Signal Boards	2017	176	250	17.83	0.33	3.452	1.323	0.007	0.101	0.101	686.695	0.029
Signal Boards	2018	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2018	26	50	9.4	1.018	4.427	4.657	0.007	0.27	0.27	568.299	0.091
Signal Boards	2018	51	120	10.078	0.492	3.723	3.541	0.006	0.252	0.252	568.299	0.044
Signal Boards	2018	121	175	13.836	0.351	2.93	3.043	0.006	0.141	0.141	568.299	0.031
Signal Boards	2018	176	250	16.678	0.309	3.04	1.306	0.007	0.09	0.09	686.695	0.027
Signal Boards	2019	6	15	1.04	0.661	4.142	3.47	0.008	0.161	0.161	568.299	0.059

Signal Boards	2019	26	50	8.189	0.887	4.272	4.538	0.007	0.236	0.236	568.3	0.08
Signal Boards	2019	51	120	8.938	0.437	3.41	3.519	0.006	0.216	0.216	568.299	0.039
Signal Boards	2019	121	175	12.677	0.321	2.601	3.043	0.006	0.125	0.125	568.299	0.029
Signal Boards	2019	176	250	15.682	0.291	2.676	1.292	0.007	0.08	0.08	686.695	0.026
Signal Boards	2020	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2020	26	50	7.28	0.788	4.132	4.448	0.007	0.206	0.206	568.299	0.071
Signal Boards	2020	51	120	8.081	0.395	3.134	3.504	0.006	0.187	0.187	568.299	0.035
Signal Boards	2020	121	175	11.756	0.298	2.309	3.043	0.006	0.11	0.11	568.299	0.026
Signal Boards	2020	176	250	14.813	0.274	2.35	1.281	0.007	0.071	0.071	686.695	0.024
Signal Boards	2021	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2021	26	50	6.598	0.714	4.002	4.38	0.007	0.179	0.179	568.299	0.064
Signal Boards	2021	51	120	7.434	0.363	2.889	3.493	0.006	0.162	0.162	568.299	0.032
Signal Boards	2021	121	175	10.965	0.278	2.043	3.043	0.006	0.098	0.098	568.299	0.025
Signal Boards	2021	176	250	14.033	0.26	2.053	1.273	0.007	0.063	0.063	686.695	0.023
Signal Boards	2022	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.3	0.059
Signal Boards	2022	26	50	6.047	0.655	3.88	4.325	0.007	0.154	0.154	568.299	0.059
Signal Boards	2022	51	120	6.908	0.337	2.668	3.484	0.006	0.141	0.141	568.299	0.03
Signal Boards	2022	121	175	10.249	0.26	1.801	3.044	0.006	0.086	0.086	568.299	0.023
Signal Boards	2022	176	250	13.317	0.247	1.782	1.266	0.007	0.055	0.055	686.695	0.022
Signal Boards	2023	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2023	26	50	5.57	0.603	3.767	4.282	0.007	0.132	0.132	568.299	0.054
Signal Boards	2023	51	120	6.449	0.315	2.472	3.478	0.006	0.122	0.122	568.299	0.028
Signal Boards	2023	121	175	9.619	0.244	1.602	3.045	0.006	0.075	0.075	568.299	0.022
Signal Boards	2023	176	250	12.678	0.235	1.562	1.263	0.007	0.048	0.048	686.695	0.021
Signal Boards	2024	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2024	26	50	5.168	0.559	3.662	4.247	0.007	0.114	0.114	568.299	0.05
Signal Boards	2024	51	120	6.055	0.296	2.315	3.474	0.006	0.105	0.105	568.299	0.026
Signal Boards	2024	121	175	9.047	0.229	1.427	3.047	0.006	0.065	0.065	568.299	0.02
Signal Boards	2024	176	250	12.079	0.224	1.37	1.259	0.007	0.041	0.041	686.695	0.02
Signal Boards	2025	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2025	26	50	4.819	0.522	3.561	4.217	0.007	0.098	0.098	568.299	0.047
Signal Boards	2025	51	120	5.705	0.278	2.179	3.47	0.006	0.089	0.089	568.299	0.025
Signal Boards	2025	121	175	8.5	0.215	1.262	3.049	0.006	0.055	0.055	568.299	0.019
Signal Boards	2025	176	250	11.509	0.213	1.192	1.257	0.007	0.035	0.035	686.695	0.019
Signal Boards	2030	6	15	1.04	0.661	4.142	3.47	0.008	0.161	0.161	568.299	0.059
Signal Boards	2030	26	50	3.631	0.393	3.193	4.099	0.007	0.04	0.04	568.299	0.035
Signal Boards	2030	51	120	4.366	0.213	1.657	3.451	0.006	0.035	0.035	568.3	0.019
Signal Boards	2030	121	175	6.201	0.157	0.586	3.048	0.006	0.024	0.024	568.299	0.014
Signal Boards	2030	176	250	9.484	0.176	0.594	1.255	0.007	0.019	0.019	686.695	0.015
Signal Boards	2035	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2035	26	50	3.294	0.356	3.082	4.067	0.007	0.02	0.02	568.299	0.032
Signal Boards	2035	51	120	3.929	0.192	1.482	3.445	0.006	0.018	0.018	568.299	0.017
Signal Boards	2035	121	175	5.439	0.138	0.372	3.048	0.006	0.014	0.014	568.299	0.012
Signal Boards	2035	176	250	8.75	0.162	0.401	1.254	0.007	0.014	0.014	686.695	0.014
Signal Boards	2040	6	15	1.04	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Signal Boards	2040	26	50	3.289	0.356	3.037	4.074	0.007	0.014	0.014	568.299	0.032
Signal Boards	2040	51	120	3.848	0.188	1.428	3.447	0.006	0.013	0.013	568.299	0.016
Signal Boards	2040	121	175	5.177	0.131	0.296	3.05	0.006	0.011	0.011	568.299	0.011
Signal Boards	2040	176	250	8.473	0.157	0.341	1.255	0.007	0.012	0.012	686.695	0.014
Skid Steer Loaders	1990	16	25	4.928	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Skid Steer Loaders	1990	26	50	18.4	4.466	7.821	9.113	0.871	1.202	1.202	568.299	0.403
Skid Steer Loaders	1990	51	120	15.551	2.252	14.506	5.536	0.791	1.262	1.262	568.299	0.203
Skid Steer Loaders	2000	16	25	4.659	2.092	6.403	4.777	0.065	0.568	0.568	568.299	0.188
Skid Steer Loaders	2000	26	50	15.338	3.723	6.733	7.849	0.066	0.816	0.816	568.299	0.335
Skid Steer Loaders	2000	51	120	10.902	1.579	9.028	4.162	0.06	0.779	0.779	568.299	0.142
Skid Steer Loaders	2005	16	25	3.352	1.505	5.913	3.709	0.065	0.461	0.461	568.299	0.135
Skid Steer Loaders	2005	26	50	12.458	3.024	6.068	6.864	0.066	0.716	0.716	568.3	0.272
Skid Steer Loaders	2005	51	120	9.248	1.339	7.653	3.988	0.06	0.712	0.712	568.299	0.12
Skid Steer Loaders	2010	16	25	1.189544	1	5.29745	4.48486	0.005	0.435	0.401	586.3356	0.171
Skid Steer Loaders	2010	26	50	1.189544	1	5.29745	4.48486	0.005	0.435	0.401	586.3356	0.171
Skid Steer Loaders	2010	51	120	0.504832	0.424	5.19396	3.40768	0.005	0.344	0.317	525.6915	0.153
Skid Steer Loaders	2011	16	25	1.055747	0.887	5.2163	4.32754	0.005	0.402	0.37	584.7285	0.171
Skid Steer Loaders	2011	26	50	1.055747	0.887	5.2163	4.32754	0.005	0.402	0.37	584.7285	0.171
Skid Steer Loaders	2011	51	120	0.460213	0.387	4.88341	3.38539	0.005	0.316	0.291	524.0915	0.153
Skid Steer Loaders	2012	16	25	1.031332	0.867	5.12974	4.33156	0.005	0.388	0.357	583.1258	0.171
Skid Steer Loaders	2012	26	50	1.031332	0.867	5.12974	4.33156	0.005	0.388	0.357	583.1258	0.171
Skid Steer Loaders	2012	51	120	0.443294	0.372	4.73478	3.38462	0.005	0.303	0.279	522.5357	0.153
Skid Steer Loaders	2013	16	25	0.908612	0.763	4.84472	4.17576	0.005	0.337	0.31	580.0144	0.171
Skid Steer Loaders	2013	26	50	0.908612	0.763	4.84472	4.17576	0.005	0.337	0.31	580.0144	0.171
Skid Steer Loaders	2013	51	120	0.404938	0.34	4.44237	3.36337	0.005	0.271	0.249	519.6388	0.153
Skid Steer Loaders	2014	16	25	0.790746	0.664	4.54075	4.01585	0.005	0.286	0.263	577.0757	0.171
Skid Steer Loaders	2014	26	50	0.790746	0.664	4.54075	4.01585	0.005	0.286	0.263	577.0757	0.171
Skid Steer Loaders	2014	51	120	0.361873	0.304	4.0133	3.33829	0.005	0.235	0.216	517.0621	0.153
Skid Steer Loaders	2015	16	25	0.760751	0.639	4.43612	4.00436	0.005	0.267	0.246	571.4195	0.171
Skid Steer Loaders	2015	26	50	0.760751	0.639	4.43612	4.00436	0.005	0.267	0.246	571.4195	0.171
Skid Steer Loaders	2015	51	120	0.349713	0.294	3.8106	3.33751	0.005	0.22	0.203	511.595	0.153
Skid Steer Loaders	2016	16	25	0.713135	0.599	4.26784	3.95661	0.005	0.241	0.221	565.2281	0.17
Skid Steer Loaders	2016	26	50	0.713135	0.599	4.26784	3.95661	0.005	0.241	0.221	565.2281	0.17
Skid Steer Loaders	2016	51	120	0.325064	0.273	3.53439	3.32767	0.005	0.197	0.182	506.2971	0.153
Skid Steer Loaders	2017	16	25	0.676461	0.568	4.11272	3.91907	0.005	0.217	0.2	556.7144	0.171
Skid Steer Loaders	2017	26	50	0.676461	0.568	4.11272	3.91907	0.005	0.217	0.2	556.7144	0.171
Skid Steer Loaders	2017	51	120	0.303772	0.255	3.28618	3.31863	0.005	0.177	0.162	498.3256	0.153
Skid Steer Loaders	2018	16	25	0.579635	0.487	3.88962	3.78725	0.005	0.178	0.164	547.5575	0.17
Skid Steer Loaders	2018	26	50	0.579635	0.487	3.88962	3.78725	0.005	0.178	0.164	547.5575	0.17
Skid Steer Loaders	2018	51	120	0.256853	0.216	2.86	3.28204	0.005	0.14	0.129	490.0935	0.153
Skid Steer Loaders	2019	16	25	0.531282	0.446	3.75009	3.73957	0.005	0.154	0.141	539.2667	0.171
Skid Steer Loaders	2019	26	50	0.531282	0.446	3.75009	3.73957	0.005	0.154	0.141	539.2667	0.171
Skid Steer Loaders	2019	51	120	0.2373	0.199	2.65586	3.27736	0.005	0.122	0.112	482.3844	0.153
Skid Steer Loaders	2020	16	25	0.522771	0.439	3.69113	3.76397	0.005	0.145	0.133	527.7577	0.171

Skid Steer Loaders	2020	26	50	0.522771	0.439	3.69113	3.76397	0.005	0.145	0.133	527.7577	0.171
Skid Steer Loaders	2020	51	120	0.224183	0.188	2.5046	3.2771	0.005	0.108	0.1	471.9075	0.153
Skid Steer Loaders	2021	16	25	0.486515	0.409	3.57304	3.73158	0.005	0.126	0.116	527.4501	0.171
Skid Steer Loaders	2021	26	50	0.486515	0.409	3.57304	3.73158	0.005	0.126	0.116	527.4501	0.171
Skid Steer Loaders	2021	51	120	0.211817	0.178	2.36588	3.27687	0.005	0.096	0.089	471.9774	0.153
Skid Steer Loaders	2022	16	25	0.434318	0.365	3.43256	3.65597	0.005	0.103	0.095	527.2726	0.171
Skid Steer Loaders	2022	26	50	0.434318	0.365	3.43256	3.65597	0.005	0.103	0.095	527.2726	0.171
Skid Steer Loaders	2022	51	120	0.195311	0.164	2.18922	3.27037	0.005	0.081	0.075	472.4321	0.153
Skid Steer Loaders	2023	16	25	0.420524	0.353	3.37057	3.65358	0.005	0.093	0.086	527.4231	0.171
Skid Steer Loaders	2023	26	50	0.420524	0.353	3.37057	3.65358	0.005	0.093	0.086	527.4231	0.171
Skid Steer Loaders	2023	51	120	0.182613	0.153	2.03854	3.26613	0.005	0.069	0.063	472.656	0.153
Skid Steer Loaders	2024	16	25	0.415881	0.349	3.34552	3.67076	0.005	0.089	0.082	527.8005	0.171
Skid Steer Loaders	2024	26	50	0.415881	0.349	3.34552	3.67076	0.005	0.089	0.082	527.8005	0.171
Skid Steer Loaders	2024	51	120	0.174841	0.147	1.94841	3.26403	0.005	0.063	0.058	472.847	0.153
Skid Steer Loaders	2025	16	25	0.406183	0.341	3.30934	3.6601	0.005	0.084	0.077	527.8608	0.171
Skid Steer Loaders	2025	26	50	0.406183	0.341	3.30934	3.6601	0.005	0.084	0.077	527.8608	0.171
Skid Steer Loaders	2025	51	120	0.166357	0.14	1.86736	3.25156	0.005	0.057	0.052	472.6295	0.153
Skid Steer Loaders	2030	16	25	1.526	0.685	4.332	2.34	0.007	0.162	0.162	568.299	0.061
Skid Steer Loaders	2030	26	50	1.694	0.411	3.128	4.386	0.007	0.018	0.018	568.299	0.037
Skid Steer Loaders	2030	51	120	1.478	0.214	1.477	3.538	0.006	0.017	0.017	568.299	0.019
Skid Steer Loaders	2035	16	25	1.526	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Skid Steer Loaders	2035	26	50	1.694	0.411	3.097	4.39	0.007	0.015	0.015	568.299	0.037
Skid Steer Loaders	2035	51	120	1.459	0.211	1.442	3.54	0.006	0.014	0.014	568.299	0.019
Skid Steer Loaders	2040	16	25	1.526	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Skid Steer Loaders	2040	26	50	1.696	0.411	3.093	4.392	0.007	0.014	0.014	568.299	0.037
Skid Steer Loaders	2040	51	120	1.456	0.211	1.435	3.54	0.006	0.013	0.013	568.3	0.019
Surfacing Equipment	1990	26	50	8.011	4.203	7.726	8.629	0.871	1.147	1.147	568.299	0.379
Surfacing Equipment	1990	51	120	18.985	2.203	14.403	5.473	0.791	1.214	1.214	568.299	0.198
Surfacing Equipment	1990	121	175	19.781	1.707	13.91	4.883	0.758	0.927	0.927	568.3	0.154
Surfacing Equipment	1990	176	250	31.103	1.707	13.91	4.883	0.758	0.927	0.927	568.299	0.154
Surfacing Equipment	1990	251	500	45.625	1.526	13.316	9.66	0.662	0.805	0.805	568.299	0.137
Surfacing Equipment	1990	501	750	71.58	1.526	13.316	9.66	1.018	0.82	0.82	568.299	0.137
Surfacing Equipment	2000	26	50	6.689	3.509	6.755	7.426	0.066	0.779	0.779	568.299	0.316
Surfacing Equipment	2000	51	120	14.399	1.671	9.991	4.385	0.06	0.768	0.768	568.299	0.15
Surfacing Equipment	2000	121	175	13.132	1.133	9.132	3.583	0.057	0.458	0.458	568.299	0.102
Surfacing Equipment	2000	176	250	17.689	0.97	8.84	2.937	0.057	0.385	0.385	568.299	0.087
Surfacing Equipment	2000	251	500	26.875	0.899	8.551	4.584	0.05	0.347	0.347	568.299	0.081
Surfacing Equipment	2000	501	750	42.164	0.899	8.551	4.584	0.052	0.347	0.347	568.299	0.081
Surfacing Equipment	2005	26	50	6.001	3.148	6.318	6.936	0.066	0.727	0.727	568.3	0.284
Surfacing Equipment	2005	51	120	12.568	1.458	8.636	4.122	0.06	0.718	0.718	568.299	0.131
Surfacing Equipment	2005	121	175	11.032	0.952	7.874	3.316	0.057	0.402	0.402	568.3	0.085
Surfacing Equipment	2005	176	250	13.31	0.73	7.529	2.16	0.057	0.29	0.29	568.299	0.065
Surfacing Equipment	2005	251	500	19.448	0.65	6.988	3.023	0.05	0.26	0.26	568.299	0.058
Surfacing Equipment	2005	501	750	31.164	0.664	7.132	3.019	0.052	0.262	0.262	568.299	0.059
Surfacing Equipment	2010	26	50	1.528976	1.285	5.66618	4.99949	0.005	0.479	0.44	593.0498	0.173
Surfacing Equipment	2010	51	120	0.730908	0.614	6.16537	3.59404	0.005	0.437	0.402	524.0289	0.153
Surfacing Equipment	2010	121	175	0.662829	0.557	6.60554	3.09066	0.005	0.318	0.292	522.4909	0.152
Surfacing Equipment	2010	176	250	0.488779	0.411	6.37687	1.7501	0.005	0.212	0.195	530.3611	0.154
Surfacing Equipment	2010	251	500	0.29849	0.251	4.43284	1.5491	0.005	0.144	0.133	522.9659	0.152
Surfacing Equipment	2010	501	750	0.208991	0.176	3.5514	1.09654	0.005	0.112	0.103	524.8847	0.153
Surfacing Equipment	2011	26	50	1.476255	1.24	5.62022	4.95391	0.005	0.467	0.43	590.2612	0.172
Surfacing Equipment	2011	51	120	0.710662	0.597	5.98734	3.58797	0.005	0.427	0.393	522.8446	0.153
Surfacing Equipment	2011	121	175	0.6472	0.544	6.46356	3.07389	0.005	0.312	0.287	521.1883	0.152
Surfacing Equipment	2011	176	250	0.481299	0.404	6.2863	1.72048	0.005	0.207	0.191	529.0217	0.154
Surfacing Equipment	2011	251	500	0.289572	0.243	4.26701	1.48634	0.005	0.136	0.125	520.4212	0.152
Surfacing Equipment	2011	501	750	0.214952	0.181	3.56055	1.10325	0.005	0.113	0.104	523.5482	0.153
Surfacing Equipment	2012	26	50	1.500607	1.261	5.63914	5.03037	0.005	0.473	0.435	588.7118	0.172
Surfacing Equipment	2012	51	120	0.709653	0.596	5.94999	3.59999	0.005	0.426	0.392	521.4233	0.153
Surfacing Equipment	2012	121	175	0.653605	0.549	6.48747	3.0893	0.005	0.315	0.29	519.886	0.152
Surfacing Equipment	2012	176	250	0.481696	0.405	6.22653	1.72816	0.005	0.207	0.191	527.6815	0.154
Surfacing Equipment	2012	251	500	0.290035	0.244	4.20283	1.49574	0.005	0.134	0.124	519.0487	0.152
Surfacing Equipment	2012	501	750	0.210249	0.177	3.45723	1.04051	0.005	0.109	0.1	521.0672	0.152
Surfacing Equipment	2013	26	50	1.455428	1.223	5.53803	4.99596	0.005	0.457	0.421	585.7193	0.172
Surfacing Equipment	2013	51	120	0.69949	0.588	5.8163	3.60266	0.005	0.415	0.382	518.7481	0.153
Surfacing Equipment	2013	121	175	0.588968	0.495	5.94134	3.00889	0.005	0.286	0.263	518.4738	0.152
Surfacing Equipment	2013	176	250	0.441295	0.371	5.8812	1.62196	0.005	0.187	0.172	524.5301	0.154
Surfacing Equipment	2013	251	500	0.288988	0.243	4.09243	1.50462	0.005	0.131	0.121	516.1488	0.152
Surfacing Equipment	2013	501	750	0.215353	0.181	3.46124	1.04387	0.005	0.11	0.101	518.3853	0.152
Surfacing Equipment	2014	26	50	1.358041	1.141	5.42525	4.87668	0.005	0.434	0.399	582.7249	0.172
Surfacing Equipment	2014	51	120	0.665267	0.559	5.52029	3.58043	0.005	0.391	0.36	516.3377	0.153
Surfacing Equipment	2014	121	175	0.561853	0.472	5.71146	3.01212	0.005	0.273	0.251	515.8203	0.152
Surfacing Equipment	2014	176	250	0.364211	0.306	5.10182	1.43363	0.005	0.149	0.137	521.4518	0.154
Surfacing Equipment	2014	251	500	0.2821	0.237	3.8952	1.50147	0.005	0.125	0.115	513.6157	0.152
Surfacing Equipment	2014	501	750	0.206755	0.174	3.28435	1.02007	0.005	0.103	0.095	516.3212	0.153
Surfacing Equipment	2015	26	50	1.223408	1.028	5.25471	4.69178	0.005	0.402	0.37	576.7706	0.172
Surfacing Equipment	2015	51	120	0.651534	0.547	5.37414	3.57496	0.005	0.378	0.348	510.1417	0.152
Surfacing Equipment	2015	121	175	0.568	0.477	5.73307	3.02727	0.005	0.276	0.254	510.5481	0.152
Surfacing Equipment	2015	176	250	0.36864	0.31	5.11205	1.44156	0.005	0.151	0.139	516.058	0.154
Surfacing Equipment	2015	251	500	0.286581	0.241	3.90037	1.51303	0.005	0.126	0.116	508.3985	0.152
Surfacing Equipment	2015	501	750	0.211433	0.178	3.28678	1.02353	0.005	0.104	0.096	511.1157	0.153
Surfacing Equipment	2016	26	50	1.243319	1.045	5.27275	4.7626	0.005	0.406	0.374	570.8145	0.172
Surfacing Equipment	2016	51	120	0.621267	0.522	5.05142	3.54977	0.005	0.349	0.321	505.0873	0.152
Surfacing Equipment	2016	121	175	0.544572	0.458	5.45794	3.00649	0.005	0.265	0.244	504.5576	0.152
Surfacing Equipment	2016	176	250	0.365495	0.307	5.04791	1.42946	0.005	0.148	0.136	510.7058	0.154
Surfacing Equipment	2016	251	500	0.258417	0.217	3.46816	1.42484	0.005	0.111	0.102	502.4709	0.152
Surfacing Equipment	2016	501	750	0.192579	0.162	2.87955	0.99966	0.005	0.093	0.085	506.967	0.153
Surfacing Equipment	2017	26	50	1.10469	0.928	5.0643	4.60324	0.006	0.365	0.336	564.4772	0.173
Surfacing Equipment	2017	51	120	0.604716	0.508	4.94212	3.55587	0.005	0.337	0.31	498.36	0.153
Surfacing Equipment	2017	121	175	0.541755	0.455	5.39296	3.00273	0.005	0.264	0.243	496.2741	0.152

Surfacing Equipment	2017	176	250	0.325463	0.273	4.46793	1.3431	0.005	0.129	0.119	501.8465	0.154
Surfacing Equipment	2017	251	500	0.242435	0.204	3.10636	1.3962	0.005	0.103	0.094	496.885	0.152
Surfacing Equipment	2017	501	750	0.190932	0.16	2.76955	1.00272	0.005	0.09	0.083	499.7117	0.153
Surfacing Equipment	2018	26	50	0.927049	0.779	4.81982	4.35302	0.006	0.32	0.294	555.7363	0.173
Surfacing Equipment	2018	51	120	0.49279	0.414	4.28388	3.48871	0.005	0.268	0.247	491.3172	0.153
Surfacing Equipment	2018	121	175	0.44632	0.375	4.47527	2.97609	0.005	0.215	0.198	488.4406	0.152
Surfacing Equipment	2018	176	250	0.286758	0.241	3.98866	1.234	0.005	0.113	0.104	494.1388	0.154
Surfacing Equipment	2018	251	500	0.187325	0.157	2.20389	1.22557	0.005	0.076	0.07	487.8722	0.152
Surfacing Equipment	2018	501	750	0.169556	0.142	2.26863	0.99347	0.005	0.078	0.072	488.86	0.152
Surfacing Equipment	2019	26	50	0.765383	0.643	4.41999	4.0998	0.006	0.25	0.23	547.0462	0.173
Surfacing Equipment	2019	51	120	0.42278	0.355	3.82306	3.44856	0.005	0.226	0.208	484.0757	0.153
Surfacing Equipment	2019	121	175	0.425034	0.357	4.23866	2.97177	0.005	0.204	0.187	479.6717	0.152
Surfacing Equipment	2019	176	250	0.257694	0.217	3.39993	1.21576	0.005	0.101	0.093	486.8417	0.154
Surfacing Equipment	2019	251	500	0.173135	0.145	1.89944	1.2143	0.005	0.068	0.063	481.8965	0.152
Surfacing Equipment	2019	501	750	0.168821	0.142	2.17879	0.99372	0.005	0.076	0.07	480.166	0.152
Surfacing Equipment	2020	26	50	0.637406	0.536	4.23906	3.93357	0.006	0.216	0.199	535.5275	0.173
Surfacing Equipment	2020	51	120	0.392345	0.33	3.61216	3.43932	0.005	0.206	0.19	473.8188	0.153
Surfacing Equipment	2020	121	175	0.365927	0.307	3.67232	2.93068	0.005	0.175	0.161	469.2079	0.152
Surfacing Equipment	2020	176	250	0.252128	0.212	3.22243	1.21774	0.005	0.097	0.089	476.4261	0.154
Surfacing Equipment	2020	251	500	0.173203	0.146	1.83755	1.21902	0.005	0.067	0.062	471.6331	0.153
Surfacing Equipment	2020	501	750	0.168871	0.142	2.09374	0.99569	0.005	0.074	0.068	469.6252	0.152
Surfacing Equipment	2021	26	50	0.60314	0.507	4.18875	3.93231	0.006	0.204	0.188	535.784	0.173
Surfacing Equipment	2021	51	120	0.370907	0.312	3.46112	3.43619	0.005	0.191	0.175	474.0906	0.153
Surfacing Equipment	2021	121	175	0.307112	0.258	3.09858	2.91895	0.005	0.145	0.134	469.1687	0.152
Surfacing Equipment	2021	176	250	0.245986	0.207	2.99364	1.21854	0.005	0.092	0.085	476.8023	0.154
Surfacing Equipment	2021	251	500	0.167588	0.141	1.75282	1.20226	0.005	0.064	0.058	471.7484	0.153
Surfacing Equipment	2021	501	750	0.148862	0.125	1.59712	0.99181	0.005	0.062	0.057	470.4087	0.152
Surfacing Equipment	2022	26	50	0.509163	0.428	3.9114	3.77243	0.006	0.154	0.142	535.8364	0.173
Surfacing Equipment	2022	51	120	0.34882	0.293	3.24974	3.40936	0.005	0.175	0.161	473.6362	0.153
Surfacing Equipment	2022	121	175	0.283918	0.239	2.70137	2.90957	0.005	0.13	0.12	469.1259	0.152
Surfacing Equipment	2022	176	250	0.233135	0.196	2.66709	1.21737	0.005	0.085	0.078	476.9511	0.154
Surfacing Equipment	2022	251	500	0.157417	0.132	1.5573	1.16047	0.005	0.057	0.053	470.5248	0.152
Surfacing Equipment	2022	501	750	0.136805	0.115	1.35503	0.98819	0.005	0.052	0.048	470.4004	0.152
Surfacing Equipment	2023	26	50	0.51987	0.437	3.92432	3.83184	0.006	0.155	0.143	535.9295	0.173
Surfacing Equipment	2023	51	120	0.321277	0.27	3.05811	3.39556	0.005	0.157	0.144	474.4698	0.153
Surfacing Equipment	2023	121	175	0.267066	0.224	2.45516	2.91383	0.005	0.119	0.11	470.0141	0.152
Surfacing Equipment	2023	176	250	0.22795	0.192	2.50162	1.21946	0.005	0.082	0.075	476.9606	0.154
Surfacing Equipment	2023	251	500	0.156473	0.131	1.47556	1.16329	0.005	0.056	0.051	470.3746	0.152
Surfacing Equipment	2023	501	750	0.119512	0.1	1.08063	0.98543	0.005	0.04	0.037	472.4466	0.153
Surfacing Equipment	2024	26	50	0.396453	0.333	3.72069	3.66193	0.006	0.116	0.107	536.0304	0.173
Surfacing Equipment	2024	51	120	0.29879	0.251	2.8828	3.3893	0.005	0.142	0.131	475.3806	0.154
Surfacing Equipment	2024	121	175	0.271298	0.228	2.46372	2.92962	0.005	0.12	0.111	470.0767	0.152
Surfacing Equipment	2024	176	250	0.209166	0.176	2.23638	1.18272	0.005	0.071	0.065	477.096	0.154
Surfacing Equipment	2024	251	500	0.159183	0.134	1.47769	1.16767	0.005	0.056	0.051	470.2521	0.152
Surfacing Equipment	2024	501	750	0.112194	0.094	0.94669	0.98493	0.005	0.034	0.032	472.9833	0.153
Surfacing Equipment	2025	26	50	0.279239	0.235	3.57642	3.53733	0.006	0.082	0.075	536.14	0.173
Surfacing Equipment	2025	51	120	0.276433	0.232	2.6591	3.38535	0.005	0.124	0.114	476.7656	0.154
Surfacing Equipment	2025	121	175	0.222452	0.187	1.9987	2.92602	0.005	0.094	0.087	471.0403	0.152
Surfacing Equipment	2025	176	250	0.176026	0.148	1.74736	1.14337	0.005	0.055	0.051	477.11	0.154
Surfacing Equipment	2025	251	500	0.152175	0.128	1.3268	1.16861	0.005	0.051	0.047	470.2827	0.152
Surfacing Equipment	2025	501	750	0.101486	0.085	0.76806	0.9776	0.005	0.027	0.025	470.5508	0.152
Surfacing Equipment	2030	26	50	0.988	0.518	3.4	4.295	0.007	0.075	0.075	568.299	0.046
Surfacing Equipment	2030	51	120	2.281	0.264	1.959	3.492	0.006	0.068	0.068	568.299	0.023
Surfacing Equipment	2030	121	175	2.286	0.197	0.939	3.071	0.006	0.043	0.043	568.299	0.017
Surfacing Equipment	2030	176	250	3.134	0.172	0.789	1.064	0.006	0.026	0.026	568.299	0.015
Surfacing Equipment	2030	251	500	5.062	0.169	0.738	1.032	0.005	0.025	0.025	568.299	0.015
Surfacing Equipment	2030	501	750	7.953	0.169	0.749	1.032	0.005	0.025	0.025	568.299	0.015
Surfacing Equipment	2035	26	50	0.836	0.439	3.193	4.221	0.007	0.041	0.041	568.299	0.039
Surfacing Equipment	2035	51	120	1.954	0.226	1.659	3.482	0.006	0.038	0.038	568.299	0.02
Surfacing Equipment	2035	121	175	1.887	0.162	0.567	3.072	0.006	0.025	0.025	568.299	0.014
Surfacing Equipment	2035	176	250	2.725	0.149	0.497	1.05	0.006	0.016	0.016	568.299	0.013
Surfacing Equipment	2035	251	500	4.436	0.148	0.471	1.018	0.005	0.016	0.016	568.299	0.013
Surfacing Equipment	2035	501	750	6.967	0.148	0.477	1.018	0.005	0.016	0.016	568.3	0.013
Surfacing Equipment	2040	26	50	0.753	0.395	3.114	4.183	0.007	0.025	0.025	568.299	0.035
Surfacing Equipment	2040	51	120	1.782	0.206	1.521	3.477	0.006	0.024	0.024	568.299	0.018
Surfacing Equipment	2040	121	175	1.691	0.146	0.397	3.073	0.006	0.017	0.017	568.299	0.013
Surfacing Equipment	2040	176	250	2.566	0.14	0.37	1.047	0.006	0.013	0.013	568.299	0.012
Surfacing Equipment	2040	251	500	4.197	0.14	0.358	1.015	0.005	0.012	0.012	568.299	0.012
Surfacing Equipment	2040	501	750	6.59	0.14	0.361	1.015	0.005	0.013	0.013	568.299	0.012
Sweepers/Scrubbers	1990	6	15	4.971	1.804	9.999	5	0.833	0.968	0.968	568.299	0.162
Sweepers/Scrubbers	1990	16	25	10.019	2.213	6.92	5	0.679	0.735	0.735	568.299	0.199
Sweepers/Scrubbers	1990	26	50	32.867	4.512	7.836	9.199	0.692	1.202	1.202	568.299	0.407
Sweepers/Scrubbers	1990	51	120	39.044	2.254	14.467	5.53	0.628	1.259	1.259	568.299	0.203
Sweepers/Scrubbers	1990	121	175	48.318	1.505	12.813	4.861	0.602	0.818	0.818	568.299	0.135
Sweepers/Scrubbers	1990	176	250	56.322	1.505	12.813	4.861	0.602	0.818	0.818	568.299	0.135
Sweepers/Scrubbers	2000	6	15	2.886	1.047	7.362	4.258	0.079	0.428	0.428	568.299	0.094
Sweepers/Scrubbers	2000	16	25	4.933	1.089	6.325	4.438	0.064	0.442	0.442	568.299	0.098
Sweepers/Scrubbers	2000	26	50	30.182	4.144	6.934	8.622	0.065	0.882	0.882	568.299	0.373
Sweepers/Scrubbers	2000	51	120	29.565	1.706	9.702	4.394	0.059	0.84	0.84	568.299	0.154
Sweepers/Scrubbers	2000	121	175	37.084	1.155	8.929	3.49	0.057	0.481	0.481	568.299	0.104
Sweepers/Scrubbers	2000	176	250	34.578	0.924	8.516	2.598	0.057	0.371	0.371	568.3	0.083
Sweepers/Scrubbers	2005	6	15	1.951	0.708	4.985	3.469	0.079	0.35	0.35	568.299	0.063
Sweepers/Scrubbers	2005	16	25	3.505	0.774	5.326	2.526	0.064	0.323	0.323	568.299	0.069
Sweepers/Scrubbers	2005	26	50	28.008	3.845	6.52	8.25	0.065	0.844	0.844	568.299	0.346
Sweepers/Scrubbers	2005	51	120	27.009	1.559	8.538	4.253	0.059	0.826	0.826	568.299	0.14
Sweepers/Scrubbers	2005	121	175	32.779	1.021	7.851	3.349	0.057	0.45	0.45	568.3	0.092
Sweepers/Scrubbers	2005	176	250	25.002	0.668	7.318	1.76	0.057	0.258	0.258	568.299	0.06
Sweepers/Scrubbers	2010	6	15	2.154395	1.81	5.8263	6.34286	0.005	0.615	0.566	583.6982	0.17
Sweepers/Scrubbers	2010	16	25	2.154395	1.81	5.8263	6.34286	0.005	0.615	0.566	583.6982	0.17

Sweepers/Scrubbers	2010	26	50	2.154395	1.81	5.8263	6.34286	0.005	0.615	0.566	583.6982	0.17
Sweepers/Scrubbers	2010	51	120	1.093749	0.919	7.68967	4.10149	0.005	0.657	0.604	526.7953	0.153
Sweepers/Scrubbers	2010	121	175	1.189152	0.999	10.3895	4.21032	0.005	0.578	0.532	525.6912	0.153
Sweepers/Scrubbers	2010	176	250	0.69332	0.583	7.47446	2.35018	0.005	0.319	0.294	522.3625	0.152
Sweepers/Scrubbers	2011	6	15	2.104606	1.768	5.80317	6.34227	0.005	0.606	0.557	582.239	0.17
Sweepers/Scrubbers	2011	16	25	2.104606	1.768	5.80317	6.34227	0.005	0.606	0.557	582.239	0.17
Sweepers/Scrubbers	2011	26	50	2.104606	1.768	5.80317	6.34227	0.005	0.606	0.557	582.239	0.17
Sweepers/Scrubbers	2011	51	120	1.070043	0.899	7.49949	4.08877	0.005	0.651	0.599	525.4783	0.153
Sweepers/Scrubbers	2011	121	175	1.134336	0.953	9.92737	4.14616	0.005	0.554	0.509	524.377	0.153
Sweepers/Scrubbers	2011	176	250	0.623199	0.524	7.01091	2.16425	0.005	0.284	0.261	521.0566	0.152
Sweepers/Scrubbers	2012	6	15	2.177617	1.83	5.85015	6.54958	0.005	0.621	0.571	580.7797	0.17
Sweepers/Scrubbers	2012	16	25	2.177617	1.83	5.85015	6.54958	0.005	0.621	0.571	580.7797	0.17
Sweepers/Scrubbers	2012	26	50	2.177617	1.83	5.85015	6.54958	0.005	0.621	0.571	580.7797	0.17
Sweepers/Scrubbers	2012	51	120	1.078889	0.907	7.50259	4.12474	0.005	0.659	0.606	524.1613	0.153
Sweepers/Scrubbers	2012	121	175	1.141423	0.959	9.95689	4.16243	0.005	0.558	0.513	523.0627	0.153
Sweepers/Scrubbers	2012	176	250	0.63315	0.532	7.05573	2.17716	0.005	0.286	0.264	519.7507	0.152
Sweepers/Scrubbers	2013	6	15	2.124198	1.785	5.78778	6.54294	0.005	0.608	0.559	577.8612	0.17
Sweepers/Scrubbers	2013	16	25	2.124198	1.785	5.78778	6.54294	0.005	0.608	0.559	577.8612	0.17
Sweepers/Scrubbers	2013	26	50	2.124198	1.785	5.78778	6.54294	0.005	0.608	0.559	577.8612	0.17
Sweepers/Scrubbers	2013	51	120	1.019559	0.857	7.14773	4.07918	0.005	0.626	0.576	521.5273	0.153
Sweepers/Scrubbers	2013	121	175	1.122038	0.943	9.76352	4.12302	0.005	0.547	0.503	520.4343	0.153
Sweepers/Scrubbers	2013	176	250	0.590836	0.496	6.66337	2.05413	0.005	0.263	0.242	517.1389	0.152
Sweepers/Scrubbers	2014	6	15	2.103399	1.767	5.75157	6.59249	0.005	0.603	0.555	574.9427	0.17
Sweepers/Scrubbers	2014	16	25	2.103399	1.767	5.75157	6.59249	0.005	0.603	0.555	574.9427	0.17
Sweepers/Scrubbers	2014	26	50	2.103399	1.767	5.75157	6.59249	0.005	0.603	0.555	574.9427	0.17
Sweepers/Scrubbers	2014	51	120	0.990916	0.833	6.93387	4.07085	0.005	0.61	0.562	518.8933	0.153
Sweepers/Scrubbers	2014	121	175	1.041854	0.875	9.10792	4.04161	0.005	0.503	0.463	517.8058	0.153
Sweepers/Scrubbers	2014	176	250	0.600544	0.505	6.70399	2.06593	0.005	0.265	0.244	514.5271	0.152
Sweepers/Scrubbers	2015	6	15	2.151059	1.807	5.77191	6.75408	0.005	0.611	0.562	569.1058	0.17
Sweepers/Scrubbers	2015	16	25	2.151059	1.807	5.77191	6.75408	0.005	0.611	0.562	569.1058	0.17
Sweepers/Scrubbers	2015	26	50	2.151059	1.807	5.77191	6.75408	0.005	0.611	0.562	569.1058	0.17
Sweepers/Scrubbers	2015	51	120	0.991855	0.833	6.8863	4.09682	0.005	0.61	0.561	513.6254	0.153
Sweepers/Scrubbers	2015	121	175	0.998266	0.839	8.69682	3.98239	0.005	0.479	0.441	512.5489	0.153
Sweepers/Scrubbers	2015	176	250	0.610252	0.513	6.7446	2.07774	0.005	0.268	0.246	509.3035	0.152
Sweepers/Scrubbers	2016	6	15	2.119969	1.781	5.72609	6.78514	0.005	0.603	0.555	563.2688	0.17
Sweepers/Scrubbers	2016	16	25	2.119969	1.781	5.72609	6.78514	0.005	0.603	0.555	563.2688	0.17
Sweepers/Scrubbers	2016	26	50	2.119969	1.781	5.72609	6.78514	0.005	0.603	0.555	563.2688	0.17
Sweepers/Scrubbers	2016	51	120	0.931404	0.783	6.45405	4.05916	0.005	0.571	0.525	508.3574	0.153
Sweepers/Scrubbers	2016	121	175	0.887319	0.746	7.78746	3.83865	0.005	0.419	0.385	507.292	0.153
Sweepers/Scrubbers	2016	176	250	0.61965	0.521	6.78244	2.08905	0.005	0.27	0.248	504.0799	0.152
Sweepers/Scrubbers	2017	6	15	2.037349	1.712	5.62558	6.7185	0.005	0.582	0.535	554.5133	0.17
Sweepers/Scrubbers	2017	16	25	2.037349	1.712	5.62558	6.7185	0.005	0.582	0.535	554.5133	0.17
Sweepers/Scrubbers	2017	26	50	2.037349	1.712	5.62558	6.7185	0.005	0.582	0.535	554.5133	0.17
Sweepers/Scrubbers	2017	51	120	0.857444	0.72	6.0202	4.01005	0.005	0.52	0.479	500.4555	0.153
Sweepers/Scrubbers	2017	121	175	0.845582	0.711	7.42433	3.78429	0.005	0.395	0.363	499.4066	0.153
Sweepers/Scrubbers	2017	176	250	0.610026	0.513	6.50894	2.08973	0.005	0.264	0.243	496.2444	0.152
Sweepers/Scrubbers	2018	6	15	1.838607	1.545	5.39866	6.4442	0.005	0.531	0.488	545.7578	0.17
Sweepers/Scrubbers	2018	16	25	1.838607	1.545	5.39866	6.4442	0.005	0.531	0.488	545.7578	0.17
Sweepers/Scrubbers	2018	26	50	1.838607	1.545	5.39866	6.4442	0.005	0.531	0.488	545.7578	0.17
Sweepers/Scrubbers	2018	51	120	0.713411	0.599	5.13595	3.88173	0.005	0.428	0.394	492.5536	0.153
Sweepers/Scrubbers	2018	121	175	0.700892	0.589	6.07101	3.58832	0.005	0.32	0.294	491.5213	0.153
Sweepers/Scrubbers	2018	176	250	0.415916	0.349	4.30158	1.60478	0.005	0.169	0.156	488.409	0.152
Sweepers/Scrubbers	2019	6	15	1.703052	1.431	5.22487	6.26782	0.005	0.491	0.452	537.0023	0.17
Sweepers/Scrubbers	2019	16	25	1.703052	1.431	5.22487	6.26782	0.005	0.491	0.452	537.0023	0.17
Sweepers/Scrubbers	2019	26	50	1.703052	1.431	5.22487	6.26782	0.005	0.491	0.452	537.0023	0.17
Sweepers/Scrubbers	2019	51	120	0.654062	0.55	4.77259	3.84602	0.005	0.387	0.356	484.6516	0.153
Sweepers/Scrubbers	2019	121	175	0.62277	0.523	5.30082	3.4491	0.005	0.277	0.255	483.6359	0.153
Sweepers/Scrubbers	2019	176	250	0.279258	0.235	2.86598	1.23013	0.005	0.099	0.091	480.5735	0.152
Sweepers/Scrubbers	2020	6	15	1.599203	1.344	5.09515	6.1554	0.005	0.463	0.426	525.3284	0.17
Sweepers/Scrubbers	2020	16	25	1.599203	1.344	5.09515	6.1554	0.005	0.463	0.426	525.3284	0.17
Sweepers/Scrubbers	2020	26	50	1.599203	1.344	5.09515	6.1554	0.005	0.463	0.426	525.3284	0.17
Sweepers/Scrubbers	2020	51	120	0.618762	0.52	4.4821	3.82752	0.005	0.36	0.331	474.1157	0.153
Sweepers/Scrubbers	2020	121	175	0.549287	0.462	4.60809	3.35909	0.005	0.237	0.218	473.1221	0.153
Sweepers/Scrubbers	2020	176	250	0.246498	0.207	2.4856	1.13655	0.005	0.079	0.073	470.1263	0.152
Sweepers/Scrubbers	2021	6	15	1.450842	1.219	4.84946	5.89996	0.005	0.412	0.379	525.3284	0.17
Sweepers/Scrubbers	2021	16	25	1.450842	1.219	4.84946	5.89996	0.005	0.412	0.379	525.3284	0.17
Sweepers/Scrubbers	2021	26	50	1.450842	1.219	4.84946	5.89996	0.005	0.412	0.379	525.3284	0.17
Sweepers/Scrubbers	2021	51	120	0.523878	0.44	3.96194	3.75746	0.005	0.291	0.268	474.1157	0.153
Sweepers/Scrubbers	2021	121	175	0.457963	0.385	3.70723	3.24726	0.005	0.187	0.172	473.1221	0.153
Sweepers/Scrubbers	2021	176	250	0.195441	0.164	1.75821	1.1084	0.005	0.055	0.051	470.1263	0.152
Sweepers/Scrubbers	2022	6	15	1.199805	1.008	4.49049	5.45118	0.005	0.335	0.308	525.3284	0.17
Sweepers/Scrubbers	2022	16	25	1.199805	1.008	4.49049	5.45118	0.005	0.335	0.308	525.3284	0.17
Sweepers/Scrubbers	2022	26	50	1.199805	1.008	4.49049	5.45118	0.005	0.335	0.308	525.3284	0.17
Sweepers/Scrubbers	2022	51	120	0.443216	0.372	3.47218	3.69196	0.005	0.232	0.214	474.1157	0.153
Sweepers/Scrubbers	2022	121	175	0.382446	0.321	3.00243	3.22176	0.005	0.145	0.133	473.1221	0.153
Sweepers/Scrubbers	2022	176	250	0.181362	0.152	1.60484	1.10147	0.005	0.05	0.046	470.1263	0.152
Sweepers/Scrubbers	2023	6	15	0.903476	0.759	4.12735	4.97095	0.005	0.248	0.229	525.3284	0.17
Sweepers/Scrubbers	2023	16	25	0.903476	0.759	4.12735	4.97095	0.005	0.248	0.229	525.3284	0.17
Sweepers/Scrubbers	2023	26	50	0.903476	0.759	4.12735	4.97095	0.005	0.248	0.229	525.3284	0.17
Sweepers/Scrubbers	2023	51	120	0.417244	0.351	3.28536	3.69499	0.005	0.21	0.193	474.1157	0.153
Sweepers/Scrubbers	2023	121	175	0.347747	0.292	2.60853	3.22298	0.005	0.126	0.116	473.1221	0.153
Sweepers/Scrubbers	2023	176	250	0.188622	0.158	1.61028	1.11413	0.005	0.05	0.046	470.1263	0.152
Sweepers/Scrubbers	2024	6	15	0.887865	0.746	4.0788	5.00321	0.005	0.239	0.219	525.3284	0.17
Sweepers/Scrubbers	2024	16	25	0.887865	0.746	4.0788	5.00321	0.005	0.239	0.219	525.3284	0.17
Sweepers/Scrubbers	2024	26	50	0.887865	0.746	4.0788	5.00321	0.005	0.239	0.219	525.3284	0.17
Sweepers/Scrubbers	2024	51	120	0.395131	0.332	3.09846	3.69288	0.005	0.188	0.173	474.1157	0.153
Sweepers/Scrubbers	2024	121	175	0.316819	0.266	2.2533	3.23374	0.005	0.107	0.099	473.1221	0.153
Sweepers/Scrubbers	2024	176	250	0.195631	0.164	1.61357	1.12729	0.005	0.051	0.046	470.1263	0.152
Sweepers/Scrubbers	2025	6	15	0								

Sweepers/Scrubbers	2025	16	25	0.740656	0.622	3.85568	4.76791	0.005	0.191	0.176	525.3284	0.17
Sweepers/Scrubbers	2025	26	50	0.740656	0.622	3.85568	4.76791	0.005	0.191	0.176	525.3284	0.17
Sweepers/Scrubbers	2025	51	120	0.360743	0.303	2.81733	3.66402	0.005	0.16	0.147	474.1157	0.153
Sweepers/Scrubbers	2025	121	175	0.25385	0.213	1.63811	3.201	0.005	0.072	0.066	473.1221	0.153
Sweepers/Scrubbers	2025	176	250	0.202235	0.17	1.61588	1.14005	0.005	0.051	0.047	470.1263	0.152
Sweepers/Scrubbers	2030	6	15	1.624	0.589	4.142	3.47	0.008	0.161	0.161	568.299	0.053
Sweepers/Scrubbers	2030	16	25	3.103	0.685	4.332	2.34	0.007	0.161	0.161	568.299	0.061
Sweepers/Scrubbers	2030	26	50	3.714	0.509	3.294	4.947	0.007	0.026	0.026	568.299	0.046
Sweepers/Scrubbers	2030	51	120	4.528	0.261	1.569	3.703	0.006	0.023	0.023	568.299	0.023
Sweepers/Scrubbers	2030	121	175	6.02	0.187	0.431	3.275	0.006	0.017	0.017	568.299	0.016
Sweepers/Scrubbers	2030	176	250	6.813	0.182	0.37	1.116	0.006	0.013	0.013	568.299	0.016
Sweepers/Scrubbers	2035	6	15	1.624	0.589	4.142	3.47	0.008	0.161	0.161	568.299	0.053
Sweepers/Scrubbers	2035	16	25	3.103	0.685	4.332	2.34	0.007	0.161	0.161	568.3	0.061
Sweepers/Scrubbers	2035	26	50	3.681	0.505	3.214	4.929	0.007	0.017	0.017	568.299	0.045
Sweepers/Scrubbers	2035	51	120	4.386	0.253	1.486	3.698	0.006	0.016	0.016	568.299	0.022
Sweepers/Scrubbers	2035	121	175	5.628	0.175	0.313	3.271	0.006	0.012	0.012	568.299	0.015
Sweepers/Scrubbers	2035	176	250	6.501	0.173	0.294	1.114	0.006	0.011	0.011	568.299	0.015
Sweepers/Scrubbers	2040	6	15	1.624	0.589	4.142	3.47	0.008	0.161	0.161	568.3	0.053
Sweepers/Scrubbers	2040	16	25	3.103	0.685	4.332	2.34	0.007	0.161	0.161	568.299	0.061
Sweepers/Scrubbers	2040	26	50	3.675	0.504	3.203	4.925	0.007	0.016	0.016	568.3	0.045
Sweepers/Scrubbers	2040	51	120	4.354	0.251	1.469	3.697	0.006	0.015	0.015	568.299	0.022
Sweepers/Scrubbers	2040	121	175	5.537	0.172	0.284	3.27	0.006	0.011	0.011	568.299	0.015
Sweepers/Scrubbers	2040	176	250	6.454	0.172	0.284	1.114	0.006	0.011	0.011	568.299	0.015
Tractors/Loaders/Backhoe	1990	16	25	5.699	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Tractors/Loaders/Backhoe	1990	26	50	23.587	4.787	7.939	9.698	0.871	1.267	1.267	568.299	0.431
Tractors/Loaders/Backhoe	1990	51	120	19.595	2.333	14.779	5.659	0.791	1.327	1.327	568.299	0.21
Tractors/Loaders/Backhoe	1990	121	175	28.833	1.751	14.021	5.008	0.758	0.974	0.974	568.299	0.158
Tractors/Loaders/Backhoe	1990	176	250	48.841	1.751	14.021	5.008	0.758	0.974	0.974	568.299	0.158
Tractors/Loaders/Backhoe	1990	251	500	86.854	1.551	13.298	10.967	0.758	0.834	0.834	568.3	0.139
Tractors/Loaders/Backhoe	1990	501	750	130.281	1.551	13.298	10.967	1.139	0.85	0.85	568.299	0.139
Tractors/Loaders/Backhoe	2000	16	25	5.225	2.029	6.391	4.66	0.065	0.57	0.57	568.299	0.183
Tractors/Loaders/Backhoe	2000	26	50	21.043	4.271	6.964	8.855	0.066	0.903	0.903	568.299	0.385
Tractors/Loaders/Backhoe	2000	51	120	14.597	1.738	9.784	4.448	0.06	0.862	0.862	568.299	0.156
Tractors/Loaders/Backhoe	2000	121	175	19.393	1.178	9.027	3.534	0.057	0.494	0.494	568.299	0.106
Tractors/Loaders/Backhoe	2000	176	250	26.283	0.942	8.625	2.634	0.057	0.38	0.38	568.299	0.085
Tractors/Loaders/Backhoe	2000	251	500	48.341	0.863	8.225	3.629	0.057	0.339	0.339	568.299	0.077
Tractors/Loaders/Backhoe	2000	501	750	72.512	0.863	8.225	3.629	0.059	0.339	0.339	568.299	0.077
Tractors/Loaders/Backhoe	2005	16	25	3.067	1.191	5.648	3.137	0.065	0.404	0.404	568.299	0.107
Tractors/Loaders/Backhoe	2005	26	50	18.069	3.667	6.405	8.018	0.066	0.819	0.819	568.299	0.33
Tractors/Loaders/Backhoe	2005	51	120	12.595	1.499	8.325	4.22	0.06	0.802	0.802	568.299	0.135
Tractors/Loaders/Backhoe	2005	121	175	16.035	0.974	7.629	3.341	0.057	0.432	0.432	568.3	0.087
Tractors/Loaders/Backhoe	2005	176	250	18.392	0.659	7.181	1.774	0.057	0.256	0.256	568.3	0.059
Tractors/Loaders/Backhoe	2005	251	500	32.511	0.58	6.451	1.993	0.057	0.23	0.23	568.299	0.052
Tractors/Loaders/Backhoe	2005	501	750	49.91	0.594	6.656	1.99	0.059	0.234	0.234	568.299	0.053
Tractors/Loaders/Backhoe	2010	16	25	1.894649	1.592	5.63221	5.95576	0.005	0.561	0.516	569.9866	0.166
Tractors/Loaders/Backhoe	2010	26	50	1.894649	1.592	5.63221	5.95576	0.005	0.561	0.516	569.9866	0.166
Tractors/Loaders/Backhoe	2010	51	120	0.792369	0.666	6.31224	3.83197	0.005	0.504	0.464	533.5879	0.155
Tractors/Loaders/Backhoe	2010	121	175	0.559066	0.47	5.68573	3.20391	0.005	0.285	0.263	521.9624	0.152
Tractors/Loaders/Backhoe	2010	176	250	0.408454	0.343	5.58586	1.44044	0.005	0.178	0.163	522.8516	0.152
Tractors/Loaders/Backhoe	2010	251	500	0.391383	0.329	5.18517	2.07689	0.005	0.172	0.158	526.5923	0.153
Tractors/Loaders/Backhoe	2010	501	750	0.330642	0.278	4.39795	1.80487	0.005	0.153	0.141	517.4169	0.151
Tractors/Loaders/Backhoe	2011	16	25	1.788969	1.503	5.58613	5.86306	0.005	0.54	0.497	569.4176	0.166
Tractors/Loaders/Backhoe	2011	26	50	1.788969	1.503	5.58613	5.86306	0.005	0.54	0.497	569.4176	0.166
Tractors/Loaders/Backhoe	2011	51	120	0.766159	0.644	6.12981	3.83083	0.005	0.491	0.451	531.2907	0.155
Tractors/Loaders/Backhoe	2011	121	175	0.544391	0.457	5.49667	3.21464	0.005	0.277	0.255	520.8772	0.152
Tractors/Loaders/Backhoe	2011	176	250	0.400263	0.336	5.38873	1.41416	0.005	0.172	0.158	521.7143	0.152
Tractors/Loaders/Backhoe	2011	251	500	0.383321	0.322	4.98779	2.01155	0.005	0.167	0.154	525.0356	0.153
Tractors/Loaders/Backhoe	2011	501	750	0.337174	0.283	4.35896	1.80098	0.005	0.153	0.14	516.0241	0.151
Tractors/Loaders/Backhoe	2012	16	25	1.778006	1.494	5.57167	5.92961	0.005	0.537	0.494	568.1171	0.166
Tractors/Loaders/Backhoe	2012	26	50	1.778006	1.494	5.57167	5.92961	0.005	0.537	0.494	568.1171	0.166
Tractors/Loaders/Backhoe	2012	51	120	0.765477	0.643	6.07938	3.85825	0.005	0.49	0.45	529.8013	0.155
Tractors/Loaders/Backhoe	2012	121	175	0.55208	0.464	5.48812	3.24733	0.005	0.279	0.257	519.5807	0.152
Tractors/Loaders/Backhoe	2012	176	250	0.408595	0.343	5.3794	1.42415	0.005	0.173	0.159	520.5233	0.152
Tractors/Loaders/Backhoe	2012	251	500	0.391545	0.329	4.9585	2.03631	0.005	0.168	0.154	523.6066	0.153
Tractors/Loaders/Backhoe	2012	501	750	0.34578	0.291	4.30593	1.81138	0.005	0.153	0.141	514.6158	0.151
Tractors/Loaders/Backhoe	2013	16	25	1.710175	1.437	5.50692	5.8983	0.005	0.52	0.478	566.4101	0.167
Tractors/Loaders/Backhoe	2013	26	50	1.710175	1.437	5.50692	5.8983	0.005	0.52	0.478	566.4101	0.167
Tractors/Loaders/Backhoe	2013	51	120	0.736849	0.619	5.88177	3.85259	0.005	0.468	0.431	526.7149	0.155
Tractors/Loaders/Backhoe	2013	121	175	0.53894	0.453	5.32658	3.25593	0.005	0.269	0.248	516.748	0.152
Tractors/Loaders/Backhoe	2013	176	250	0.404183	0.34	5.22143	1.40715	0.005	0.168	0.155	517.9916	0.152
Tractors/Loaders/Backhoe	2013	251	500	0.386263	0.325	4.77348	1.98237	0.005	0.162	0.149	520.6472	0.153
Tractors/Loaders/Backhoe	2013	501	750	0.357231	0.3	4.31599	1.8218	0.005	0.155	0.143	511.8955	0.151
Tractors/Loaders/Backhoe	2014	16	25	1.58953	1.336	5.36869	5.77182	0.005	0.488	0.449	564.0421	0.167
Tractors/Loaders/Backhoe	2014	26	50	1.58953	1.336	5.36869	5.77182	0.005	0.488	0.449	564.0421	0.167
Tractors/Loaders/Backhoe	2014	51	120	0.692813	0.582	5.58081	3.82724	0.005	0.438	0.403	523.0168	0.155
Tractors/Loaders/Backhoe	2014	121	175	0.503298	0.423	4.93788	3.23863	0.005	0.248	0.228	513.8903	0.152
Tractors/Loaders/Backhoe	2014	176	250	0.389056	0.327	4.92175	1.37555	0.005	0.159	0.146	515.1747	0.152
Tractors/Loaders/Backhoe	2014	251	500	0.371559	0.312	4.48819	1.87787	0.005	0.152	0.14	517.1237	0.153
Tractors/Loaders/Backhoe	2014	501	750	0.362599	0.305	4.24344	1.8331	0.005	0.154	0.141	511.3367	0.151
Tractors/Loaders/Backhoe	2015	16	25	1.555682	1.307	5.32019	5.79091	0.005	0.477	0.439	558.7085	0.167
Tractors/Loaders/Backhoe	2015	26	50	1.555682	1.307	5.32019	5.79091	0.005	0.477	0.439	558.7085	0.167
Tractors/Loaders/Backhoe	2015	51	120	0.677539	0.569	5.4221	3.83198	0.005	0.424	0.39	517.3652	0.154
Tractors/Loaders/Backhoe	2015	121	175	0.501434	0.421	4.83599	3.2559	0.005	0.244	0.225	508.6819	0.152
Tractors/Loaders/Backhoe	2015	176	250	0.387795	0.326	4.7831	1.37366	0.005	0.155	0.143	509.6269	0.152
Tractors/Loaders/Backhoe	2015	251	500	0.371246	0.312	4.34833	1.88403	0.005	0.149	0.137	511.8685	0.153
Tractors/Loaders/Backhoe	2015	501	750	0.36596	0.308	4.1848	1.823	0.005	0.152	0.14	506.1469	0.151
Tractors/Loaders/Backhoe	2016	16	25	1.488115	1.25	5.21373	5.74113	0.005	0.455	0.418	553.3996	0.167
Tractors/Loaders/Backhoe	2016	26	50	1.488115	1.25	5.21373	5.74113	0.005	0.455	0.418	553.3996	0.167
Tractors/Loaders/Backhoe	2016	51	120	0.640315	0.538	5.14235	3.81146	0.005	0.396	0.364	511.3456	0.154



Tractors/Loaders/Backhoe	2016	121	175	0.46319	0.389	4.37945	3.23229	0.005	0.222	0.204	502.6294	0.152
Tractors/Loaders/Backhoe	2016	176	250	0.369743	0.311	4.42611	1.34719	0.005	0.145	0.133	504.4014	0.152
Tractors/Loaders/Backhoe	2016	251	500	0.337794	0.284	3.7866	1.78642	0.005	0.131	0.121	505.2698	0.152
Tractors/Loaders/Backhoe	2016	501	750	0.357237	0.3	4.0216	1.67424	0.005	0.144	0.133	500.955	0.151
Tractors/Loaders/Backhoe	2017	16	25	1.421071	1.194	5.10958	5.68921	0.005	0.433	0.398	544.9286	0.167
Tractors/Loaders/Backhoe	2017	26	50	1.421071	1.194	5.10958	5.68921	0.005	0.433	0.398	544.9286	0.167
Tractors/Loaders/Backhoe	2017	51	120	0.595595	0.5	4.8087	3.7818	0.005	0.362	0.333	502.7952	0.154
Tractors/Loaders/Backhoe	2017	121	175	0.420865	0.354	3.87876	3.19961	0.005	0.197	0.181	493.912	0.151
Tractors/Loaders/Backhoe	2017	176	250	0.346619	0.291	4.04062	1.30369	0.005	0.132	0.121	496.8449	0.152
Tractors/Loaders/Backhoe	2017	251	500	0.323689	0.272	3.48988	1.73851	0.005	0.122	0.112	497.1129	0.152
Tractors/Loaders/Backhoe	2017	501	750	0.35268	0.296	3.86196	1.64567	0.005	0.139	0.128	492.9529	0.151
Tractors/Loaders/Backhoe	2018	16	25	1.180685	0.992	4.76441	5.31043	0.005	0.363	0.334	536.1115	0.167
Tractors/Loaders/Backhoe	2018	26	50	1.180685	0.992	4.76441	5.31043	0.005	0.363	0.334	536.1115	0.167
Tractors/Loaders/Backhoe	2018	51	120	0.5003	0.42	4.15444	3.69155	0.005	0.294	0.271	494.1237	0.154
Tractors/Loaders/Backhoe	2018	121	175	0.353485	0.297	3.16806	3.13727	0.005	0.16	0.147	485.7754	0.151
Tractors/Loaders/Backhoe	2018	176	250	0.308076	0.259	3.45965	1.24197	0.005	0.112	0.103	489.4562	0.152
Tractors/Loaders/Backhoe	2018	251	500	0.264454	0.222	2.66877	1.44545	0.005	0.092	0.085	486.2939	0.151
Tractors/Loaders/Backhoe	2018	501	750	0.322751	0.271	3.40235	1.60068	0.005	0.124	0.114	485.0099	0.151
Tractors/Loaders/Backhoe	2019	16	25	1.095082	0.92	4.60928	5.20327	0.005	0.33	0.304	527.6843	0.167
Tractors/Loaders/Backhoe	2019	26	50	1.095082	0.92	4.60928	5.20327	0.005	0.33	0.304	527.6843	0.167
Tractors/Loaders/Backhoe	2019	51	120	0.437701	0.368	3.69257	3.63777	0.005	0.247	0.227	485.8548	0.154
Tractors/Loaders/Backhoe	2019	121	175	0.321856	0.27	2.78412	3.12158	0.005	0.14	0.129	477.9151	0.151
Tractors/Loaders/Backhoe	2019	176	250	0.291458	0.245	3.14683	1.22027	0.005	0.102	0.094	481.4206	0.152
Tractors/Loaders/Backhoe	2019	251	500	0.245176	0.206	2.34458	1.38918	0.005	0.082	0.075	479.0826	0.152
Tractors/Loaders/Backhoe	2019	501	750	0.311873	0.262	3.12046	1.6025	0.005	0.117	0.107	478.9216	0.152
Tractors/Loaders/Backhoe	2020	16	25	0.987255	0.83	4.39784	5.03491	0.005	0.288	0.265	515.874	0.167
Tractors/Loaders/Backhoe	2020	26	50	0.987255	0.83	4.39784	5.03491	0.005	0.288	0.265	515.874	0.167
Tractors/Loaders/Backhoe	2020	51	120	0.393883	0.331	3.32571	3.60147	0.005	0.21	0.193	475.1543	0.154
Tractors/Loaders/Backhoe	2020	121	175	0.29217	0.246	2.41467	3.10518	0.005	0.122	0.112	467.5132	0.151
Tractors/Loaders/Backhoe	2020	176	250	0.268036	0.225	2.73794	1.19592	0.005	0.09	0.083	470.4998	0.152
Tractors/Loaders/Backhoe	2020	251	500	0.230511	0.194	2.07976	1.35815	0.005	0.073	0.067	468.2447	0.151
Tractors/Loaders/Backhoe	2020	501	750	0.318709	0.268	3.11926	1.60984	0.005	0.117	0.108	468.6602	0.152
Tractors/Loaders/Backhoe	2021	16	25	0.899672	0.756	4.22643	4.90172	0.005	0.254	0.234	515.1213	0.167
Tractors/Loaders/Backhoe	2021	26	50	0.899672	0.756	4.22643	4.90172	0.005	0.254	0.234	515.1213	0.167
Tractors/Loaders/Backhoe	2021	51	120	0.35209	0.296	2.995	3.57072	0.005	0.177	0.162	475.3621	0.154
Tractors/Loaders/Backhoe	2021	121	175	0.263016	0.221	2.06221	3.0907	0.005	0.104	0.096	467.5285	0.151
Tractors/Loaders/Backhoe	2021	176	250	0.249239	0.209	2.36922	1.18606	0.005	0.08	0.074	470.5716	0.152
Tractors/Loaders/Backhoe	2021	251	500	0.213479	0.179	1.776	1.34147	0.005	0.064	0.059	469.3025	0.152
Tractors/Loaders/Backhoe	2021	501	750	0.294477	0.247	2.75417	1.43254	0.005	0.104	0.096	466.4564	0.151
Tractors/Loaders/Backhoe	2022	16	25	0.818675	0.688	4.03024	4.75954	0.005	0.218	0.2	514.4613	0.166
Tractors/Loaders/Backhoe	2022	26	50	0.818675	0.688	4.03024	4.75954	0.005	0.218	0.2	514.4613	0.166
Tractors/Loaders/Backhoe	2022	51	120	0.309669	0.26	2.64718	3.53551	0.005	0.142	0.131	475.8975	0.154
Tractors/Loaders/Backhoe	2022	121	175	0.237945	0.2	1.75274	3.07944	0.005	0.089	0.082	467.8004	0.151
Tractors/Loaders/Backhoe	2022	176	250	0.222521	0.187	1.94251	1.16248	0.005	0.067	0.062	470.1236	0.152
Tractors/Loaders/Backhoe	2022	251	500	0.190771	0.16	1.43694	1.28026	0.005	0.053	0.049	469.2562	0.152
Tractors/Loaders/Backhoe	2022	501	750	0.276438	0.232	2.4532	1.35272	0.005	0.094	0.087	466.6327	0.151
Tractors/Loaders/Backhoe	2023	16	25	0.738634	0.621	3.85698	4.62935	0.005	0.185	0.17	513.7962	0.166
Tractors/Loaders/Backhoe	2023	26	50	0.738634	0.621	3.85698	4.62935	0.005	0.185	0.17	513.7962	0.166
Tractors/Loaders/Backhoe	2023	51	120	0.284572	0.239	2.42607	3.52504	0.005	0.12	0.11	476.4307	0.154
Tractors/Loaders/Backhoe	2023	121	175	0.219196	0.184	1.52095	3.0777	0.005	0.077	0.07	468.821	0.152
Tractors/Loaders/Backhoe	2023	176	250	0.201205	0.169	1.58768	1.14809	0.005	0.058	0.053	469.7518	0.152
Tractors/Loaders/Backhoe	2023	251	500	0.180818	0.152	1.24708	1.27923	0.005	0.047	0.043	469.4652	0.152
Tractors/Loaders/Backhoe	2023	501	750	0.278685	0.234	2.41861	1.36081	0.005	0.095	0.087	466.6756	0.151
Tractors/Loaders/Backhoe	2024	16	25	0.701609	0.59	3.76811	4.60899	0.005	0.166	0.153	513.8517	0.166
Tractors/Loaders/Backhoe	2024	26	50	0.701609	0.59	3.76811	4.60899	0.005	0.166	0.153	513.8517	0.166
Tractors/Loaders/Backhoe	2024	51	120	0.270597	0.227	2.28795	3.5318	0.005	0.105	0.097	476.7313	0.154
Tractors/Loaders/Backhoe	2024	121	175	0.209421	0.176	1.37643	3.08913	0.005	0.068	0.063	469.4029	0.152
Tractors/Loaders/Backhoe	2024	176	250	0.199431	0.168	1.49113	1.15125	0.005	0.054	0.05	469.9143	0.152
Tractors/Loaders/Backhoe	2024	251	500	0.178929	0.15	1.16321	1.277	0.005	0.044	0.041	470.0841	0.152
Tractors/Loaders/Backhoe	2024	501	750	0.262816	0.221	2.21548	1.31051	0.005	0.085	0.079	466.6381	0.151
Tractors/Loaders/Backhoe	2025	16	25	0.654585	0.55	3.66186	4.55974	0.005	0.145	0.133	513.8025	0.166
Tractors/Loaders/Backhoe	2025	26	50	0.654585	0.55	3.66186	4.55974	0.005	0.145	0.133	513.8025	0.166
Tractors/Loaders/Backhoe	2025	51	120	0.248412	0.209	2.10918	3.52242	0.005	0.085	0.079	477.188	0.154
Tractors/Loaders/Backhoe	2025	121	175	0.192617	0.162	1.18039	3.08323	0.005	0.058	0.054	469.3289	0.152
Tractors/Loaders/Backhoe	2025	176	250	0.183368	0.154	1.23458	1.14554	0.005	0.047	0.044	470.5976	0.152
Tractors/Loaders/Backhoe	2025	251	500	0.171862	0.144	1.04575	1.23405	0.005	0.039	0.036	470.9102	0.152
Tractors/Loaders/Backhoe	2025	501	750	0.222943	0.187	1.64868	1.26139	0.005	0.067	0.062	466.4517	0.151
Tractors/Loaders/Backhoe	2030	16	25	1.765	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Tractors/Loaders/Backhoe	2030	26	50	2.657	0.539	3.299	4.966	0.007	0.033	0.033	568.299	0.048
Tractors/Loaders/Backhoe	2030	51	120	2.285	0.272	1.624	3.705	0.006	0.03	0.03	568.299	0.024
Tractors/Loaders/Backhoe	2030	121	175	3.178	0.193	0.485	3.273	0.006	0.02	0.02	568.299	0.017
Tractors/Loaders/Backhoe	2030	176	250	5.112	0.183	0.418	1.115	0.006	0.014	0.014	568.299	0.016
Tractors/Loaders/Backhoe	2030	251	500	10.236	0.182	0.403	1.066	0.006	0.014	0.014	568.299	0.016
Tractors/Loaders/Backhoe	2030	501	750	15.363	0.182	0.407	1.066	0.006	0.014	0.014	568.299	0.016
Tractors/Loaders/Backhoe	2035	16	25	1.765	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Tractors/Loaders/Backhoe	2035	26	50	2.538	0.515	3.244	4.949	0.007	0.022	0.022	568.299	0.046
Tractors/Loaders/Backhoe	2035	51	120	2.17	0.258	1.521	3.703	0.006	0.02	0.02	568.299	0.023
Tractors/Loaders/Backhoe	2035	121	175	2.956	0.179	0.348	3.275	0.006	0.015	0.015	568.299	0.016
Tractors/Loaders/Backhoe	2035	176	250	4.945	0.177	0.331	1.115	0.006	0.012	0.012	568.299	0.016
Tractors/Loaders/Backhoe	2035	251	500	9.922	0.177	0.326	1.066	0.006	0.012	0.012	568.299	0.015
Tractors/Loaders/Backhoe	2035	501	750	14.886	0.177	0.327	1.066	0.006	0.012	0.012	568.299	0.015
Tractors/Loaders/Backhoe	2040	16	25	1.765	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Tractors/Loaders/Backhoe	2040	26	50	2.506	0.508	3.22	4.946	0.007	0.018	0.018	568.299	0.045
Tractors/Loaders/Backhoe	2040	51	120	2.135	0.254	1.485	3.703	0.006	0.016	0.016	568.299	0.022
Tractors/Loaders/Backhoe	2040	121	175	2.891	0.175	0.305	3.276	0.006	0.012	0.012	568.299	0.015
Tractors/Loaders/Backhoe	2040	176	250	4.877	0.174	0.297	1.116	0.006	0.011	0.011	568.3	0.015
Tractors/Loaders/Backhoe	2040	251	500	9.794	0.174	0.297	1.066	0.006	0.011	0.011	568.299	0.015
Tractors/Loaders/Backhoe	2040	501	750	14.69	0.174	0.297	1.066	0.006				

Trenchers	1990	16	25	18.341	2.213	6.919	4.999	0.855	0.741	0.741	568.3	0.199
Trenchers	1990	26	50	37.589	4.535	7.849	9.232	0.871	1.215	1.215	568.3	0.409
Trenchers	1990	51	120	37.519	2.296	14.752	5.621	0.791	1.284	1.284	568.299	0.207
Trenchers	1990	121	175	63.364	1.748	14.125	5.014	0.758	0.96	0.96	568.299	0.157
Trenchers	1990	176	250	98.152	1.748	14.125	5.014	0.758	0.96	0.96	568.299	0.157
Trenchers	1990	251	500	121.775	1.553	13.45	10.572	0.662	0.827	0.827	568.299	0.14
Trenchers	1990	501	750	229.57	1.553	13.45	10.572	1.018	0.843	0.843	568.299	0.14
Trenchers	2000	6	15	2.824	1.325	7.675	4.257	0.079	0.61	0.61	568.299	0.119
Trenchers	2000	16	25	15.815	1.908	6.326	4.438	0.065	0.555	0.555	568.299	0.172
Trenchers	2000	26	50	34.945	4.216	7.029	8.713	0.066	0.89	0.89	568.299	0.38
Trenchers	2000	51	120	30.939	1.893	10.98	4.777	0.06	0.882	0.882	568.299	0.17
Trenchers	2000	121	175	46.959	1.296	10.057	3.969	0.057	0.541	0.541	568.299	0.116
Trenchers	2000	176	250	64.645	1.151	9.8	3.402	0.057	0.474	0.474	568.299	0.103
Trenchers	2000	251	500	81.678	1.042	9.354	6.221	0.05	0.416	0.416	568.299	0.094
Trenchers	2000	501	750	153.98	1.042	9.354	6.221	0.052	0.416	0.416	568.299	0.094
Trenchers	2005	6	15	1.582	0.742	4.981	3.469	0.079	0.35	0.35	568.299	0.066
Trenchers	2005	16	25	7.043	0.849	5.321	2.519	0.065	0.333	0.333	568.3	0.076
Trenchers	2005	26	50	32.497	3.921	6.674	8.33	0.066	0.849	0.849	568.299	0.353
Trenchers	2005	51	120	27.751	1.698	9.727	4.526	0.06	0.839	0.839	568.299	0.153
Trenchers	2005	121	175	40.799	1.126	8.861	3.695	0.057	0.487	0.487	568.299	0.101
Trenchers	2005	176	250	51.63	0.92	8.545	2.668	0.057	0.379	0.379	568.299	0.083
Trenchers	2005	251	500	63.694	0.812	7.903	4.395	0.05	0.332	0.332	568.299	0.073
Trenchers	2005	501	750	121.568	0.822	8.023	4.387	0.052	0.333	0.333	568.299	0.074
Trenchers	2010	6	15	1.531711	1.287	5.52761	5.11336	0.005	0.509	0.468	586.297	0.171
Trenchers	2010	16	25	1.531711	1.287	5.52761	5.11336	0.005	0.509	0.468	586.297	0.171
Trenchers	2010	26	50	1.531711	1.287	5.52761	5.11336	0.005	0.509	0.468	586.297	0.171
Trenchers	2010	51	120	1.099287	0.924	7.99924	4.07421	0.005	0.62	0.571	529.306	0.154
Trenchers	2010	121	175	0.922781	0.775	8.65095	3.7406	0.005	0.441	0.406	519.6876	0.151
Trenchers	2010	176	250	0.705197	0.593	7.86432	2.36576	0.005	0.314	0.288	527.3537	0.154
Trenchers	2010	251	500	0.380701	0.32	4.85363	2.10547	0.005	0.176	0.162	523.7828	0.152
Trenchers	2010	501	750	0.194919	0.164	3.20501	1.33412	0.005	0.113	0.104	525.788	0.153
Trenchers	2011	6	15	1.520162	1.277	5.52336	5.14932	0.005	0.507	0.467	585.033	0.171
Trenchers	2011	16	25	1.520162	1.277	5.52336	5.14932	0.005	0.507	0.467	585.033	0.171
Trenchers	2011	26	50	1.520162	1.277	5.52336	5.14932	0.005	0.507	0.467	585.033	0.171
Trenchers	2011	51	120	1.045215	0.878	7.67483	4.02646	0.005	0.598	0.55	527.7187	0.154
Trenchers	2011	121	175	0.916044	0.77	8.56359	3.73004	0.005	0.438	0.403	518.4008	0.151
Trenchers	2011	176	250	0.655301	0.551	7.41222	2.19702	0.005	0.29	0.267	525.9543	0.153
Trenchers	2011	251	500	0.372561	0.313	4.66474	2.04569	0.005	0.171	0.158	522.8418	0.153
Trenchers	2011	501	750	0.180473	0.152	2.67369	1.33856	0.005	0.097	0.089	525.691	0.153
Trenchers	2012	6	15	1.545009	1.298	5.53504	5.24421	0.005	0.512	0.471	583.5639	0.171
Trenchers	2012	16	25	1.545009	1.298	5.53504	5.24421	0.005	0.512	0.471	583.5639	0.171
Trenchers	2012	26	50	1.545009	1.298	5.53504	5.24421	0.005	0.512	0.471	583.5639	0.171
Trenchers	2012	51	120	1.052636	0.885	7.69459	4.05076	0.005	0.604	0.556	526.3562	0.154
Trenchers	2012	121	175	0.907539	0.763	8.45762	3.7162	0.005	0.436	0.401	517.1147	0.151
Trenchers	2012	176	250	0.662356	0.557	7.44867	2.20863	0.005	0.293	0.27	524.572	0.153
Trenchers	2012	251	500	0.369046	0.31	4.58546	2.03349	0.005	0.168	0.155	521.6264	0.153
Trenchers	2012	501	750	0.135931	0.114	2.04792	0.95532	0.005	0.069	0.064	524.8533	0.154
Trenchers	2013	6	15	1.53809	1.292	5.51013	5.2883	0.005	0.509	0.469	580.7693	0.171
Trenchers	2013	16	25	1.53809	1.292	5.51013	5.2883	0.005	0.509	0.469	580.7693	0.171
Trenchers	2013	26	50	1.53809	1.292	5.51013	5.2883	0.005	0.509	0.469	580.7693	0.171
Trenchers	2013	51	120	1.010936	0.849	7.45031	4.02389	0.005	0.582	0.536	523.4236	0.154
Trenchers	2013	121	175	0.916392	0.77	8.49431	3.73732	0.005	0.441	0.406	514.53	0.151
Trenchers	2013	176	250	0.626949	0.527	7.03951	2.13383	0.005	0.276	0.254	520.4335	0.153
Trenchers	2013	251	500	0.376293	0.316	4.60225	2.04997	0.005	0.17	0.156	519.043	0.153
Trenchers	2013	501	750	0.144323	0.121	2.05561	0.96183	0.005	0.07	0.065	522.2778	0.154
Trenchers	2014	6	15	1.508934	1.268	5.45539	5.29329	0.005	0.501	0.46	577.7275	0.171
Trenchers	2014	16	25	1.508934	1.268	5.45539	5.29329	0.005	0.501	0.46	577.7275	0.171
Trenchers	2014	26	50	1.508934	1.268	5.45539	5.29329	0.005	0.501	0.46	577.7275	0.171
Trenchers	2014	51	120	0.973633	0.818	7.2172	3.99876	0.005	0.563	0.518	520.7658	0.154
Trenchers	2014	121	175	0.824366	0.693	7.69921	3.66799	0.005	0.395	0.364	512.1475	0.151
Trenchers	2014	176	250	0.591196	0.497	6.48427	2.07009	0.005	0.258	0.237	517.7188	0.153
Trenchers	2014	251	500	0.364023	0.306	4.37019	2.03515	0.005	0.161	0.148	513.7439	0.152
Trenchers	2014	501	750	0.140019	0.118	1.825	0.96403	0.005	0.061	0.056	519.6576	0.154
Trenchers	2015	6	15	1.498018	1.259	5.40567	5.32346	0.005	0.493	0.454	571.6674	0.171
Trenchers	2015	16	25	1.498018	1.259	5.40567	5.32346	0.005	0.493	0.454	571.6674	0.171
Trenchers	2015	26	50	1.498018	1.259	5.40567	5.32346	0.005	0.493	0.454	571.6674	0.171
Trenchers	2015	51	120	0.972367	0.817	7.17857	4.01434	0.005	0.562	0.517	515.3955	0.154
Trenchers	2015	121	175	0.829448	0.697	7.67382	3.68389	0.005	0.396	0.364	506.9434	0.151
Trenchers	2015	176	250	0.597101	0.502	6.50988	2.0797	0.005	0.26	0.239	512.4325	0.153
Trenchers	2015	251	500	0.370644	0.311	4.38344	2.05093	0.005	0.163	0.15	508.3296	0.152
Trenchers	2015	501	750	0.135272	0.114	1.62336	0.96532	0.005	0.053	0.049	514.4002	0.154
Trenchers	2016	6	15	1.450442	1.219	5.29818	5.28497	0.005	0.475	0.437	565.9942	0.171
Trenchers	2016	16	25	1.450442	1.219	5.29818	5.28497	0.005	0.475	0.437	565.9942	0.171
Trenchers	2016	26	50	1.450442	1.219	5.29818	5.28497	0.005	0.475	0.437	565.9942	0.171
Trenchers	2016	51	120	0.937737	0.788	6.90219	3.98822	0.005	0.541	0.498	509.9027	0.154
Trenchers	2016	121	175	0.693219	0.582	6.50303	3.50717	0.005	0.328	0.302	501.7809	0.151
Trenchers	2016	176	250	0.58008	0.487	6.31168	2.03007	0.005	0.251	0.231	507.1448	0.153
Trenchers	2016	251	500	0.351818	0.296	4.09912	1.96649	0.005	0.15	0.138	504.4103	0.152
Trenchers	2016	501	750	0.142468	0.12	1.63008	0.97148	0.005	0.054	0.05	509.1433	0.154
Trenchers	2017	6	15	1.367315	1.149	5.16614	5.19682	0.005	0.449	0.413	557.4601	0.171
Trenchers	2017	16	25	1.367315	1.149	5.16614	5.19682	0.005	0.449	0.413	557.4601	0.171
Trenchers	2017	26	50	1.367315	1.149	5.16614	5.19682	0.005	0.449	0.413	557.4601	0.171
Trenchers	2017	51	120	0.906302	0.762	6.67876	3.96827	0.005	0.523	0.481	501.9916	0.154
Trenchers	2017	121	175	0.638299	0.536	5.92725	3.43391	0.005	0.3	0.276	493.7642	0.151
Trenchers	2017	176	250	0.577948	0.486	6.19428	2.03655	0.005	0.25	0.23	499.2281	0.153
Trenchers	2017	251	500	0.315778	0.265	3.44157	1.96603	0.005	0.129	0.119	497.0197	0.152
Trenchers	2017	501	750	0.135465	0.114	1.42958	0.97168	0.005	0.046	0.042	501.1831	0.154
Trenchers	2018	6	15	1.236195	1.039	4.95997	5.01831	0.005	0.409	0.377	548.3607	0.171
Trenchers	2018	16	25	1.236195	1.039	4.95997	5.01831	0.005	0.409	0.377	548.3607	0.171

Trenchers	2018	26	50	1.236195	1.039	4.95997	5.01831	0.005	0.409	0.377	548.3607	0.171
Trenchers	2018	51	120	0.78315	0.658	5.91527	3.85487	0.005	0.45	0.414	493.715	0.154
Trenchers	2018	121	175	0.559787	0.47	5.12742	3.33134	0.005	0.261	0.24	485.9254	0.151
Trenchers	2018	176	250	0.498602	0.419	5.29554	1.84856	0.005	0.212	0.195	491.5649	0.153
Trenchers	2018	251	500	0.30464	0.256	3.21114	1.97444	0.005	0.121	0.112	489.6281	0.152
Trenchers	2018	501	750	0.111849	0.094	1.02523	0.96632	0.005	0.029	0.026	494.6426	0.154
Trenchers	2019	6	15	1.136688	0.955	4.78464	4.89183	0.005	0.377	0.347	539.1037	0.171
Trenchers	2019	16	25	1.136688	0.955	4.78464	4.89183	0.005	0.377	0.347	539.1037	0.171
Trenchers	2019	26	50	1.136688	0.955	4.78464	4.89183	0.005	0.377	0.347	539.1037	0.171
Trenchers	2019	51	120	0.751452	0.631	5.69508	3.83677	0.005	0.431	0.396	485.3635	0.154
Trenchers	2019	121	175	0.547248	0.46	4.95976	3.34151	0.005	0.255	0.234	478.1294	0.151
Trenchers	2019	176	250	0.481784	0.405	5.04653	1.81019	0.005	0.203	0.187	484.1167	0.153
Trenchers	2019	251	500	0.302803	0.254	3.12824	1.98689	0.005	0.118	0.109	482.1648	0.153
Trenchers	2019	501	750	0.09296	0.078	0.70662	0.95644	0.005	0.015	0.014	484.5422	0.153
Trenchers	2020	6	15	1.076913	0.905	4.67651	4.8331	0.005	0.356	0.328	527.0962	0.17
Trenchers	2020	16	25	1.076913	0.905	4.67651	4.8331	0.005	0.356	0.328	527.0962	0.17
Trenchers	2020	26	50	1.076913	0.905	4.67651	4.8331	0.005	0.356	0.328	527.0962	0.17
Trenchers	2020	51	120	0.726229	0.61	5.51952	3.83272	0.005	0.413	0.38	475.1265	0.154
Trenchers	2020	121	175	0.500709	0.421	4.46042	3.32968	0.005	0.228	0.21	467.7348	0.151
Trenchers	2020	176	250	0.466499	0.392	4.8091	1.77405	0.005	0.195	0.179	473.5951	0.153
Trenchers	2020	251	500	0.276702	0.233	2.775	1.85932	0.005	0.105	0.097	470.6367	0.152
Trenchers	2020	501	750	0.083454	0.07	0.56006	0.95004	0.005	0.009	0.008	472.6556	0.153
Trenchers	2021	6	15	0.962829	0.809	4.45891	4.66576	0.005	0.313	0.288	527.0165	0.17
Trenchers	2021	16	25	0.962829	0.809	4.45891	4.66576	0.005	0.313	0.288	527.0165	0.17
Trenchers	2021	26	50	0.962829	0.809	4.45891	4.66576	0.005	0.313	0.288	527.0165	0.17
Trenchers	2021	51	120	0.661739	0.556	5.10594	3.78912	0.005	0.371	0.341	475.287	0.154
Trenchers	2021	121	175	0.483838	0.407	4.27237	3.30363	0.005	0.219	0.201	467.7343	0.151
Trenchers	2021	176	250	0.42408	0.356	4.36036	1.66826	0.005	0.172	0.158	473.8538	0.153
Trenchers	2021	251	500	0.263326	0.221	2.49105	1.86493	0.005	0.1	0.092	470.701	0.152
Trenchers	2021	501	750	0.078358	0.066	0.47513	0.94677	0.005	0.009	0.008	472.5289	0.153
Trenchers	2022	6	15	0.859634	0.722	4.26873	4.51833	0.005	0.275	0.253	527.0258	0.17
Trenchers	2022	16	25	0.859634	0.722	4.26873	4.51833	0.005	0.275	0.253	527.0258	0.17
Trenchers	2022	26	50	0.859634	0.722	4.26873	4.51833	0.005	0.275	0.253	527.0258	0.17
Trenchers	2022	51	120	0.629528	0.529	4.91345	3.77843	0.005	0.348	0.32	475.3262	0.154
Trenchers	2022	121	175	0.470645	0.395	4.10333	3.31289	0.005	0.211	0.195	467.7337	0.151
Trenchers	2022	176	250	0.398562	0.335	3.85292	1.66329	0.005	0.16	0.148	473.8512	0.153
Trenchers	2022	251	500	0.252168	0.212	2.21226	1.87233	0.005	0.094	0.086	470.5845	0.152
Trenchers	2022	501	750	0.067683	0.057	0.30138	0.94489	0.005	0.009	0.008	474.2887	0.153
Trenchers	2023	6	15	0.763609	0.642	3.95873	4.30164	0.005	0.22	0.202	527.0954	0.17
Trenchers	2023	16	25	0.763609	0.642	3.95873	4.30164	0.005	0.22	0.202	527.0954	0.17
Trenchers	2023	26	50	0.763609	0.642	3.95873	4.30164	0.005	0.22	0.202	527.0954	0.17
Trenchers	2023	51	120	0.599816	0.504	4.70045	3.76842	0.005	0.326	0.3	475.6903	0.154
Trenchers	2023	121	175	0.427489	0.359	3.65725	3.29061	0.005	0.185	0.171	467.7332	0.151
Trenchers	2023	176	250	0.390278	0.328	3.7365	1.6386	0.005	0.155	0.143	473.8485	0.153
Trenchers	2023	251	500	0.236268	0.199	2.00504	1.72273	0.005	0.085	0.078	471.6125	0.153
Trenchers	2023	501	750	0.071688	0.06	0.30278	0.95111	0.005	0.009	0.008	474.4705	0.153
Trenchers	2024	6	15	0.714783	0.601	3.83415	4.23326	0.005	0.197	0.181	527.0216	0.17
Trenchers	2024	16	25	0.714783	0.601	3.83415	4.23326	0.005	0.197	0.181	527.0216	0.17
Trenchers	2024	26	50	0.714783	0.601	3.83415	4.23326	0.005	0.197	0.181	527.0216	0.17
Trenchers	2024	51	120	0.588274	0.494	4.59319	3.76854	0.005	0.318	0.292	475.6324	0.154
Trenchers	2024	121	175	0.432612	0.364	3.66715	3.31073	0.005	0.187	0.172	467.7326	0.151
Trenchers	2024	176	250	0.370794	0.312	3.48285	1.59847	0.005	0.145	0.134	473.8455	0.153
Trenchers	2024	251	500	0.228039	0.192	1.85871	1.66789	0.005	0.08	0.074	469.9942	0.152
Trenchers	2024	501	750	0.076605	0.064	0.30435	0.95838	0.005	0.009	0.008	474.4782	0.153
Trenchers	2025	6	15	0.645012	0.542	3.65681	4.11956	0.005	0.163	0.15	527.1603	0.17
Trenchers	2025	16	25	0.645012	0.542	3.65681	4.11956	0.005	0.163	0.15	527.1603	0.17
Trenchers	2025	26	50	0.645012	0.542	3.65681	4.11956	0.005	0.163	0.15	527.1603	0.17
Trenchers	2025	51	120	0.5433	0.457	4.279	3.73437	0.005	0.285	0.262	475.9014	0.154
Trenchers	2025	121	175	0.426125	0.358	3.54907	3.30907	0.005	0.179	0.165	467.732	0.151
Trenchers	2025	176	250	0.365033	0.307	3.31521	1.60076	0.005	0.144	0.132	473.9168	0.153
Trenchers	2025	251	500	0.227307	0.191	1.82613	1.67595	0.005	0.079	0.072	470.4394	0.152
Trenchers	2025	501	750	0.079299	0.067	0.30526	0.96233	0.005	0.009	0.008	474.4863	0.153
Trenchers	2030	6	15	1.409	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Trenchers	2030	16	25	5.681	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Trenchers	2030	26	50	7.055	0.851	3.835	5.208	0.007	0.144	0.144	568.299	0.076
Trenchers	2030	51	120	6.697	0.409	2.559	3.743	0.006	0.132	0.132	568.299	0.036
Trenchers	2030	121	175	10.904	0.3	1.529	3.273	0.006	0.08	0.08	568.3	0.027
Trenchers	2030	176	250	14.406	0.256	1.348	1.188	0.006	0.049	0.049	568.3	0.023
Trenchers	2030	251	500	19.534	0.249	1.231	1.209	0.005	0.046	0.046	568.299	0.022
Trenchers	2030	501	750	36.902	0.249	1.254	1.209	0.005	0.047	0.047	568.299	0.022
Trenchers	2035	6	15	1.409	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Trenchers	2035	16	25	5.681	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Trenchers	2035	26	50	5.645	0.681	3.548	5.055	0.007	0.084	0.084	568.299	0.061
Trenchers	2035	51	120	5.437	0.332	2.049	3.713	0.006	0.076	0.076	568.3	0.03
Trenchers	2035	121	175	8.756	0.241	0.966	3.264	0.006	0.048	0.048	568.299	0.021
Trenchers	2035	176	250	12.171	0.216	0.847	1.149	0.006	0.031	0.031	568.299	0.019
Trenchers	2035	251	500	16.707	0.213	0.79	1.126	0.005	0.029	0.029	568.299	0.019
Trenchers	2035	501	750	31.529	0.213	0.801	1.126	0.005	0.029	0.029	568.3	0.019
Trenchers	2040	6	15	1.409	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Trenchers	2040	16	25	5.681	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Trenchers	2040	26	50	4.961	0.598	3.374	4.98	0.007	0.052	0.052	568.299	0.054
Trenchers	2040	51	120	4.791	0.293	1.767	3.699	0.006	0.047	0.047	568.299	0.026
Trenchers	2040	121	175	7.533	0.207	0.639	3.26	0.006	0.03	0.03	568.3	0.018
Trenchers	2040	176	250	10.853	0.193	0.573	1.126	0.006	0.02	0.02	568.3	0.017
Trenchers	2040	251	500	15.011	0.191	0.542	1.081	0.005	0.02	0.02	568.3	0.017
Trenchers	2040	501	750	28.323	0.191	0.549	1.081	0.005	0.02	0.02	568.299	0.017
Welders	1990	6	15	4.525	1.804	9.999	4.999	1.018	0.974	0.974	568.299	0.162
Welders	1990	16	25	10.092	2.213	6.919	4.999	0.83	0.74	0.74	568.299	0.199
Welders	1990	26	50	40.899	3.899	7.611	8.078	0.846	1.085	1.085	568.3	0.351

Welders	1990	51	120	33.632	2.107	13.999	5.312	0.768	1.146	1.146	568.3	0.19
Welders	1990	121	175	57.219	1.442	12.598	4.703	0.736	0.761	0.761	568.299	0.13
Welders	1990	176	250	69.387	1.442	12.598	4.703	0.736	0.761	0.761	568.299	0.13
Welders	1990	251	500	88.323	1.304	12.141	8.704	0.642	0.672	0.672	568.3	0.117
Welders	2000	6	15	4.323	1.723	9.08	4.875	0.079	0.747	0.747	568.299	0.155
Welders	2000	16	25	9.556	2.095	6.405	4.783	0.065	0.569	0.569	568.299	0.189
Welders	2000	26	50	38.432	3.664	6.797	7.708	0.066	0.803	0.803	568.299	0.33
Welders	2000	51	120	27.201	1.704	10.046	4.433	0.06	0.791	0.791	568.3	0.153
Welders	2000	121	175	45.269	1.14	9.126	3.61	0.057	0.468	0.468	568.299	0.102
Welders	2000	176	250	45.901	0.954	8.783	2.869	0.057	0.384	0.384	568.299	0.086
Welders	2000	251	500	59.514	0.878	8.466	4.719	0.05	0.344	0.344	568.299	0.079
Welders	2005	6	15	3.497	1.394	7.817	4.38	0.079	0.621	0.621	568.299	0.125
Welders	2005	16	25	7.401	1.622	6.014	3.922	0.065	0.483	0.483	568.299	0.146
Welders	2005	26	50	34.243	3.264	6.342	7.144	0.066	0.746	0.746	568.299	0.294
Welders	2005	51	120	23.288	1.459	8.459	4.096	0.06	0.733	0.733	568.299	0.131
Welders	2005	121	175	37.837	0.953	7.736	3.26	0.057	0.405	0.405	568.299	0.086
Welders	2005	176	250	32.839	0.682	7.302	1.941	0.057	0.268	0.268	568.299	0.061
Welders	2005	251	500	41.097	0.606	6.755	2.566	0.05	0.241	0.241	568.299	0.054
Welders	2010	6	15	2.82	1.124	6.554	4.027	0.008	0.473	0.473	568.3	0.101
Welders	2010	16	25	5.78	1.267	5.477	3.309	0.007	0.384	0.384	568.299	0.114
Welders	2010	26	50	27.885	2.658	5.944	6.571	0.007	0.623	0.623	568.299	0.239
Welders	2010	51	120	18.341	1.149	6.999	3.928	0.006	0.61	0.61	568.299	0.103
Welders	2010	121	175	30.26	0.762	6.255	3.185	0.006	0.338	0.338	568.299	0.068
Welders	2010	176	250	23.908	0.496	5.857	1.433	0.006	0.189	0.189	568.299	0.044
Welders	2010	251	500	30.15	0.445	5.26	1.621	0.005	0.174	0.174	568.299	0.04
Welders	2011	6	15	2.677	1.067	6.283	3.952	0.008	0.441	0.441	568.299	0.096
Welders	2011	16	25	5.436	1.192	5.36	3.179	0.007	0.361	0.361	568.3	0.107
Welders	2011	26	50	26.104	2.488	5.85	6.392	0.007	0.593	0.593	568.299	0.224
Welders	2011	51	120	17.199	1.077	6.632	3.891	0.006	0.584	0.584	568.3	0.097
Welders	2011	121	175	28.559	0.719	5.91	3.173	0.006	0.325	0.325	568.299	0.064
Welders	2011	176	250	22.03	0.457	5.462	1.34	0.006	0.17	0.17	568.299	0.041
Welders	2011	251	500	27.869	0.411	4.886	1.473	0.005	0.157	0.157	568.299	0.037
Welders	2012	6	15	2.527	1.007	5.999	3.874	0.008	0.407	0.407	568.299	0.09
Welders	2012	16	25	5.076	1.113	5.239	3.043	0.007	0.337	0.337	568.299	0.1
Welders	2012	26	50	24.122	2.299	5.749	6.185	0.007	0.56	0.56	568.299	0.207
Welders	2012	51	120	15.992	1.001	6.232	3.852	0.006	0.549	0.549	568.299	0.09
Welders	2012	121	175	26.736	0.673	5.543	3.161	0.006	0.303	0.303	568.299	0.06
Welders	2012	176	250	20.583	0.427	5.087	1.281	0.006	0.154	0.154	568.299	0.038
Welders	2012	251	500	26.151	0.386	4.532	1.369	0.005	0.144	0.144	568.299	0.034
Welders	2013	6	15	2.378	0.948	5.716	3.796	0.008	0.373	0.373	568.299	0.085
Welders	2013	16	25	4.718	1.034	5.117	2.907	0.007	0.314	0.314	568.299	0.093
Welders	2013	26	50	22.037	2.101	5.526	5.967	0.007	0.517	0.517	568.299	0.189
Welders	2013	51	120	14.766	0.925	5.836	3.813	0.006	0.507	0.507	568.3	0.083
Welders	2013	121	175	24.884	0.627	5.195	3.151	0.006	0.279	0.279	568.299	0.056
Welders	2013	176	250	19.36	0.402	4.723	1.241	0.006	0.141	0.141	568.299	0.036
Welders	2013	251	500	24.728	0.365	4.191	1.291	0.005	0.131	0.131	568.299	0.032
Welders	2014	6	15	2.237	0.891	5.445	3.723	0.008	0.341	0.341	568.3	0.08
Welders	2014	16	25	4.381	0.96	5	2.78	0.007	0.291	0.291	568.299	0.086
Welders	2014	26	50	19.935	1.9	5.308	5.749	0.007	0.473	0.473	568.3	0.171
Welders	2014	51	120	13.552	0.849	5.481	3.774	0.006	0.464	0.464	568.299	0.076
Welders	2014	121	175	23.067	0.581	4.862	3.141	0.006	0.255	0.255	568.299	0.052
Welders	2014	176	250	18.135	0.376	4.297	1.207	0.006	0.128	0.128	568.299	0.034
Welders	2014	251	500	23.294	0.343	3.788	1.227	0.005	0.119	0.119	568.299	0.031
Welders	2015	6	15	2.109	0.84	5.196	3.658	0.008	0.311	0.311	568.299	0.075
Welders	2015	16	25	4.078	0.894	4.89	2.666	0.007	0.27	0.27	568.299	0.08
Welders	2015	26	50	17.994	1.715	5.113	5.562	0.007	0.43	0.43	568.3	0.154
Welders	2015	51	120	12.337	0.772	5.077	3.738	0.006	0.419	0.419	568.299	0.069
Welders	2015	121	175	21.139	0.532	4.408	3.133	0.006	0.23	0.23	568.299	0.048
Welders	2015	176	250	16.976	0.352	3.88	1.178	0.006	0.116	0.116	568.299	0.031
Welders	2015	251	500	21.953	0.324	3.398	1.176	0.005	0.108	0.108	568.299	0.029
Welders	2016	6	15	2.03	0.809	5.023	3.622	0.008	0.289	0.289	568.299	0.073
Welders	2016	16	25	3.903	0.855	4.803	2.604	0.007	0.255	0.255	568.299	0.077
Welders	2016	26	50	16.155	1.54	4.936	5.395	0.007	0.389	0.389	568.299	0.138
Welders	2016	51	120	11.165	0.699	4.692	3.705	0.006	0.375	0.375	568.3	0.063
Welders	2016	121	175	19.285	0.486	3.973	3.128	0.006	0.206	0.206	568.299	0.043
Welders	2016	176	250	15.901	0.33	3.481	1.153	0.006	0.104	0.104	568.299	0.029
Welders	2016	251	500	20.731	0.306	3.032	1.134	0.005	0.097	0.097	568.299	0.027
Welders	2017	6	15	1.973	0.786	4.887	3.599	0.008	0.272	0.272	568.299	0.07
Welders	2017	16	25	3.785	0.83	4.729	2.564	0.007	0.243	0.243	568.299	0.074
Welders	2017	26	50	14.392	1.372	4.768	5.239	0.007	0.35	0.35	568.299	0.123
Welders	2017	51	120	10.06	0.63	4.328	3.675	0.006	0.332	0.332	568.299	0.056
Welders	2017	121	175	17.561	0.442	3.562	3.124	0.006	0.183	0.183	568.299	0.039
Welders	2017	176	250	14.942	0.31	3.105	1.133	0.006	0.094	0.094	568.299	0.028
Welders	2017	251	500	19.705	0.29	2.713	1.102	0.005	0.088	0.088	568.299	0.026
Welders	2018	6	15	1.923	0.766	4.762	3.58	0.008	0.256	0.256	568.3	0.069
Welders	2018	16	25	3.684	0.807	4.661	2.531	0.007	0.232	0.232	568.299	0.072
Welders	2018	26	50	12.698	1.21	4.607	5.092	0.007	0.311	0.311	568.299	0.109
Welders	2018	51	120	9.016	0.564	3.98	3.648	0.006	0.29	0.29	568.299	0.05
Welders	2018	121	175	15.966	0.402	3.176	3.123	0.006	0.162	0.162	568.299	0.036
Welders	2018	176	250	14.068	0.292	2.751	1.118	0.006	0.084	0.084	568.299	0.026
Welders	2018	251	500	18.804	0.277	2.43	1.08	0.005	0.08	0.08	568.299	0.025
Welders	2019	6	15	1.877	0.748	4.647	3.562	0.008	0.241	0.241	568.299	0.067
Welders	2019	16	25	3.592	0.787	4.596	2.501	0.007	0.222	0.222	568.299	0.071
Welders	2019	26	50	11.071	1.055	4.449	4.95	0.007	0.273	0.273	568.299	0.095
Welders	2019	51	120	8.032	0.503	3.648	3.623	0.006	0.25	0.25	568.299	0.045
Welders	2019	121	175	14.693	0.37	2.832	3.122	0.006	0.143	0.143	568.3	0.033
Welders	2019	176	250	13.284	0.276	2.432	1.104	0.006	0.075	0.075	568.299	0.024
Welders	2019	251	500	17.937	0.264	2.163	1.065	0.005	0.072	0.072	568.3	0.023
Welders	2020	6	15	1.835	0.731	4.542	3.546	0.008	0.227	0.227	568.299	0.066

Welders	2020	16	25	3.507	0.769	4.538	2.473	0.007	0.212	0.212	568.299	0.069
Welders	2020	26	50	9.83	0.937	4.304	4.84	0.007	0.238	0.238	568.299	0.084
Welders	2020	51	120	7.278	0.455	3.351	3.605	0.006	0.216	0.216	568.299	0.041
Welders	2020	121	175	13.663	0.344	2.523	3.122	0.006	0.127	0.127	568.299	0.031
Welders	2020	176	250	12.577	0.261	2.143	1.093	0.006	0.066	0.066	568.299	0.023
Welders	2020	251	500	17.094	0.252	1.91	1.055	0.005	0.064	0.064	568.299	0.022
Welders	2021	6	15	1.8	0.717	4.462	3.531	0.008	0.214	0.214	568.299	0.064
Welders	2021	16	25	3.431	0.752	4.497	2.446	0.007	0.201	0.201	568.299	0.067
Welders	2021	26	50	8.704	0.829	4.133	4.708	0.007	0.203	0.203	568.299	0.074
Welders	2021	51	120	6.572	0.411	3.042	3.579	0.006	0.184	0.184	568.299	0.037
Welders	2021	121	175	12.512	0.315	2.189	3.112	0.006	0.11	0.11	568.299	0.028
Welders	2021	176	250	11.711	0.243	1.836	1.081	0.006	0.057	0.057	568.299	0.021
Welders	2021	251	500	15.998	0.236	1.642	1.044	0.005	0.055	0.055	568.299	0.021
Welders	2022	6	15	1.774	0.707	4.408	3.519	0.008	0.203	0.203	568.3	0.063
Welders	2022	16	25	3.374	0.739	4.47	2.426	0.007	0.193	0.193	568.299	0.066
Welders	2022	26	50	7.959	0.758	4.007	4.645	0.007	0.175	0.175	568.299	0.068
Welders	2022	51	120	6.112	0.382	2.808	3.57	0.006	0.16	0.16	568.299	0.034
Welders	2022	121	175	11.714	0.295	1.935	3.113	0.006	0.097	0.097	568.3	0.026
Welders	2022	176	250	11.128	0.231	1.598	1.074	0.006	0.05	0.05	568.299	0.02
Welders	2022	251	500	15.267	0.225	1.454	1.038	0.005	0.049	0.049	568.3	0.02
Welders	2023	6	15	1.751	0.698	4.359	3.508	0.008	0.194	0.194	568.3	0.063
Welders	2023	16	25	3.322	0.728	4.447	2.407	0.007	0.186	0.186	568.299	0.065
Welders	2023	26	50	7.318	0.697	3.891	4.596	0.007	0.151	0.151	568.299	0.062
Welders	2023	51	120	5.713	0.357	2.599	3.564	0.006	0.139	0.139	568.299	0.032
Welders	2023	121	175	11.013	0.277	1.726	3.115	0.006	0.085	0.085	568.299	0.025
Welders	2023	176	250	10.606	0.22	1.404	1.071	0.006	0.044	0.044	568.299	0.019
Welders	2023	251	500	14.602	0.215	1.289	1.034	0.005	0.042	0.042	568.299	0.019
Welders	2024	6	15	1.731	0.69	4.316	3.499	0.008	0.188	0.188	568.299	0.062
Welders	2024	16	25	3.276	0.718	4.426	2.39	0.007	0.181	0.181	568.299	0.064
Welders	2024	26	50	6.78	0.646	3.782	4.557	0.007	0.13	0.13	568.299	0.058
Welders	2024	51	120	5.366	0.336	2.43	3.56	0.006	0.12	0.12	568.299	0.03
Welders	2024	121	175	10.369	0.261	1.541	3.118	0.006	0.074	0.074	568.299	0.023
Welders	2024	176	250	10.107	0.21	1.234	1.068	0.006	0.038	0.038	568.299	0.018
Welders	2024	251	500	13.957	0.206	1.135	1.032	0.005	0.037	0.037	568.299	0.018
Welders	2025	6	15	1.713	0.683	4.278	3.491	0.008	0.183	0.183	568.3	0.061
Welders	2025	16	25	3.237	0.709	4.407	2.376	0.007	0.177	0.177	568.299	0.064
Welders	2025	26	50	6.315	0.602	3.676	4.524	0.007	0.112	0.112	568.299	0.054
Welders	2025	51	120	5.055	0.316	2.283	3.557	0.006	0.102	0.102	568.299	0.028
Welders	2025	121	175	9.743	0.245	1.365	3.121	0.006	0.063	0.063	568.299	0.022
Welders	2025	176	250	9.621	0.199	1.075	1.065	0.006	0.032	0.032	568.299	0.018
Welders	2025	251	500	13.325	0.196	0.99	1.029	0.005	0.031	0.031	568.299	0.017
Welders	2030	6	15	1.665	0.663	4.164	3.47	0.008	0.166	0.166	568.299	0.059
Welders	2030	16	25	3.133	0.687	4.347	2.34	0.007	0.165	0.165	568.299	0.061
Welders	2030	26	50	4.719	0.449	3.273	4.387	0.007	0.045	0.045	568.299	0.04
Welders	2030	51	120	3.827	0.239	1.707	3.535	0.006	0.04	0.04	568.299	0.021
Welders	2030	121	175	7.011	0.176	0.628	3.121	0.006	0.027	0.027	568.299	0.015
Welders	2030	176	250	7.829	0.162	0.525	1.063	0.006	0.017	0.017	568.299	0.014
Welders	2030	251	500	10.967	0.161	0.495	1.027	0.005	0.017	0.017	568.299	0.014
Welders	2035	6	15	1.659	0.661	4.143	3.469	0.008	0.162	0.162	568.299	0.059
Welders	2035	16	25	3.126	0.685	4.332	2.339	0.007	0.162	0.162	568.299	0.061
Welders	2035	26	50	4.262	0.406	3.147	4.349	0.007	0.022	0.022	568.299	0.036
Welders	2035	51	120	3.418	0.214	1.509	3.528	0.006	0.019	0.019	568.299	0.019
Welders	2035	121	175	6.087	0.153	0.387	3.121	0.006	0.015	0.015	568.299	0.013
Welders	2035	176	250	7.189	0.149	0.343	1.063	0.006	0.012	0.012	568.299	0.013
Welders	2035	251	500	10.118	0.149	0.339	1.027	0.005	0.012	0.012	568.299	0.013
Welders	2040	6	15	1.659	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Welders	2040	16	25	3.126	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Welders	2040	26	50	4.218	0.402	3.093	4.336	0.007	0.015	0.015	568.3	0.036
Welders	2040	51	120	3.322	0.208	1.447	3.524	0.006	0.014	0.014	568.299	0.018
Welders	2040	121	175	5.753	0.145	0.303	3.118	0.006	0.011	0.011	568.299	0.013
Welders	2040	176	250	6.911	0.143	0.287	1.062	0.006	0.01	0.01	568.3	0.012
Welders	2040	251	500	9.728	0.143	0.287	1.026	0.005	0.01	0.01	568.299	0.012

**Table 3.3 OFFROAD Default Horsepower and Load Factors**

<b>OFFROAD Equipment Type</b>	<b>Horsepower</b>	<b>Load Factor</b>
Aerial Lifts	63	0.31
Air Compressors	78	0.48
Bore/Drill Rigs	221	0.5
Cement and Mortar Mixers	9	0.56
Concrete/Industrial Saws	81	0.73
Cranes	231	0.29
Crawler Tractors	212	0.43
Crushing/Proc. Equipment	85	0.78
Dumpers/Tenders	16	0.38
Excavators	158	0.38
Forklifts	89	0.2
Generator Sets	84	0.74
Graders	187	0.41
Off-Highway Tractors	124	0.44
Off-Highway Trucks	402	0.38
Other Construction Equipment	172	0.42
Other General Industrial Equipment	88	0.34
Other Material Handling Equipment	168	0.4
Pavers	130	0.42
Paving Equipment	132	0.36
Plate Compactors	8	0.43
Pressure Washers	13	0.3
Pumps	84	0.74
Rollers	80	0.38
Rough Terrain Forklifts	100	0.4
Rubber Tired Dozers	247	0.4
Rubber Tired Loaders	203	0.36
Scrapers	367	0.48
Signal Boards	6	0.82
Skid Steer Loaders	65	0.37
Surfacing Equipment	263	0.3
Sweepers/Scrubbers	64	0.46

MCWRA Interlake Tunnel and  
Spillway Modification Project - No Spillway Alternative

South Central Coast Air Basin - Unmitigated AQ/GHG Analysis

Tractors/Loaders/Backhoes	97	0.37
Trenchers	78	0.5
Welders	46	0.45

**Table 3.5 OFFROAD Emission Factor Based on Engine Tier (g/bhp-hr)**

<b>Tier</b>	<b>Low HP</b>	<b>High HP</b>	<b>CO</b>	<b>NOX</b>	<b>PM10</b>	<b>PM2.5</b>	<b>ROG</b>
Tier 1	25	49	4.1	5.26	0.48	0.48	1.74
Tier 1	50	74	6.9	6.54	0.552	0.552	1.19
Tier 1	75	119	6.9	6.54	0.552	0.552	1.19
Tier 1	120	174	6.9	6.54	0.274	0.274	0.82
Tier 1	175	299	6.9	5.93	0.108	0.108	0.38
Tier 1	300	599	6.9	5.93	0.108	0.108	0.38
Tier 1	600	750	6.9	5.93	0.108	0.108	0.38
Tier 1	751	2000	6.9	5.93	0.108	0.108	0.38
Tier 2	25	49	4.1	4.63	0.28	0.28	0.29
Tier 2	50	74	3.7	4.75	0.192	0.192	0.23
Tier 2	75	119	3.7	4.75	0.192	0.192	0.23
Tier 2	120	174	3.7	4.17	0.128	0.128	0.19
Tier 2	175	299	2.6	4.15	0.088	0.088	0.12
Tier 2	300	599	2.6	3.79	0.088	0.088	0.12
Tier 2	600	750	2.6	3.79	0.088	0.088	0.12
Tier 2	751	2000	2.6	3.79	0.088	0.088	0.12
Tier 3	25	49	4.1	4.63	0.28	0.28	0.29
Tier 3	50	74	3.7	2.74	0.192	0.192	0.12
Tier 3	75	119	3.7	2.74	0.192	0.192	0.12
Tier 3	120	174	3.7	2.32	0.112	0.112	0.12
Tier 3	175	299	2.6	2.32	0.088	0.088	0.12
Tier 3	300	599	2.6	2.32	0.088	0.088	0.12
Tier 3	600	750	2.6	2.32	0.088	0.088	0.12
Tier 3	751	2000	2.6	2.32	0.088	0.088	0.12
Tier 4 Interim	25	49	4.1	4.55	0.13	0.13	0.12
Tier 4 Interim	50	74	3.7	2.74	0.112	0.112	0.12
Tier 4 Interim	75	119	3.7	2.14	0.008	0.008	0.11
Tier 4 Interim	120	174	3.7	2.15	0.008	0.008	0.06
Tier 4 Interim	175	299	2.6	1.29	0.008	0.008	0.08
Tier 4 Interim	300	599	2.6	1.29	0.008	0.008	0.08
Tier 4 Interim	600	750	2.6	1.29	0.008	0.008	0.08
Tier 4 Interim	751	2000	2.6	2.24	0.048	0.048	0.12



MCWRA Interlake Tunnel and  
Spillway Modification Project - No Spillway Alternative

South Central Coast Air Basin - Unmitigated AQ/GHG Analysis

Tier 4 Final	25	49	4.1	2.75	0.01	0.01	0.12
Tier 4 Final	50	74	3.7	2.74	0.008	0.008	0.12
Tier 4 Final	75	119	3.7	0.26	0.008	0.008	0.06
Tier 4 Final	120	174	3.7	0.26	0.008	0.008	0.06
Tier 4 Final	175	299	2.2	0.26	0.008	0.008	0.06
Tier 4 Final	300	599	2.2	0.26	0.008	0.008	0.06
Tier 4 Final	600	750	2.2	0.26	0.008	0.008	0.06
Tier 4 Final	751	2000	2.6	2.24	0.016	0.016	0.06

**Source:**

ARB. 2011. The Carl Moyer Program Guidelines. Available at:

[http://www.arb.ca.gov/msprog/moyer/guidelines/2011gl/2011cmpgl\\_3\\_27\\_13.pdf](http://www.arb.ca.gov/msprog/moyer/guidelines/2011gl/2011cmpgl_3_27_13.pdf)

**Road Dust Emission Factors**

**Daily Paved Road Dust EF<sup>1</sup>**

$$E_{ext} = [ k (sL)^{0.91} \times (W)^{1.02} ]$$

- EF<sub>paved</sub> Annual or other long-term average emission factor in the same units as k
- k particle size multiplier for particle size range and units of interest
- sL road surface silt loading (g/m<sup>2</sup>)
- W average weight (tons) of all the vehicles raveling the road (2.4 tons)
- P Number of "wet" days with at least 0.254 (0.01 in) of precipitation during the averaging period
- N Number of days in the averaging period (e.g. 365 for annual, 91 for seasonal, 30 for monthly)

Parameters	PM10	PM2.5
k (g/VMT) <sup>2</sup>	0.997898	0.244939
sL (g/m <sup>2</sup> )	0.1	0.1
W (tons)	2.4	2.4
EF (g/mi)	3.00E-01	7.36E-02

- 1) CalEEMod User's Guide, Appendix A, p. 29
- 2) AP42: Chapter 13: Miscellaneous Sources, 13.2.1 Paved Roads, Table 13.2.1-1

**Daily Unpaved Road Dust EF<sup>1</sup>**

$$E.F._{dust,i} = \left( \frac{k(s/12)^1(S/30)^{0.5}}{(M/0.5)^{0.2}} - C \right)$$

- k particle size multiplier for particle size range and units of interest
- s surface material silt content (%)
- M surface material moisture content (%)
- S mean vehicle speed (mph)
- C emission factor for 1980s vehicle fleet exhaust, brakewear and tire wear

Parameters	PM10	PM2.5
k (g/VMT) <sup>2</sup>	816.462	81.6462
s <sup>3</sup>	9.3	9.3 SLOAPCD Recommendations for SLO Region (CalEEMod User Guide 4.4.4).
M	0.1	0.1 SLOAPCD Recommendations for SLO Region (CalEEMod User Guide 4.4.4).
S	35	35 SLOAPCD Recommendations for SLO Region 32.4 mph (CalEEMod User Guide 4.4.4).
C	0.213187	0.163292
EF (g/mi)	942.7724	94.13527

- 1) CalEEMod User's Guide, Appendix A, p. 29
- 2) AP42: Chapter 13: Miscellaneous Sources, 13.2.2 Unpaved Roads, Table 13.2.2-2
- 3) AP42: Chapter 13: Miscellaneous Sources, 13.2.2 Unpaved Roads, Table 13.2.2-1, "Construction sites"

**Speed**

5
10
15
20
25
30
35
40

Vendor

**Speed**

5
10
15
20
25
30
35
40

Haul

**Speed**

5
10
15
20
25
30
35
40

Worker

## **Mitigated Construction Emissions- No Spillway Alternative**

Construction Schedule<sup>1</sup>

Phase feature <sup>5</sup>	Phase Name <sup>5</sup>	Combined Phase Name <sup>5</sup>	Code <sup>5</sup>	Start Date <sup>5</sup>	End Date <sup>5</sup>	# of Workdays <sup>5</sup>
Energy Dissipation	Site clearing and grading	Energy Dissipation - Site Clearing and Grading	020	3/11/2024	4/5/2024	20
Energy Dissipation	Construct energy dissipation structure	Energy Dissipation - Construct energy dissipation structure	021	4/8/2024	6/28/2024	60
Energy Dissipation	Construct connection between tunnel and Energy Dissipator	Energy Dissipation - Construct connection between tunnel and Energy Dissipator	022	11/18/2024	12/13/2024	20
Energy Dissipation	Re-vegetation and site demob	Energy Dissipation - Re-vegetation and site demob	023	12/16/2024	1/24/2025	30
Energy Dissipation	Construct ATV Trail to south portal	Energy Dissipation - Construct ATV Trail to south portal	024	10/2/2023	11/10/2023	30
Energy Dissipation Structure Tunnel Portal	Improve access road	Energy Dissipation Structure Tunnel Portal - Improve access road	044	7/10/2023	7/28/2023	15
Energy Dissipation Structure Tunnel Portal	site clearing and grubbing	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	045	7/31/2023	8/18/2023	15
Energy Dissipation Structure Tunnel Portal	Install erosion/sediment control and silt fencing	Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	046	7/31/2023	8/18/2023	15
Energy Dissipation Structure Tunnel Portal	Site grading, staging, laydown and much disposal area prep	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	047	8/21/2023	9/29/2023	30
Energy Dissipation Structure Tunnel Portal	Install temporary utilities; water, power, sewage handling, communications	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	048	10/2/2023	11/10/2023	30
Energy Dissipation Structure Tunnel Portal	Portal excavation and support	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	049	11/13/2023	12/8/2023	20
Energy Dissipation Structure Tunnel Portal	Mobilize tunnel equipment and materials to site	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	050	10/2/2023	11/10/2023	30
Energy Dissipation Structure Tunnel Portal	Fabricate pre-cast tunnel liner segments and trasport to site	Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	051	7/10/2023	4/12/2024	200
Energy Dissipation Structure Tunnel Portal	EFBM and tunnel equipment/utilities setup and thrust frame install	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	052	12/11/2023	1/19/2024	30
Tunneling	Drive 100' of tunnel at 20 fpd	Tunneling - Drive 100' of tunnel at 20 fpd	053	1/22/2024	1/26/2024	5
Tunneling	Tunnel excavation and support @ 60' per day	Tunneling - Tunnel excavation and support @ 60' per day	054	1/29/2024	10/4/2024	180
Tunneling	TBM trailing gear and plant removal	Tunneling - TBM trailing gear and plant removal	055	10/7/2024	11/15/2024	30
Tunneling	Tunnel punch list/clearing	Tunneling - Tunnel punch list/clearing	056	7/10/2023	7/30/2023	15
Tunneling	Muck disposal on site/grading	Tunneling - Muck disposal on site/grading	057	1/29/2024	10/4/2024	180
Tunneling	Demobilization tunnel plant	Tunneling - Demobilization tunnel plant	058	10/7/2024	11/15/2024	30

SOIL VOLUMES

Soil Export Energy Station

Parameter	Value
Total Export Volume (CY) <sup>1</sup>	14,906.00
Haul Truck Capacity (CY/truck) <sup>9</sup>	16.00
Haul Trucks Required	931.63
<b>Total One-Way Haul Trucks</b>	<b>1,864.00</b>

Soil Import Energy Station

Parameter	Value
Total Import Volume (CY) <sup>1</sup>	3,376.00
Haul Truck Capacity (CY/truck) <sup>9</sup>	16.00
Haul Trucks Required	211.00
<b>Total One-Way Haul Trucks</b>	<b>422.00</b>

Aggregate and Chipseal<sup>1</sup>

Parameter	Value
Total Import Volume (CY) <sup>1</sup>	6,429.00
Haul Truck Capacity (CY/truck) <sup>9</sup>	16.00
Haul Trucks Required	401.81
<b>Total One-Way Haul Trucks</b>	<b>804.00</b>

Parameter	Value
<b>Total One-Way Truck Trips</b>	<b>804.00</b>

Parameter	Value
<b>Total Import/Export Truck Trips</b>	<b>2,286.00</b>

CONCRETE POUR

Parameter	Value
Total Concrete Volume (CY) <sup>1</sup>	449.00
Max Daily Concrete Volume (CY) <sup>1</sup>	22.45
Concrete Truck Capacity (CY/truck) <sup>2</sup>	8.00
Max Daily Concrete Trucks	2.81
Total One-Way Truck Trips	6.00

AMM GEN-8 Avoidance/Minimization Measure

Water 2x a day/ every four hours (unpaved roads) <sup>4</sup>	55%	
Street sweeping (paved roads) <sup>4</sup>	7%	
Cover storage piles (material handling) <sup>4</sup>	90%	
	<b>Mitigation Measures</b>	
	<b>PM10 Reductions</b>	
1 Water Truck/Watering PM Reduction <sup>4</sup>	reduction	
1 every three hours + 12% Moisture every two hours	69%	61.00%
Gravel Road /Trackout for connection to paved roads	74%	74.00%
Chemical Dust Suppression (unpaved roads) <sup>4</sup> pg6-12	46%	
	84%	
	<b>Offroad Engine Emission Reductions</b>	
SLOAPCD BACT Requirement	Tier 4 Final Equipment or better where feasible assumed for all construction equipment.	
	<b>ONSITE VEHICLE SPEED</b>	
MBARD Region Default	40.00	mph
15 mph mitigation for Gravel Roads (workers/vendors/Haul)	15.00	mph

SOIL VOLUMES Tunneling

Parameter	Value
Total Export Volume (CY) <sup>1</sup>	108,066.00

a. This soil is expected to be wet muck and would be transported via conveyor belts. No Haul trips or fugitive dust emissions expected.

Parameter	Value
Total Import Volume (CY) <sup>1</sup>	7,720.00
Haul Truck Capacity (CY/truck) <sup>9</sup>	16.00
Haul Trucks Required	482.50
<b>Total One-Way Haul Trucks</b>	<b>966.00</b>

Parameter	Value
<b>Total One-Way Truck Trips</b>	<b>966.00</b>

Concrete, Cement, Grout

Parameter	Value
Total Concrete Volume (CY) <sup>1</sup>	6,256.00
Concrete Capacity (CY/truck) <sup>2</sup>	8.00
Haul Trucks Required	782.00
Total One-Way Haul Truck Trips	1,564.00

Parameter	Value
Daily Vendor Trips <sup>8</sup>	8.00
Construction Waste Haul Trips <sup>8</sup>	4.00

Sources

- 1 Project Description
- 2 Concrete Truck Capacity
- 3 worker trips
- 4://www.env.nm.gov/wp-content/uploads/sites/2/2017/02/WRAP\_FDHandbook\_Rev\_06.pdf
- 5 Saved project files
- 6 Chip sealing trailers, trucks and chip spreaders 518-218-7676 (pavementgroup.com)
- 7 Asphalt Sealcoating and Crack Filling Calculators | Asphalt Sealcoating Direct
- 8 ILT Data Needs - Vendor Truck info
- 9 CalEEMod User guide Page 36

E:  
C:  
D:  
L:

Total # of Worker Trips/day <sup>1</sup>	Total # of Vendor Trips/day	Total # of One-Way Haul Trucks Trips	One-Way Haul Truck Trips/day	Offsite Trip Length (mi)			Onsite Trip Length (mi)			Vehicle Class		
				Worker	Vendor	Haul	ONSITE (Worker)	ONSITE (Vendor)	ONSITE (Haul)	Worker	Vendor	Haul
10	2	1864	94	20	20	0.00	1.45	1.45	0.38	LD_Mix	HDT_Mix	HHDT
6	6	0	0	20	20	0.00	1.45	1.45	0.14	LD_Mix	HDT_Mix	HHDT
6	8	0	4	20	20	27.00	1.45	1.45	0.14	LD_Mix	HDT_Mix	HHDT
8	2	422	16	20	20	20.00	1.45	1.45	1.46	LD_Mix	HDT_Mix	HHDT
10	10	0	0	20	20	0.00	1.45	1.45	0.58	LD_Mix	HDT_Mix	HHDT
10	2	804	54	20	20	20.73	1.45	1.45	1.25	LD_Mix	HDT_Mix	HHDT
8	2	0	0	20	20	0.00	1.45	1.45	0.15	LD_Mix	HDT_Mix	HHDT
8	2	0	0	20	20	0.00	1.45	1.45	0.14	LD_Mix	HDT_Mix	HHDT
10	2	0	0	20	20	0.00	1.45	1.45	0.15	LD_Mix	HDT_Mix	HHDT
6	8	0	0	20	20	0.00	1.45	1.45	0.14	LD_Mix	HDT_Mix	HHDT
8	8	0	0	20	20	0.00	1.45	1.45	0.14	LD_Mix	HDT_Mix	HHDT
8	8	0	4	20	20	27.00	1.45	1.45	1.45	LD_Mix	HDT_Mix	HHDT
0	8	0	4	20	20	27.00	1.45	1.45	1.45	LD_Mix	HDT_Mix	HHDT
10	0	0	0	20	20	0.00	1.45	1.45	0.14	LD_Mix	HDT_Mix	HHDT
146	0	0	0	20	20	0.00	1.45	1.45	1.45	LD_Mix	HDT_Mix	HHDT
114	10	966	6	20	20	27.00	1.45	1.45	1.45	LD_Mix	HDT_Mix	HHDT
56	0	0	0	20	20	0.00	1.45	1.45	1.45	LD_Mix	HDT_Mix	HHDT
0	8	0	0	20	20	0.00	1.45	1.45	0.38	LD_Mix	HDT_Mix	HHDT
78	10	0	0	20	20	0.00	1.45	1.45	0.38	LD_Mix	HDT_Mix	HHDT
26	0	0	2	20	20	27.00	1.45	1.45	1.45	LD_Mix	HDT_Mix	HHDT

LD\_Mix LDA, LDT1, LDT2  
HDT\_Mix T6 Instate Construction Heavy/T7 Single Construction  
HHDT T7 Single Construction

Trip Lengths

Location	feet	miles	Source	Type
Outlet Staging area to Energy Dissipation Structure - MBARD	737	0.14	Waypoint/PD	unpaved
Tunnel opening to Soil Disposal Area -MBARD	2000	0.38	Waypoint/PD	unpaved
Length of the Energy Dissipation/Site Access Road - MBARD	1600	0.30	Waypoint/PD	unpaved
Length of the ATV Trail - MBARD	3045	0.58	Waypoint/PD	unpaved
Spillway Work Staging Area to Work Area - MBARD	2750	0.52	Waypoint/PD	paved
Width of Spillway area - MBARD	1800	0.34	Waypoint/PD	unpaved
Outlet Staging Area Length - MBARD	450	0.09	Waypoint/PD	unpaved
Intake Staging Area Length - SLOAPCD	750	0.14	Waypoint/PD	unpaved
Length of Road from Nacimiento Lake Drive to Intake Structure - SLOAPCD	5000	0.95	Waypoint/PD	paved
Vault Site Access Road - MBARD	6600	1.25	Waypoint/PD	Gravel
Width of Soil disposal area - MBARD	800	0.15	Waypoint/PD	unpaved
Width of Spillway Work Area - MBARD	360	0.07	Waypoint/PD	unpaved
Tunnel Length - MBARD/SLOAPCD	10926	2.07	Waypoint/PD	underground
Distance to Paso Robles Landfill (construction waste)	-	27.00	Waypoint/PD	paved
Spillway work area to Soil Disposal Area (unpaved only)	3045	0.58	Waypoint/PD	unpaved
Vault Site access road to Outlet Staging Area	7656	1.45	Waypoint/PD	Gravel
Vault Site access road to Disposal Area	6915	1.31	Waypoint/PD	Gravel
Vista Road to Spillway modification Area	1108	0.21	Waypoint/PD	paved
ATV Trail to Soil Disposal Area	590	0.11	Waypoint/PD	unpaved
Vista Road to Spillway Staging Area	3858	0.73	Waypoint/PD	paved
Spillmodification Area to ATV Trail	1479	0.28	Waypoint/PD	unpaved

1  
0.46  
0.61  
1

Offroad Equipment (Fossil Fuel) Inventory

Code	Phase	Equipment Name	General Equipment Category	#/day	Hrs/Day	# of Equipment	Fuel Type	Engine Horsepower (if known)
020	Energy Dissipation - Site Clearing and Grading	Dozer Cat D6/5.6cy	Rubber Tired Dozers	10	10	1	Diesel	145
020	Energy Dissipation - Site Clearing and Grading	Mine Truck 20ton/15cy	Off-Highway Trucks	10	10	1	Diesel	214
020	Energy Dissipation - Site Clearing and Grading	Water Truck	--	10	10	1	diesel	350
020	Energy Dissipation - Site Clearing and Grading	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	10	10	1	Diesel	246
021	Energy Dissipation - Construct energy dissipation structure	Concrete Pump Truck	--	2	10	1	Diesel	500
021	Energy Dissipation - Construct energy dissipation structure	Concrete Truck	--	2	3.35	3	Diesel	300
021	Energy Dissipation - Construct energy dissipation structure	Pile Hammer	Bore/Drill Rigs	30	10	1	diesel	40
021	Energy Dissipation - Construct energy dissipation structure	Pickup	--	30	10	1	--	350
022	Energy Dissipation - Construct connection between tunnel and Energy Dissipator	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	513
022	Energy Dissipation - Construct connection between tunnel and Energy Dissipator	Pickup	--	20	10	1	Diesel	350
022	Energy Dissipation - Construct connection between tunnel and Energy Dissipator	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	246
023	Energy Dissipation - Revegetation and site demob	Pickup	--	10	10	1	--	350
023	Energy Dissipation - Revegetation and site demob	Water Truck	--	10	10	1	diesel	350
024	Energy Dissipation - Construct ATV Trail to south portal	Vibrating Roller	Rollers	20	10	1	Diesel	25
024	Energy Dissipation - Construct ATV Trail to south portal	Water Truck	--	20	10	1	diesel	350
024	Energy Dissipation - Construct ATV Trail to south portal	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	2	Diesel	246
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Dozer Cat D6/5.6cy	Rubber Tired Dozers	15	10	1	Diesel	145
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Mine Truck 20ton/15cy	Off-Highway Trucks	15	10	1	Diesel	214
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Vibrating Roller	Rollers	15	10	1	Diesel	25
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Water Truck	--	15	10	1	diesel	350
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	15	10	1	Diesel	246
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Dozer Cat D6/5.6cy	Rubber Tired Dozers	15	10	1	Diesel	145
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Mine Truck 20ton/15cy	Off-Highway Trucks	15	10	1	Diesel	214
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Water Truck	--	15	10	1	diesel	350
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	15	10	1	Diesel	246
046	Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	Pickup	--	15	10	1	--	350
046	Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	Water Truck	--	15	10	1	Diesel	350
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Dozer Cat D6/5.6cy	Rubber Tired Dozers	20	10	1	Diesel	145
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Mine Truck 20ton/15cy	Off-Highway Trucks	20	10	1	Diesel	214
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Water Truck	--	20	10	1	diesel	350
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	246
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	513
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Compactor, Cat 816, 25ton	Other Construction Equipment	30	10	2	Diesel	220
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Mine Truck 20ton/15cy	Off-Highway Trucks	30	10	2	Diesel	214
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	246
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	30	8	1	Diesel	513
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Compactor, Cat 816, 25ton	Other Construction Equipment	30	8	1	Diesel	220
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Dozer Cat D6/5.6cy	Rubber Tired Dozers	30	8	1	Diesel	145
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Excavator >0.5cy	Excavators	30	8	1	Diesel	100
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Mine Truck 20ton/15cy	Off-Highway Trucks	30	8	2	Diesel	214
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	8	2	Diesel	246
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Hydraulic Crane 20ton/60'	Cranes	30	10	1	Diesel	130
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Hydraulic Crane 40ton/105'	Cranes	30	10	1	Diesel	152
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Welder 400A, trailer E	Welders	30	10	1	Diesel	100
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	246
051	Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	200	8	1	Diesel	246
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	500 Ton Crane	Cranes	30	20	1	Diesel	1325
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Compressor, Stationary 1200cfm	Air Compressors	30	20	1	Electric	350
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Crawler Crane 100ton/200'	Cranes	30	20	1	Diesel	265
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	EPBM and Backup 14'9"	Bore/Drill Rigs	30	20	1	Electric	1800
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Hydraulic Crane 40ton/105'	Cranes	30	20	1	Diesel	152
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Welder 400A, trailer E	Welders	30	20	1	Diesel	100
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	20	1	Diesel	246
053	Tunneling - Drive 100' of tunnel at 20 fpd	500 Ton Crane	Cranes	5	20	1	Diesel	1325
053	Tunneling - Drive 100' of tunnel at 20 fpd	Compressor, Stationary 1200cfm	Air compressors	5	20	1	Electric	350
053	Tunneling - Drive 100' of tunnel at 20 fpd	Crawler Crane 100ton/200'	Cranes	5	20	1	Diesel	265
053	Tunneling - Drive 100' of tunnel at 20 fpd	EPBM and Backup 14'9"	Bore/Drill Rigs	5	20	1	Electric	1800
053	Tunneling - Drive 100' of tunnel at 20 fpd	Hydraulic Crane 40ton/105'	Cranes	5	20	1	Diesel	152
053	Tunneling - Drive 100' of tunnel at 20 fpd	Welder 400A, trailer E	Welders	5	20	1	Diesel	100
053	Tunneling - Drive 100' of tunnel at 20 fpd	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	5	20	1	Diesel	246
054	Tunneling - Tunnel excavation and support @ 60' per day	Compressor, Stationary 1200cfm	Air compressors	180	24	1	Electric	350
054	Tunneling - Tunnel excavation and support @ 60' per day	EPBM and Backup 14'9"	Bore/Drill Rigs	180	24	1	Electric	1800
054	Tunneling - Tunnel excavation and support @ 60' per day	Flat Car, Rail	Other Material Handling Equipment	180	24	4	--	0
054	Tunneling - Tunnel excavation and support @ 60' per day	Grout Plant, skid 12cy/hr	Other Material Handling Equipment	180	24	1	diesel	250
054	Tunneling - Tunnel excavation and support @ 60' per day	Hydraulic Crane 40ton/105'	Cranes	180	24	1	Diesel	152
054	Tunneling - Tunnel excavation and support @ 60' per day	Locomotive 12ton/120hp	Other Material Handling Equipment	180	24	2	Diesel	120
054	Tunneling - Tunnel excavation and support @ 60' per day	Mine Truck 20ton/15cy	Off-Highway Trucks	180	8	2	Diesel	214
054	Tunneling - Tunnel excavation and support @ 60' per day	Muck Car, Rail	Other Material Handling Equipment	180	24	18	--	0
054	Tunneling - Tunnel excavation and support @ 60' per day	Pump, trash 200gpm/100ft head	Other General Industrial Equipment	180	24	1	Electric	10
054	Tunneling - Tunnel excavation and support @ 60' per day	Ventilation Fan 100hp	Other General Industrial Equipment	180	24	2	Electric	100
054	Tunneling - Tunnel excavation and support @ 60' per day	Ventilation Fan 40hp	Other General Industrial Equipment	180	24	1	Electric	40
054	Tunneling - Tunnel excavation and support @ 60' per day	Water Treatment Plant	Other General Industrial Equipment	180	24	1	Electric	200
054	Tunneling - Tunnel excavation and support @ 60' per day	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	180	24	1	Diesel	246
055	Tunneling - TBM trailing gear and plant removal	Compressor, Stationary 1200cfm	Air Compressors	15	24	1	Electric	350
055	Tunneling - TBM trailing gear and plant removal	Crawler Crane 100ton/200'	Cranes	15	20	1	Diesel	265
055	Tunneling - TBM trailing gear and plant removal	Getman Buggy	Skid Steer Loaders	15	24	1	Diesel	40
055	Tunneling - TBM trailing gear and plant removal	Grout Pump-Moyno/Mixer	Other Material Handling Equipment	15	24	1	Diesel	600
055	Tunneling - TBM trailing gear and plant removal	Hydraulic Crane 20ton/60'	Cranes	15	24	1	Diesel	130
055	Tunneling - TBM trailing gear and plant removal	Locomotive 12ton/120hp	Other Material Handling Equipment	15	24	1	Diesel	120
055	Tunneling - TBM trailing gear and plant removal	Pipe Carrier	Other Material Handling Equipment	15	24	1	diesel	180
055	Tunneling - TBM trailing gear and plant removal	Pump, subm. 140gpm/20ft head	Other Construction Equipment	15	24	2	Electric	2
055	Tunneling - TBM trailing gear and plant removal	Pump, trash 200gpm/100ft head	Other Construction Equipment	15	24	1	Electric	10
055	Tunneling - TBM trailing gear and plant removal	Ventilation Fan 100hp	Other Construction Equipment	15	24	2	Electric	100
055	Tunneling - TBM trailing gear and plant removal	Water Treatment Plant	Other Construction Equipment	15	24	1	Electric	200
055	Tunneling - TBM trailing gear and plant removal	Welder 400A, trailer E	Welders	15	24	1	Diesel	100
055	Tunneling - TBM trailing gear and plant removal	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	15	24	3	Diesel	246
056	Tunneling - Tunnel punch list/clearing	Skid Steer Loaders	Skid Steer Loaders	5	10	1	Diesel	40
056	Tunneling - Tunnel punch list/clearing	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	5	10	1	Diesel	246
057	Tunneling - Muck disposal on site/grading	Dozer Cat D6/5.6cy	Rubber Tired Dozers	180	10	1	Diesel	145
057	Tunneling - Muck disposal on site/grading	Mine Truck 20ton/15cy	Off-Highway Trucks	180	10	1	Diesel	214
057	Tunneling - Muck disposal on site/grading	Water Truck	--	180	10	1	diesel	350
057	Tunneling - Muck disposal on site/grading	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	180	10	1	Diesel	246
058	Tunneling - Demobilization tunnel plant	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	8	1	Diesel	246

- Notes:
- 1. Equipment that will not be mobilized is in red.
  - 2. Offroad construction equipment is listed in green.
  - 3. Onroad equipment is listed in orange.
  - 4. Electric equipment is listed in blue.

MBARD Portion								
Code	Phase	Equipment Name	General Equipment Category	#/day	Hrs/Day	# of Equipment	Fuel Type	Engine Horsepower
020	Energy Dissipation - Site Clearing and Grading	Dozer Cat D6/5.6cy	Rubber Tired Dozers	10	10	1	Diesel	145
020	Energy Dissipation - Site Clearing and Grading	Mine Truck 20ton/15cy	Off-Highway Trucks	10	10	1	Diesel	214
020	Energy Dissipation - Site Clearing and Grading	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	10	10	1	Diesel	246
021	Energy Dissipation - Construct energy dissipation structure	Pile Hammer	Bore/Drill Rigs	30	10	1	diesel	40
022	Energy Dissipation - Construct connection between tunnel and Energy Dissipator	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	513
022	Energy Dissipation - Construct connection between tunnel and Energy Dissipator	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	246
024	Energy Dissipation - Construct ATV Trail to south portal	Vibrating Roller	Rollers	20	10	1	Diesel	25
024	Energy Dissipation - Construct ATV Trail to south portal	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	2	Diesel	246
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Dozer Cat D6/5.6cy	Rubber Tired Dozers	15	10	1	Diesel	145
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Mine Truck 20ton/15cy	Off-Highway Trucks	15	10	1	Diesel	214
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Vibrating Roller	Rollers	15	10	1	Diesel	25
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	15	10	1	Diesel	246
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Dozer Cat D6/5.6cy	Rubber Tired Dozers	15	10	1	Diesel	145
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Mine Truck 20ton/15cy	Off-Highway Trucks	15	10	1	Diesel	214
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	15	10	1	Diesel	246
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Dozer Cat D6/5.6cy	Rubber Tired Dozers	20	10	1	Diesel	145
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Mine Truck 20ton/15cy	Off-Highway Trucks	20	10	1	Diesel	214
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	20	10	1	Diesel	246
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	513
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Compactor, Cat 816, 25ton	Other Construction Equipment	30	10	2	Diesel	220
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Mine Truck 20ton/15cy	Off-Highway Trucks	30	10	2	Diesel	214
048	Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	246
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	30	8	1	Diesel	513
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Compactor, Cat 816, 25ton	Other Construction Equipment	30	8	1	Diesel	220
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Dozer Cat D6/5.6cy	Rubber Tired Dozers	30	8	1	Diesel	145
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Excavator >0.5cy	Excavators	30	8	1	Diesel	100
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Mine Truck 20ton/15cy	Off-Highway Trucks	30	8	2	Diesel	214
049	Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	8	2	Diesel	246
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Hydraulic Crane 20ton/60'	Cranes	30	10	1	Diesel	130
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Hydraulic Crane 40ton/105'	Cranes	30	10	1	Diesel	152
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Welder 400A, trailer E	Welders	30	10	1	Diesel	100
050	Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	246
051	Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	200	8	1	Diesel	246
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	500 Ton Crane	Cranes	30	20	1	Diesel	1325
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Crawler Crane 100ton/200'	Cranes	30	20	1	Diesel	265
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Hydraulic Crane 40ton/105'	Cranes	30	20	1	Diesel	152
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Welder 400A, trailer E	Welders	30	20	1	Diesel	100
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	20	1	Diesel	246
053	Tunneling - Drive 100' of tunnel at 20 fpd	500 Ton Crane	Cranes	5	20	1	Diesel	1325
053	Tunneling - Drive 100' of tunnel at 20 fpd	Crawler Crane 100ton/200'	Cranes	5	20	1	Diesel	265
053	Tunneling - Drive 100' of tunnel at 20 fpd	Hydraulic Crane 40ton/105'	Cranes	5	20	1	Diesel	152
053	Tunneling - Drive 100' of tunnel at 20 fpd	Welder 400A, trailer E	Welders	5	20	1	Diesel	100
053	Tunneling - Drive 100' of tunnel at 20 fpd	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	5	20	1	Diesel	246
054	Tunneling - Tunnel excavation and support @ 60' per day	Flat Car, Rail	Other Material Handling Equipment	180	24	4	--	0
054	Tunneling - Tunnel excavation and support @ 60' per day	Grout Plant, skid 12cy/hr	Other Material Handling Equipment	180	24	1	diesel	250
054	Tunneling - Tunnel excavation and support @ 60' per day	Hydraulic Crane 40ton/105'	Cranes	180	24	1	Diesel	152
054	Tunneling - Tunnel excavation and support @ 60' per day	Locomotive 12ton/120hp	Other Material Handling Equipment	180	24	2	Diesel	120
054	Tunneling - Tunnel excavation and support @ 60' per day	Mine Truck 20ton/15cy	Off-Highway Trucks	180	8	2	Diesel	214
054	Tunneling - Tunnel excavation and support @ 60' per day	Muck Car, Rail	Other Material Handling Equipment	180	24	18	--	0
054	Tunneling - Tunnel excavation and support @ 60' per day	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	180	24	1	Diesel	246
055	Tunneling - TBM trailing gear and plant removal	Crawler Crane 100ton/200'	Cranes	15	20	1	Diesel	265
055	Tunneling - TBM trailing gear and plant removal	Getman Buggy	Skid Steer Loaders	15	24	1	Diesel	40
055	Tunneling - TBM trailing gear and plant removal	Grout Pump-Moyno/Mixer	Other Material Handling Equipment	15	24	1	Diesel	600
055	Tunneling - TBM trailing gear and plant removal	Hydraulic Crane 20ton/60'	Cranes	15	24	1	Diesel	130
055	Tunneling - TBM trailing gear and plant removal	Locomotive 12ton/120hp	Other Material Handling Equipment	15	24	1	Diesel	120
055	Tunneling - TBM trailing gear and plant removal	Pipe Carrier	Other Material Handling Equipment	15	24	1	diesel	180
055	Tunneling - TBM trailing gear and plant removal	Welder 400A, trailer E	Welders	15	24	1	Diesel	100
055	Tunneling - TBM trailing gear and plant removal	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	15	24	3	Diesel	246
056	Tunneling - Tunnel punch list/clearing	Getman Buggy	Skid Steer Loaders	5	10	1	Diesel	40
056	Tunneling - Tunnel punch list/clearing	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	5	10	1	Diesel	246
057	Tunneling - Muck disposal on site/grading	Dozer Cat D6/5.6cy	Rubber Tired Dozers	180	10	1	Diesel	145
057	Tunneling - Muck disposal on site/grading	Mine Truck 20ton/15cy	Off-Highway Trucks	180	10	1	Diesel	214
057	Tunneling - Muck disposal on site/grading	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	180	10	1	Diesel	246
058	Tunneling - Demobilization tunnel plant	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	8	1	Diesel	246

Code	Phase	Equipment Name	General Equipment Category	#/day	Hrs/Day	# of Equipment	Fuel Type	Engine Horsepower (if known)
020	Energy Dissipation - Site Clearing and Grading	Water Truck	--	10	10	1	diesel	350
021	Energy Dissipation - Construct energy dissipation structure	Concrete Pump Truck	--	2	10	1	Diesel	500
021	Energy Dissipation - Construct energy dissipation structure	Concrete Truck	--	2	3.35	3	Diesel	300
021	Energy Dissipation - Construct energy dissipation structure	Pickup	--	30	10	1	--	350
022	Energy Dissipation - Construct connection between tunnel and Energy Dissipator	Pickup	--	20	10	1	Diesel	350
023	Energy Dissipation - Revegetation and site demob	Pickup	--	10	10	1	--	350
023	Energy Dissipation - Revegetation and site demob	Water Truck	--	10	10	1	diesel	350
024	Energy Dissipation - Construct ATV Trail to south portal	Water Truck	--	20	10	1	diesel	350
044	Energy Dissipation Structure Tunnel Portal - Improve access road	Water Truck	--	15	10	1	diesel	350
045	Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Water Truck	--	15	10	1	diesel	350
046	Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	Pickup	--	15	10	1	--	350
046	Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	Water Truck	--	15	10	1	Diesel	350
047	Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Water Truck	--	20	10	1	diesel	350
057	Tunneling - Muck disposal on site/grading	Water Truck	--	180	10	1	diesel	350



Offroad Equipment (Electric) Inventory

1 hp = 0.74569987 kilowatts

Code	Phase	Equipment Name	Category	Days	Hours per day	Number	Fuel Type	Horsepower	Kilowatts	Kilowatt Hours (day)	Kilowatt Hours (total)
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Compressor, Stationary 1200cfm	Air Compressors	30	20	1	Electric	350	261	5219.89909	156596.9727
052	Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	EPBM and Backup 14'9"	Bore/Drill Rigs	30	20	1	Electric	1800	1342	26845.1953	805355.8596
053	Tunneling - Drive 100' of tunnel at 20 fpd	Compressor, Stationary 1200cfm	Air compressors	5	20	1	Electric	350	261	5219.89909	26099.49545
053	Tunneling - Drive 100' of tunnel at 20 fpd	EPBM and Backup 14'9"	Bore/Drill Rigs	5	20	1	Electric	1800	1342	26845.1953	134225.9766
054	Tunneling - Tunnel excavation and support @ 60' per day	Compressor, Stationary 1200cfm	Air compressors	180	24	1	Electric	350	261	6263.87891	1127498.203
054	Tunneling - Tunnel excavation and support @ 60' per day	EPBM and Backup 14'9"	Bore/Drill Rigs	180	24	1	Electric	1800	1342	32214.2344	5798562.189
054	Tunneling - Tunnel excavation and support @ 60' per day	Pump, trash 200gpm/100ft head	Other General Industrial Equipment	180	24	1	Electric	10	7	178.967969	32214.23438
054	Tunneling - Tunnel excavation and support @ 60' per day	Ventilation Fan 100hp	Other General Industrial Equipment	180	24	2	Electric	100	75	3579.35938	644284.6877
054	Tunneling - Tunnel excavation and support @ 60' per day	Ventilation Fan 40hp	Other General Industrial Equipment	180	24	1	Electric	40	30	715.871875	128856.9375
054	Tunneling - Tunnel excavation and support @ 60' per day	Water Treatment Plant	Other General Industrial Equipment	180	24	1	Electric	200	149	3579.35938	644284.6877
055	Tunneling - TBM trailing gear and plant removal	Compressor, Stationary 1200cfm	Air Compressors	15	24	1	Electric	350	261	6263.87891	93958.18362
055	Tunneling - TBM trailing gear and plant removal	Pump, subm. 140gpm/20ft head	Other Construction Equipment	15	24	2	Electric	2	1	71.5871875	1073.807813
055	Tunneling - TBM trailing gear and plant removal	Pump, trash 200gpm/100ft head	Other Construction Equipment	15	24	1	Electric	10	7	178.967969	2684.519532
055	Tunneling - TBM trailing gear and plant removal	Ventilation Fan 100hp	Other Construction Equipment	15	24	2	Electric	100	75	3579.35938	53690.39064
055	Tunneling - TBM trailing gear and plant removal	Water Treatment Plant	Other Construction Equipment	15	24	1	Electric	200	149	3579.35938	53690.39064

Regional Emissions Summary

Emissions by Phase	Daily Emissions (lb/day)											Daily Emissions (lb/day)						Total MT				
	Phase Name	Start Date	End Date	# of Workdays	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e	
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	0.51	5.20	18.72	0.03	9.67	0.06	9.72	2.87	0.06	2.93	3296.82	0.80	0.12	18.95	0.00	0.00	19.37		
Energy Dissipation - Construct energy dissipation	4/8/24	6/28/24	60	0.09	0.79	1.76	0.01	1.99	0.01	2.00	0.73	0.01	0.74	730.40	0.07	0.07	16.78	0.00	0.00	17.37		
Energy Dissipation - Construct connection betw	11/18/24	12/13/24	20	0.39	3.08	23.68	0.04	2.46	0.08	2.53	0.80	0.08	0.88	4006.37	0.96	0.15	36.35	0.01	0.00	36.98		
Energy Dissipation - Re-vegetation and site dem	12/16/24	1/24/25	30	0.11	2.40	1.18	0.02	5.18	0.02	5.21	1.27	0.02	1.29	1596.67	0.01	0.24	21.73	0.00	0.00	22.69		
Energy Dissipation - Construct ATV Trail to sout	10/2/23	11/10/23	30	0.33	2.28	16.71	0.03	3.32	0.06	3.37	1.22	0.05	1.27	2876.05	0.66	0.12	30.01	0.01	0.00	30.64		
Energy Dissipation Structure Tunnel Portal - Imp	7/10/23	7/28/23	15	0.51	9.05	18.76	0.07	14.72	0.13	14.85	3.59	0.13	3.72	7451.02	0.83	0.76	50.70	0.01	0.01	52.38		
Energy Dissipation Structure Tunnel Portal - site	7/31/23	8/18/23	15	0.33	1.60	16.15	0.03	4.07	0.05	4.13	2.14	0.05	2.20	2684.48	0.79	0.03	18.26	0.01	0.00	18.45		
Energy Dissipation Structure Tunnel Portal - Inst	7/31/23	8/18/23	15	0.08	0.28	0.74	0.00	1.65	0.00	1.66	0.85	0.00	0.85	269.91	0.01	0.03	1.84	0.00	0.00	1.89		
Energy Dissipation Structure Tunnel Portal - Site	8/21/23	9/29/23	30	0.35	1.62	16.33	0.03	4.39	0.05	4.45	2.34	0.05	2.40	2716.80	0.79	0.03	26.02	0.01	0.00	26.31		
Energy Dissipation Structure Tunnel Portal - Inst	10/2/23	11/10/23	30	1.08	6.14	70.90	0.11	2.32	0.21	2.53	0.77	0.21	0.98	10175.28	3.08	0.09	138.46	0.04	0.00	139.89		
Energy Dissipation Structure Tunnel Portal - Por	11/13/23	12/8/23	20	0.73	4.26	43.76	0.07	4.56	0.14	4.70	2.00	0.14	2.14	6746.28	1.97	0.09	88.66	0.03	0.00	89.59		
Energy Dissipation Structure Tunnel Portal - Mo	10/2/23	11/10/23	30	0.38	5.33	17.18	0.04	3.54	0.07	3.61	1.08	0.07	1.15	3502.43	0.65	0.16	47.66	0.01	0.00	48.54		
Energy Dissipation Structure Tunnel Portal - Fab	7/10/23	4/12/24	200	0.11	1.96	6.23	0.02	2.22	0.03	2.26	0.27	0.03	0.30	1765.38	0.25	0.16	160.15	0.02	0.01	164.98		
Energy Dissipation Structure Tunnel Portal - EFB	12/11/23	1/19/24	30	1.58	12.37	81.78	0.15	1.65	0.28	1.93	1.01	0.28	1.30	13822.58	5.03	0.11	188.09	0.07	0.00	190.26		
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2.71	13.35	92.83	0.17	24.08	0.30	24.38	14.80	0.30	15.10	15983.74	5.12	0.19	36.25	0.01	0.00	36.67		
Tunneling - Tunnel excavation and support @ 6'	1/29/24	10/4/24	180	2.01	8.16	79.42	0.13	21.80	0.24	22.04	11.92	0.24	12.16	12940.27	4.48	0.43	1056.53	0.37	0.04	1076.18		
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2.70	19.21	155.17	0.22	9.24	0.43	9.66	5.68	0.43	6.10	21079.32	6.63	0.08	149.48	0.05	0.00	150.84		
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	0.15	2.30	8.80	0.02	1.33	0.03	1.37	0.16	0.03	0.19	1672.74	0.36	0.09	6.35	0.00	0.00	6.55		
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	0.93	2.95	21.99	0.04	16.89	0.07	16.96	9.40	0.07	9.46	4351.60	0.84	0.16	355.29	0.07	0.01	360.79		
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	0.30	0.93	8.13	0.01	4.73	0.02	4.76	2.69	0.02	2.71	1394.62	0.27	0.05	18.98	0.00	0.00	19.27		
<b>Max Daily Emissions</b>				<b>3.57</b>	<b>20.14</b>	<b>163.30</b>	<b>0.24</b>	<b>50.58</b>	<b>0.45</b>	<b>50.98</b>	<b>24.46</b>	<b>0.45</b>	<b>24.86</b>							<b>2,509.64</b>		
MBARD Regional Thresholds				-	-	-	-	-	-	83	-	-	-							50	-Year Amortization	50.19
Exceeds Threshold?				No	No	No	No	No	No	No	No	No	No									

Emissions by Year	Daily Emissions (lb/day)									
	Row Labels	Max of VOC	Max of NOX	Max of CO	Max of SOX	Max of Fugitive PM10	Max of Exhaust PM10	Max of Total PM10	Max of Fugitive PM2.5	Max of Exhaust PM2.5
2023	1.9	15.7	111.0	0.2	18.3	0.4	18.5	4.0	0.4	4.2
2024	3.6	20.1	163.3	0.2	50.6	0.4	51.0	24.5	0.4	24.9
2025	0.1	2.4	1.2	0.0	5.2	0.0	5.2	1.3	0.0	1.3
<b>Max Daily Emissions (lbs/day)</b>	<b>3.6</b>	<b>20.1</b>	<b>163.3</b>	<b>0.2</b>	<b>50.6</b>	<b>0.4</b>	<b>51.0</b>	<b>24.5</b>	<b>0.4</b>	<b>24.9</b>
MBARD Regional Thresholds	-	-	-	-	-	-	83.00	-	-	-
Exceeds Threshold?	No	No	No	No	No	No	No	No	No	No

Phase Name	Start Date	End Date	# of Workdays	CO2 (MT)	CH4 (MT)	N2O (MT)	CO2e (MT)	Amortized CO2e (MT)
Energy Dissipation Structure	10/2/23	1/24/25	345	123.8	0.0	0.0	127.0	1.3
Energy Dissipation Structure Tunnel Portal	7/10/23	4/12/24	200	719.8	0.2	0.0	732.3	7.3
Tunneling	7/10/23	11/15/24	355	1622.9	0.5	0.1	1650.3	16.5

Regional Maximums (Tons Per Quarter) - Informational

Regional Emissions Summary - Tons per Quarter

Row Labels	Quarters	Sum of VOC Tons	Sum of NOx Tons	Sum of CO Tons	Sum of SOX tons	Sum of Fugitive PM10 tons	Sum of Exhaust PM10 Tons	Sum of Total PM10 tons	Sum of Fugitive PM2.5 tons	Sum of Exhaust PM2.5 Tons	Sum of Total PM2.5 Tons
2023	Qtr3	0.02	0.18	0.77	0.00	0.30	0.00	0.30	0.09	0.00	0.10
2023	Qtr4	0.05	0.41	2.83	0.00	0.27	0.01	0.28	0.08	0.01	0.09
2024	Qtr1	0.09	0.48	3.47	0.01	1.09	0.01	1.10	0.55	0.01	0.57
2024	Qtr2	0.10	0.41	3.43	0.01	1.35	0.01	1.36	0.72	0.01	0.73
2024	Qtr3	0.10	0.37	3.35	0.01	1.28	0.01	1.29	0.70	0.01	0.71
2024	Qtr4	0.06	0.37	2.90	0.00	0.34	0.01	0.35	0.18	0.01	0.19
2025	Qtr1	0.00	0.02	0.01	0.00	0.05	0.00	0.05	0.01	0.00	0.01
2025	Qtr2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Regional Emissions Summary - Quarterly

Row Labels	Quarters	Sum of VOC Tons	Sum of NOx Tons	Sum of CO Tons	Sum of SOX tons	Sum of Fugitive PM10 tons	Sum of Exhaust PM10 Tons	Sum of Total PM10 tons	Sum of Fugitive PM2.5 tons	Sum of Exhaust PM2.5 Tons	Sum of Total PM2.5 Tons
2023	Qtr3	0.02	0.18	0.77	0.00	0.30	0.00	0.30	0.09	0.00	0.10
2023	Qtr4	0.05	0.41	2.83	0.00	0.27	0.01	0.28	0.08	0.01	0.09
2024	Qtr1	0.09	0.48	3.47	0.01	1.09	0.01	1.10	0.55	0.01	0.57
2024	Qtr2	0.10	0.41	3.43	0.01	1.35	0.01	1.36	0.72	0.01	0.73
2024	Qtr3	0.10	0.37	3.35	0.01	1.28	0.01	1.29	0.70	0.01	0.71
2024	Qtr4	0.06	0.37	2.90	0.00	0.34	0.01	0.35	0.18	0.01	0.19
2025	Qtr1	0.00	0.02	0.01	0.00	0.05	0.00	0.05	0.01	0.00	0.01
2025	Qtr2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max Quarter		0.10	0.48	3.47	0.01	1.35	0.01	1.36	0.72	0.01	0.73

Offroad Equipment

Phase Name	Start	End	# of Workdays	First Year of CSTN	EF Year	Equipment Type	# of Equipment	hours/day	HP	LF
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	2024	Rubber Tired Dozers	1	10	145	0.4
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	2024	Off-Highway Trucks	1	10	214	0.38
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	2024	Tractors/Loaders/Backhoes	1	10	246	0.37
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	30	2024	2024	Bore/Drill Rigs	1	10	40	0.5
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	2024	Tractors/Loaders/Backhoes	1	10	513	0.37
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	2024	Tractors/Loaders/Backhoes	1	10	246	0.37
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	20	2023	2023	Rollers	1	10	25	0.38
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	20	2023	2023	Tractors/Loaders/Backhoes	2	10	246	0.37
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	2023	Rubber Tired Dozers	1	10	145	0.4
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	2023	Off-Highway Trucks	1	10	214	0.38
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	2023	Rollers	1	10	25	0.38
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	2023	Rubber Tired Dozers	1	10	145	0.4
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	2023	Off-Highway Trucks	1	10	214	0.38
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	2023	Rubber Tired Dozers	1	10	145	0.4
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	2023	Off-Highway Trucks	1	10	214	0.38
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	2023	Tractors/Loaders/Backhoes	2	10	513	0.37
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	2023	Other Construction Equipment	2	10	220	0.42
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	2023	Off-Highway Trucks	2	10	214	0.38
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	2023	Tractors/Loaders/Backhoes	2	10	246	0.37
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	2023	Tractors/Loaders/Backhoes	1	8	513	0.37
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	2023	Other Construction Equipment	1	8	220	0.42
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	2023	Rubber Tired Dozers	1	8	145	0.4
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	2023	Excavators	1	8	100	0.38
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	2023	Off-Highway Trucks	2	8	214	0.38
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	2023	Tractors/Loaders/Backhoes	2	8	246	0.37
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	2023	Cranes	1	10	130	0.29
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	2023	Cranes	1	10	152	0.29
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	2023	Welders	1	10	100	0.45
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024	200	2023	2023	Tractors/Loaders/Backhoes	1	8	246	0.37
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	2023	Cranes	1	20	1325	0.29
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	2023	Cranes	1	20	265	0.29
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	2023	Cranes	1	20	152	0.29
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	2023	Welders	1	20	100	0.45
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	2023	Tractors/Loaders/Backhoes	1	20	246	0.37
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	2024	Cranes	1	20	1325	0.29
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	2024	Cranes	1	20	265	0.29
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	2024	Cranes	1	20	152	0.29
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	2024	Welders	1	20	100	0.45
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	2024	Tractors/Loaders/Backhoes	1	20	246	0.37
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	2024	Other Material Handling Equipment	4	24	0	0.4
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	2024	Other Material Handling Equipment	1	24	250	0.4
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	2024	Cranes	1	24	152	0.29
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	2024	Other Material Handling Equipment	2	24	120	0.4
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	2024	Off-Highway Trucks	2	8	214	0.38
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	2024	Other Material Handling Equipment	18	24	0	0.4
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	2024	Tractors/Loaders/Backhoes	1	24	246	0.37
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Cranes	1	20	265	0.29
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Skid Steer Loaders	1	24	40	0.37
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Other Material Handling Equipment	1	24	600	0.4
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Cranes	1	24	130	0.29
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Other Material Handling Equipment	1	24	120	0.4
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Other Material Handling Equipment	1	24	180	0.4
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Welders	1	24	100	0.45
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	2024	Tractors/Loaders/Backhoes	3	24	246	0.37
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	5	2023	2023	Skid Steer Loaders	1	10	40	0.37
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	5	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	2024	Rubber Tired Dozers	1	10	145	0.4
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	2024	Off-Highway Trucks	1	10	214	0.38
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	2024	Tractors/Loaders/Backhoes	1	10	246	0.37
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	2024	Tractors/Loaders/Backhoes	1	8	246	0.37

Offroad Equipment

Phase Name	Start	End	Emission Factor (g/bhp-hr)													
			ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	474.59	0.15	0.00
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	475.22	0.15	0.00
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	476.73	0.15	0.00
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	470.71	0.15	0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	476.73	0.15	0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	476.73	0.15	0.00
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	473.94	0.15	0.00
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	476.43	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	474.60	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	475.05	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	473.94	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	476.43	0.15	0.00
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	474.60	0.15	0.00
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	475.05	0.15	0.00
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	476.43	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	474.60	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	475.05	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	476.43	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	476.43	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	469.56	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	475.05	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	476.43	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	476.43	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	469.56	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	474.60	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	472.28	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	475.05	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	476.43	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	472.97	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	472.97	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.09	2.75	4.10	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	568.30	0.06	0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	476.43	0.15	0.00
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	476.43	0.15	0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	472.97	0.15	0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	472.97	0.15	0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.09	2.75	4.10	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	568.30	0.06	0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	476.43	0.15	0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	472.96	0.15	0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	472.96	0.15	0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	472.96	0.15	0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	0.09	2.75	4.10	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	568.30	0.06	0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	476.73	0.15	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	472.22	0.15	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	472.22	0.15	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	472.96	0.15	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	472.22	0.15	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	475.22	0.15	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	472.22	0.15	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	476.73	0.15	0.00
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	472.96	0.15	0.00
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	0.09	2.74	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	472.85	0.15	0.00
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	472.22	0.15	0.00
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	472.96	0.15	0.00
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	472.22	0.15	0.00
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	0.09	2.75	4.10	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	568.30	0.06	0.00
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	476.73	0.15	0.00
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	0.09	2.74	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	472.66	0.15	0.00
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	476.43	0.15	0.00
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	474.59	0.15	0.00
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	475.22	0.15	0.00
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	476.73	0.15	0.00
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	476.73	0.15	0.00

Offroad Equipment

Phase Name	Start	End	Emissions (lb/day)												Total MT							
			ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e			
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	0.06	0.33	3.32	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.00	0.01	0.01	606.85	0.20	0.00	2.75	0.00	0.00	2.77
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	0.09	0.47	4.66	0.01	0.00	0.02	0.02	0.00	0.02	0.00	0.02	0.02	851.98	0.28	0.00	3.86	0.00	0.00	3.90	
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	0.10	0.52	7.42	0.01	0.00	0.02	0.02	0.00	0.02	0.00	0.02	0.02	956.64	0.31	0.00	4.34	0.00	0.00	4.37	
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	0.02	0.11	1.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	207.55	0.07	0.00	2.82	0.00	0.00	2.85	
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	0.21	1.09	15.48	0.02	0.00	0.04	0.04	0.00	0.04	0.00	0.04	0.04	1994.94	0.64	0.00	18.10	0.01	0.00	18.24	
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	0.10	0.52	7.42	0.01	0.00	0.02	0.02	0.00	0.02	0.00	0.02	0.02	956.64	0.31	0.00	8.68	0.00	0.00	8.75	
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	0.01	0.05	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	99.26	0.03	0.00	0.90	0.00	0.00	0.91	
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	0.20	1.04	14.85	0.02	0.00	0.04	0.04	0.00	0.04	0.00	0.04	0.04	1912.07	0.62	0.00	17.35	0.01	0.00	17.49	
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.06	0.33	3.32	0.01	0.00	0.01	0.01	0.00	0.01	0.00	0.01	0.01	606.86	0.20	0.00	4.13	0.00	0.00	4.16	
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.09	0.47	4.66	0.01	0.00	0.02	0.02	0.00	0.02	0.00	0.02	0.02	851.67	0.28	0.00	5.79	0.00	0.00	5.84	
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.01	0.05	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	99.26	0.03	0.00	0.68	0.00	0.00	0.68	
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	0.10	0.52	7.42	0.01	0.00	0.02	0.02	0.00	0.02	0.00	0.02	0.02	956.03	0.31	0.00	6.50	0.00	0.00	6.56	
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	0.06	0.33	3.32	0.01	0.00	0.01	0.01	0.00	0.01	0.00	0.01	0.01	606.86	0.20	0.00	4.13	0.00	0.00	4.16	
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	0.09	0.47	4.66	0.01	0.00	0.02	0.02	0.00	0.02	0.00	0.02	0.02	851.67	0.28	0.00	5.79	0.00	0.00	5.84	
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	0.10	0.52	7.42	0.01	0.00	0.02	0.02	0.00	0.02	0.00	0.02	0.02	956.03	0.31	0.00	6.50	0.00	0.00	6.56	
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	0.06	0.33	3.32	0.01	0.00	0.01	0.01	0.00	0.01	0.00	0.01	0.01	606.86	0.20	0.00	5.51	0.00	0.00	5.55	
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	0.09	0.47	4.66	0.01	0.00	0.02	0.02	0.00	0.02	0.00	0.02	0.02	851.67	0.28	0.00	7.73	0.00	0.00	7.79	
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	0.10	0.52	7.42	0.01	0.00	0.02	0.02	0.00	0.02	0.00	0.02	0.02	956.03	0.31	0.00	8.67	0.00	0.00	8.74	
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.42	2.18	30.97	0.04	0.00	0.08	0.08	0.00	0.08	0.00	0.08	0.08	3987.36	1.29	0.00	54.26	0.02	0.00	54.70	
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.20	1.06	15.07	0.02	0.00	0.04	0.04	0.00	0.04	0.00	0.04	0.04	1913.06	0.62	0.00	26.03	0.01	0.00	26.24	
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.18	0.93	9.32	0.02	0.00	0.04	0.04	0.00	0.04	0.00	0.04	0.04	1703.34	0.55	0.00	23.18	0.01	0.00	23.37	
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	0.20	1.04	14.85	0.02	0.00	0.04	0.04	0.00	0.04	0.00	0.04	0.04	1912.07	0.62	0.00	26.02	0.01	0.00	26.23	
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.17	0.87	12.39	0.02	0.00	0.03	0.03	0.00	0.03	0.00	0.03	0.03	1594.94	0.52	0.00	21.70	0.01	0.00	21.88	
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.08	0.42	6.03	0.01	0.00	0.02	0.02	0.00	0.02	0.00	0.02	0.02	765.22	0.25	0.00	10.41	0.00	0.00	10.50	
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.05	0.27	2.66	0.01	0.00	0.01	0.01	0.00	0.01	0.00	0.01	0.01	485.49	0.16	0.00	6.61	0.00	0.00	6.66	
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.03	0.17	2.48	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.01	0.01	316.52	0.10	0.00	4.31	0.00	0.00	4.34	
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.14	0.75	7.46	0.01	0.00	0.03	0.03	0.00	0.03	0.00	0.03	0.03	1362.67	0.44	0.00	18.54	0.01	0.00	18.69	
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	0.16	0.83	11.88	0.02	0.00	0.03	0.03	0.00	0.03	0.00	0.03	0.03	1529.65	0.49	0.00	20.82	0.01	0.00	20.98	
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.04	0.22	2.16	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.01	0.01	393.11	0.13	0.00	5.35	0.00	0.00	5.39	
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.05	0.25	2.53	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.01	0.01	459.64	0.15	0.00	6.25	0.00	0.00	6.31	
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.09	2.73	4.07	0.01	0.00	0.01	0.01	0.00	0.01	0.00	0.01	0.01	563.80	0.06	0.00	7.67	0.00	0.00	7.69	
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	0.10	0.52	7.42	0.01	0.00	0.02	0.02	0.00	0.02	0.00	0.02	0.02	956.03	0.31	0.00	13.01	0.00	0.00	13.11	
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024	0.08	0.42	5.94	0.01	0.00	0.02	0.02	0.00	0.02	0.00	0.02	0.02	764.83	0.25	0.00	69.38	0.02	0.00	69.94	
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.85	4.41	44.05	0.08	0.00	0.17	0.17	0.00	0.17	0.00	0.17	0.17	8013.41	2.59	0.00	109.04	0.04	0.00	109.93	
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.17	0.88	8.81	0.02	0.00	0.03	0.03	0.00	0.03	0.00	0.03	0.03	1602.68	0.52	0.00	21.81	0.01	0.00	21.99	
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.10	0.51	5.05	0.01	0.00	0.02	0.02	0.00	0.02	0.00	0.02	0.02	919.27	0.30	0.00	12.51	0.00	0.00	12.61	
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.18	0.88	8.81	0.01	0.00	0.02	0.02	0.00	0.02	0.00	0.02	0.02	1127.60	0.12	0.00	15.34	0.00	0.00	15.39	
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	0.20	1.04	14.85	0.02	0.00	0.04	0.04	0.00	0.04	0.00	0.04	0.04	1912.07	0.62	0.00	26.02	0.01	0.00	26.23	
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	0.85	4.41	44.05	0.08	0.00	0.17	0.17	0.00	0.17	0.00	0.17	0.17	8013.24	2.59	0.00	18.17	0.01	0.00	18.32	
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	0.17	0.88	8.81	0.02	0.00	0.03	0.03	0.00	0.03	0.00	0.03	0.03	1602.65	0.52	0.00	3.63	0.00	0.00	3.66	
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	0.10	0.51	5.05	0.01	0.00	0.02	0.02	0.00	0.02	0.00	0.02	0.02	919.26	0.30	0.00	2.08	0.00	0.00	2.10	
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	0.18	0.88	8.81	0.01	0.00	0.02	0.02	0.00	0.02	0.00	0.02	0.02	1127.60	0.12	0.00	2.56	0.00	0.00	2.56	
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	0.20	1.04	14.85	0.02	0.00	0.04	0.04	0.00	0.04	0.00	0.04	0.04	1913.27	0.62	0.00	4.34	0.00	0.00	4.37	
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.26	1.38	19.58	0.03	0.00	0.05	0.05	0.00	0.05	0.00	0.05	0.05	2498.57	0.81	0.00	204.00	0.07	0.00	205.65	
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.12	0.61	6.06	0.01	0.00	0.02	0.02	0.00	0.02	0.00	0.02	0.02	1103.11	0.36	0.00	90.06	0.03	0.00	90.79	
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.25	1.32	18.79	0.03	0.00	0.05	0.05	0.00	0.05	0.00	0.05	0.05	2398.63	0.78	0.00	195.84	0.06	0.00	197.43	
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	0.14	0.75	7.46	0.01	0.00	0.03	0.03	0.00	0.											

Offroad Equipment - Energy Consumption

Phase	Start Date	Equipment Name	Category	Year	Days	Hours per day	Number	Fuel Type	Horsepower	Kilowatts	Kilowatt Hours (day)	Kilowatt Hours (total)	lbs of CO2 per day				Total MT			
													CO2	CH4	N2O	CO2e	CO2	CH4	N2O	CO2e
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	Compressor, Stationary 1200cfm	Air Compressors	2023	30	20	1	Electric	350	261	5220	156597	13.99	0.14	0.02	22.65	0.19	0.00	0.00	0.31
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	EPBM and Backup 14'9"	Bore/Drill Rigs	2023	30	20	1	Electric	1800	1342	26845	805356	71.95	0.73	0.09	116.51	0.98	0.01	0.00	1.59
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	Compressor, Stationary 1200cfm	Air compressors	2024	5	20	1	Electric	350	261	5220	26099	13.99	0.14	0.02	22.65	0.03	0.00	0.00	0.05
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	EPBM and Backup 14'9"	Bore/Drill Rigs	2024	5	20	1	Electric	1800	1342	26845	134226	71.95	0.73	0.09	116.51	0.16	0.00	0.00	0.26
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Compressor, Stationary 1200cfm	Air compressors	2024	180	24	1	Electric	350	261	6264	1127498	16.79	0.17	0.02	27.19	1.37	0.01	0.00	2.22
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	EPBM and Backup 14'9"	Bore/Drill Rigs	2024	180	24	1	Electric	1800	1342	32214	5798562	86.33	0.87	0.11	139.81	7.05	0.07	0.01	11.42
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Pump, trash 200gpm/100ft head	Other General Industrial Equipment	2024	180	24	1	Electric	10	7	179	32214	0.48	0.00	0.00	0.78	0.04	0.00	0.00	0.06
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Ventilation Fan 100hp	Other General Industrial Equipment	2024	180	24	2	Electric	100	75	3579	644285	9.59	0.10	0.01	15.53	0.78	0.01	0.00	1.27
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Ventilation Fan 40hp	Other General Industrial Equipment	2024	180	24	1	Electric	40	30	716	128857	1.92	0.02	0.00	3.11	0.16	0.00	0.00	0.25
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Water Treatment Plant	Other General Industrial Equipment	2024	180	24	1	Electric	200	149	3579	644285	9.59	0.10	0.01	15.53	0.78	0.01	0.00	1.27
Tunneling - TBM trailing gear and plant removal	10/7/2024	Compressor, Stationary 1200cfm	Air Compressors	2024	15	24	1	Electric	350	261	6264	93958	16.79	0.17	0.02	27.19	1.11	0.00	0.00	0.18
Tunneling - TBM trailing gear and plant removal	10/7/2024	Pump, subm. 140gpm/20ft head	Other Construction Equipment	2024	15	24	2	Electric	2	1	72	1074	0.19	0.00	0.00	0.31	0.00	0.00	0.00	0.00
Tunneling - TBM trailing gear and plant removal	10/7/2024	Ventilation Fan 100hp	Other Construction Equipment	2024	15	24	1	Electric	10	7	179	2685	0.48	0.00	0.00	0.78	0.00	0.00	0.00	0.01
Tunneling - TBM trailing gear and plant removal	10/7/2024	Ventilation Fan 100hp	Other Construction Equipment	2024	15	24	2	Electric	100	75	3579	53690	9.59	0.10	0.01	15.53	0.07	0.00	0.00	0.11
Tunneling - TBM trailing gear and plant removal	10/7/2024	Water Treatment Plant	Other Construction Equipment	2024	15	24	1	Electric	200	149	3579	53690	9.59	0.10	0.01	15.53	0.07	0.00	0.00	0.11

Notes:

PG&E 2019 CO2 (lbs per MWh) delivered rate 2.68  
 GHG intensity Factor lb CH4/MWh (Statewide EF's for 2024) 0.0272  
 GHG intensity Factor lb N2O/MWh (Statewide EF's for 2024) 0.0033  
 Source:

1. [https://www.pgecorp.com/corp\\_responsibility/reports/2021/assets/PGE\\_CRSR\\_2021.pdf](https://www.pgecorp.com/corp_responsibility/reports/2021/assets/PGE_CRSR_2021.pdf)

Demolition Fugitive Dust Emissions

Phase Name	Start Date	End Date	Total Days	Year	Demo Debris Weight (tons)	Demo EF (lb/ton throughput)						Emissions (lb/day)					
						PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/23	4/12/24	200	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00



Truck Loading Fugitive Dust Emissions

Phase Name	Start Date	End Date	Total Days	Year	Total CY	Tons/CY	Throughput (tons)	Truck Loading EF (lb/ton throughput)					Emissions (lb/day) <sup>1</sup>						
								PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	14906	1.2642	18843.66	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.01		0.01	0.00		0.00
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0	1.2642	0.00	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	0	1.2642	0.00	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	3376	1.2642	4267.83	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0	1.2642	0.00	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	6429	1.2642	8127.32	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.01		0.01	0.00		0.00
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0	1.2642	0.00	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0	1.2642	0.00	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0	1.2642	0.00	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0	1.2642	0.00	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0	1.2642	0.00	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	0	1.2642	0.00	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/23	4/12/24	200	2023	0	1.2642	0.00	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	1.2642	0.00	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	1.2642	0.00	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	6762	1.2642	8548.29	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	1.2642	0.00	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0	1.2642	0.00	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	7720	1.2642	9759.36	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0	1.2642	0.00	9.85E-05		9.85E-05	1.49E-05		1.49E-05	0.00		0.00	0.00		0.00

**Bulldozing Fugitive Dust Emissions**

Phase Name	Start	End	# of Workdays	First Year of CSTN	Equipment Type	# of Equipment	hours/day
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	Rubber Tired Dozers	1	10
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	Off-Highway Trucks	1	10
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	Tractors/Loaders/Backhoes	1	10
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	30	2024	Bore/Drill Rigs	1	10
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	Tractors/Loaders/Backhoes	1	10
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	Tractors/Loaders/Backhoes	1	10
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	20	2023	Rollers	1	10
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	20	2023	Tractors/Loaders/Backhoes	2	10
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Rubber Tired Dozers	1	10
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Off-Highway Trucks	1	10
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Rollers	1	10
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Tractors/Loaders/Backhoes	1	10
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	Rubber Tired Dozers	1	10
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	Off-Highway Trucks	1	10
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	Tractors/Loaders/Backhoes	1	10
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	Rubber Tired Dozers	1	10
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	Off-Highway Trucks	1	10
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	Tractors/Loaders/Backhoes	1	10
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Tractors/Loaders/Backhoes	2	10
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Other Construction Equipment	2	10
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Off-Highway Trucks	2	10
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Tractors/Loaders/Backhoes	2	10
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Tractors/Loaders/Backhoes	1	8
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Other Construction Equipment	1	8
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Rubber Tired Dozers	1	8
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Excavators	1	8
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Off-Highway Trucks	2	8
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Tractors/Loaders/Backhoes	2	8
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Cranes	1	10
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Cranes	1	10
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Welders	1	10
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Tractors/Loaders/Backhoes	1	10
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024	200	2023	Tractors/Loaders/Backhoes	1	8
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Cranes	1	20
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Cranes	1	20
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Cranes	1	20
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Welders	1	20
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Tractors/Loaders/Backhoes	1	20
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Cranes	1	20
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Cranes	1	20
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Cranes	1	20
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Welders	1	20
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Tractors/Loaders/Backhoes	1	20
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	4	24
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	1	24
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Cranes	1	24
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	2	24
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Off-Highway Trucks	2	8
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	18	24
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Tractors/Loaders/Backhoes	1	24
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Cranes	1	20
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Skid Steer Loaders	1	24
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Other Material Handling Equipment	1	24
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Cranes	1	24
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Other Material Handling Equipment	1	24
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Other Material Handling Equipment	1	24
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Welders	1	24
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Tractors/Loaders/Backhoes	3	24
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	5	2023	Skid Steer Loaders	1	10
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	5	2023	Tractors/Loaders/Backhoes	1	10
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	Rubber Tired Dozers	1	10
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	Off-Highway Trucks	1	10
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	Tractors/Loaders/Backhoes	1	10
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	Tractors/Loaders/Backhoes	1	8

Bulldozing Fugitive Dust Emissions	Emission Factor (lb/hr)						Emissions (lb/day) <sup>1</sup>					
	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Energy Dissipation - Site Clearing and Grading	0.75		0.75	0.41		0.41	2.33		2.33	1.28		1.28
Energy Dissipation - Site Clearing and Grading	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation - Site Clearing and Grading	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation - Construct energy dissipation structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation - Construct ATV Trail to south portal	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation - Construct ATV Trail to south portal	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	0.75		0.75	0.41		0.41	2.33		2.33	1.28		1.28
Energy Dissipation Structure Tunnel Portal - Improve access road	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	0.75		0.75	0.41		0.41	2.33		2.33	1.28		1.28
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	0.75		0.75	0.41		0.41	2.33		2.33	1.28		1.28
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	0.75		0.75	0.41		0.41	1.87		1.87	1.03		1.03
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Drive 100' of tunnel at 20 fpd	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Drive 100' of tunnel at 20 fpd	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Drive 100' of tunnel at 20 fpd	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Drive 100' of tunnel at 20 fpd	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Drive 100' of tunnel at 20 fpd	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel excavation and support @ 60' per day	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - TBM trailing gear and plant removal	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel punch list/clearing	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Tunnel punch list/clearing	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Muck disposal on site/grading	0.75		0.75	0.41		0.41	2.33		2.33	1.28		1.28
Tunneling - Muck disposal on site/grading	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Muck disposal on site/grading	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunneling - Demobilization tunnel plant	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00

Grading Fugitive Dust Emissions

Phase Name	Start	End	# of Workdays	First Year of CSTN	Equipment Type	# of Equipment	Equipment Usage (hours/day)	Acres per 8-hr day	Scaling Factor	Acres per day	Daily VMT
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	Rubber Tired Dozers	1	10	0.5	8	0.625	0.430
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	Off-Highway Trucks	1	10	0	8	0.000	0.000
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	10	2024	Tractors/Loaders/Backhoes	1	10	0	9	0.000	0.000
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	30	2024	Bore/Drill Rigs	1	10	0	10	0.000	0.000
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	Tractors/Loaders/Backhoes	1	10	0	11	0.000	0.000
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	Tractors/Loaders/Backhoes	1	10	0	12	0.000	0.000
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	20	2023	Rollers	1	10	0	13	0.000	0.000
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	20	2023	Tractors/Loaders/Backhoes	2	10	0	14	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Rubber Tired Dozers	1	10	0.5	15	0.333	0.229
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Off-Highway Trucks	1	10	0	16	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Rollers	1	10	0	17	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	Tractors/Loaders/Backhoes	1	10	0	18	0.000	0.000
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	Rubber Tired Dozers	1	10	0.5	19	0.263	0.181
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	Off-Highway Trucks	1	10	0	20	0.000	0.000
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	Tractors/Loaders/Backhoes	1	10	0	21	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	Rubber Tired Dozers	1	10	0.5	22	0.227	0.156
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	Off-Highway Trucks	1	10	0	23	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	20	2023	Tractors/Loaders/Backhoes	1	10	0	24	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Tractors/Loaders/Backhoes	2	10	0	25	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Other Construction Equipment	2	10	0	26	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Off-Highway Trucks	2	10	0	27	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	Tractors/Loaders/Backhoes	2	10	0	28	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Tractors/Loaders/Backhoes	1	8	0	29	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Other Construction Equipment	1	8	0	30	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Rubber Tired Dozers	1	8	0.5	31	0.129	0.089
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Excavators	1	8	0	32	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Off-Highway Trucks	2	8	0	33	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	30	2023	Tractors/Loaders/Backhoes	2	8	0	34	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Cranes	1	10	0	35	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Cranes	1	10	0	36	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Welders	1	10	0	37	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	Tractors/Loaders/Backhoes	1	10	0	38	0.000	0.000
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/2023	4/12/2024	200	2023	Tractors/Loaders/Backhoes	1	8	0	39	0.000	0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Cranes	1	20	0	40	0.000	0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Cranes	1	20	0	41	0.000	0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Cranes	1	20	0	42	0.000	0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Welders	1	20	0	43	0.000	0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	Tractors/Loaders/Backhoes	1	20	0	44	0.000	0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Cranes	1	20	0	45	0.000	0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Cranes	1	20	0	46	0.000	0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Cranes	1	20	0	47	0.000	0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Welders	1	20	0	48	0.000	0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	Tractors/Loaders/Backhoes	1	20	0	49	0.000	0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	4	24	0	50	0.000	0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	1	24	0	51	0.000	0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Cranes	1	24	0	52	0.000	0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	2	24	0	53	0.000	0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Off-Highway Trucks	2	8	0	54	0.000	0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Other Material Handling Equipment	18	24	0	55	0.000	0.000
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	Tractors/Loaders/Backhoes	1	24	0	56	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Cranes	1	20	0	57	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Skid Steer Loaders	1	24	0	58	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Other Material Handling Equipment	1	24	0	59	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Cranes	1	24	0	60	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Other Material Handling Equipment	1	24	0	61	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Other Material Handling Equipment	1	24	0	62	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Welders	1	24	0	63	0.000	0.000
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	15	2024	Tractors/Loaders/Backhoes	3	24	0	64	0.000	0.000
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	5	2023	Skid Steer Loaders	1	10	0	65	0.000	0.000
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	5	2023	Tractors/Loaders/Backhoes	1	10	0	66	0.000	0.000
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	Rubber Tired Dozers	1	10	0.5	67	0.075	0.051
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	Off-Highway Trucks	1	10	0	68	0.000	0.000
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	Tractors/Loaders/Backhoes	1	10	0	69	0.000	0.000
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	Tractors/Loaders/Backhoes	1	8	0	70	0.000	0.000

Grading Fugitive Dust Emissions	Emission Factor (lb/VMT)						Emissions (lb/day)					
	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Phase Name												
Energy Dissipation - Site Clearing and Grading	1.543		1.543	0.167		0.167	0.205		0.205	0.022		0.022
Energy Dissipation - Site Clearing and Grading	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation - Site Clearing and Grading	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation - Construct energy dissipation structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation - Construct ATV Trail to south portal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation - Construct ATV Trail to south portal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Improve access road	1.543		1.543	0.167		0.167	0.110		0.110	0.012		0.012
Energy Dissipation Structure Tunnel Portal - Improve access road	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Improve access road	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Improve access road	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	1.543		1.543	0.167		0.167	0.087		0.087	0.009		0.009
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	1.543		1.543	0.167		0.167	0.075		0.075	0.008		0.008
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	1.543		1.543	0.167		0.167	0.042		0.042	0.005		0.005
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Drive 100' of tunnel at 20 fpd	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel excavation and support @ 60' per day	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel excavation and support @ 60' per day	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel excavation and support @ 60' per day	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel excavation and support @ 60' per day	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel excavation and support @ 60' per day	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel excavation and support @ 60' per day	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - TBM trailing gear and plant removal	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel punch list/clearing	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Tunnel punch list/clearing	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Muck disposal on site/grading	1.543		1.543	0.167		0.167	0.025		0.025	0.003		0.003
Tunneling - Muck disposal on site/grading	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Muck disposal on site/grading	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunneling - Demobilization tunnel plant	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000

Worker Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi) <sup>1</sup>	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	20	2024	10	1.45	0.061	0.147	1.866	0.005	307.713	0.005	307.717	30.633	0.004	30.638	500.879	0.014	0.011
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	60	2024	6	1.45	0.061	0.147	1.866	0.005	307.713	0.005	307.717	30.633	0.004	30.638	500.879	0.014	0.011
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	6	1.45	0.061	0.147	1.866	0.005	307.713	0.005	307.717	30.633	0.004	30.638	500.879	0.014	0.011
Energy Dissipation - Re-vegetation and site demob	12/16/2024	1/24/2025	30	2024	8	1.45	0.061	0.147	1.866	0.005	307.713	0.005	307.717	30.633	0.004	30.638	500.879	0.014	0.011
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	30	2023	10	1.45	0.068	0.164	2.014	0.005	307.713	0.005	307.718	30.633	0.005	30.638	509.006	0.016	0.012
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	10	1.45	0.068	0.164	2.014	0.005	307.713	0.005	307.718	30.633	0.005	30.638	509.006	0.016	0.012
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	8	1.45	0.068	0.164	2.014	0.005	307.713	0.005	307.718	30.633	0.005	30.638	509.006	0.016	0.012
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/2023	8/18/2023	15	2023	8	1.45	0.068	0.164	2.014	0.005	307.713	0.005	307.718	30.633	0.005	30.638	509.006	0.016	0.012
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	30	2023	10	1.45	0.068	0.164	2.014	0.005	307.713	0.005	307.718	30.633	0.005	30.638	509.006	0.016	0.012
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	6	1.45	0.068	0.164	2.014	0.005	307.713	0.005	307.718	30.633	0.005	30.638	509.006	0.016	0.012
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	20	2023	8	1.45	0.068	0.164	2.014	0.005	307.713	0.005	307.718	30.633	0.005	30.638	509.006	0.016	0.012
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	8	1.45	0.068	0.164	2.014	0.005	307.713	0.005	307.718	30.633	0.005	30.638	509.006	0.016	0.012
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024	200	2023	0	1.45	0.068	0.164	2.014	0.005	307.713	0.005	307.718	30.633	0.005	30.638	509.006	0.016	0.012
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	10	1.45	0.068	0.164	2.014	0.005	307.713	0.005	307.718	30.633	0.005	30.638	509.006	0.016	0.012
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	146	1.45	0.061	0.147	1.866	0.005	307.713	0.005	307.717	30.633	0.004	30.638	500.879	0.014	0.011
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	114	1.45	0.061	0.147	1.866	0.005	307.713	0.005	307.717	30.633	0.004	30.638	500.879	0.014	0.011
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	30	2024	56	1.45	0.061	0.147	1.866	0.005	307.713	0.005	307.717	30.633	0.004	30.638	500.879	0.014	0.011
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	15	2023	0	1.45	0.068	0.164	2.014	0.005	307.713	0.005	307.718	30.633	0.005	30.638	509.006	0.016	0.012
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	78	1.45	0.061	0.147	1.866	0.005	307.713	0.005	307.717	30.633	0.004	30.638	500.879	0.014	0.011
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	26	1.45	0.061	0.147	1.866	0.005	307.713	0.005	307.717	30.633	0.004	30.638	500.879	0.014	0.011

Worker Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi) <sup>1</sup>	Non-Running Emission Factors (g/trip)**												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	20	2024	10	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	60	2024	6	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	6	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Re-vegetation and site demob	12/16/2024	1/24/2025	30	2024	8	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	30	2023	10	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	10	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	8	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/2023	8/18/2023	15	2023	8	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	30	2023	10	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	6	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	20	2023	8	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	8	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024	200	2023	0	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	10	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	146	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	114	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	30	2024	56	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	15	2023	0	1.45	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	78	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	26	1.45	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040

Worker Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi) <sup>1</sup>	Emissions (lb/day)													Total MT			
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	20	2024	10	1.45	0.04	0.01	0.17	0.00	1.57	0.00	1.57	0.98	0.00	0.98	17.84	0.00	0.00	0.16	0.00	0.00	0.17
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	60	2024	6	1.45	0.02	0.01	0.10	0.00	0.94	0.00	0.94	0.59	0.00	0.59	10.71	0.00	0.00	0.29	0.00	0.00	0.30
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	6	1.45	0.02	0.01	0.10	0.00	0.94	0.00	0.94	0.59	0.00	0.59	10.71	0.00	0.00	0.10	0.00	0.00	0.10
Energy Dissipation - Re-vegetation and site demob	12/16/2024	1/24/2025	30	2024	8	1.45	0.03	0.01	0.14	0.00	1.26	0.00	1.26	0.78	0.00	0.78	14.28	0.00	0.00	0.19	0.00	0.00	0.20
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	30	2023	10	1.45	0.04	0.01	0.18	0.00	1.57	0.00	1.57	0.98	0.00	0.98	18.14	0.00	0.00	0.25	0.00	0.00	0.25
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	10	1.45	0.04	0.01	0.18	0.00	1.57	0.00	1.57	0.98	0.00	0.98	18.14	0.00	0.00	0.12	0.00	0.00	0.13
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	8	1.45	0.03	0.01	0.15	0.00	1.26	0.00	1.26	0.78	0.00	0.78	14.51	0.00	0.00	0.10	0.00	0.00	0.10
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/2023	8/18/2023	15	2023	8	1.45	0.03	0.01	0.15	0.00	1.26	0.00	1.26	0.78	0.00	0.78	14.51	0.00	0.00	0.10	0.00	0.00	0.10
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	30	2023	10	1.45	0.04	0.01	0.18	0.00	1.57	0.00	1.57	0.98	0.00	0.98	18.14	0.00	0.00	0.25	0.00	0.00	0.25
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	6	1.45	0.02	0.01	0.11	0.00	0.94	0.00	0.94	0.59	0.00	0.59	10.89	0.00	0.00	0.15	0.00	0.00	0.15
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	20	2023	8	1.45	0.03	0.01	0.15	0.00	1.26	0.00	1.26	0.78	0.00	0.78	14.51	0.00	0.00	0.13	0.00	0.00	0.14
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	8	1.45	0.03	0.01	0.15	0.00	1.26	0.00	1.26	0.78	0.00	0.78	14.51	0.00	0.00	0.20	0.00	0.00	0.20
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024	200	2023	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	10	1.45	0.04	0.01	0.18	0.00	1.57	0.00	1.57	0.98	0.00	0.98	18.14	0.00	0.00	0.25	0.00	0.00	0.25
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	146	1.45	0.55	0.20	2.52	0.00	22.98	0.00	22.98	14.30	0.00	14.30	260.53	0.04	0.02	0.59	0.00	0.00	0.61
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	114	1.45	0.43	0.16	1.97	0.00	17.94	0.00	17.94	11.16	0.00	11.17	203.43	0.03	0.01	16.61	0.00	0.00	17.02
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	30	2024	56	1.45	0.21	0.08	0.97	0.00	8.81	0.00	8.81	5.48	0.00	5.48	99.93	0.02	0.01	1.36	0.00	0.00	1.39
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	15	2023	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	78	1.45	0.29	0.11	1.35	0.00	12.28	0.00	12.28	7.64	0.00	7.64	139.19	0.02	0.01	11.36	0.00	0.00	11.64
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	26	1.45	0.10	0.04	0.45	0.00	4.09	0.00	4.09	2.55	0.00	2.55	46.40	0.01	0.00	0.63	0.00	0.00	0.65



Worker Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	20	2024	10	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	60	2024	6	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	6	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Energy Dissipation - Re-vegetation and site demob	12/16/2024	1/24/2025	30	2024	8	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	30	2023	10	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	10	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	8	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - install erosion/sediment control and silt fencing	7/31/2023	8/18/2023	15	2023	8	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	30	2023	10	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	6	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	20	2023	8	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	8	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024	200	2023	0	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	10	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	146	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	114	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	30	2024	56	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	15	2023	0	20	0.026	0.125	1.301	0.003	0.317	0.002	0.318	0.079	0.002	0.080	321.130	0.006	0.009
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	78	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	26	20	0.023	0.113	1.206	0.003	0.317	0.002	0.318	0.079	0.002	0.080	316.036	0.005	0.009

Worker Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	20	2024	10	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	60	2024	6	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	6	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Re-vegetation and site demob	12/16/2024	1/24/2025	30	2024	8	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	30	2023	10	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	10	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	8	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - install erosion/sediment control and silt fencing	7/31/2023	8/18/2023	15	2023	8	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	30	2023	10	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	6	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	20	2023	8	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	8	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024	200	2023	0	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	10	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	146	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	114	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	30	2024	56	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	15	2023	0	20	1.695	0.436	5.462	0.001	0.000	0.003	0.003	0.000	0.003	0.003	84.886	0.111	0.041
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	78	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	26	20	1.618	0.411	5.131	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.139	0.105	0.040

Worker Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day)											Total MT					
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024	20	2024	10	20	0.05	0.06	0.64	0.00	0.08	0.00	0.08	0.03	0.00	0.04	141.18	0.00	0.00	1.28	0.00	0.00	1.29
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024	60	2024	6	20	0.03	0.04	0.39	0.00	0.05	0.00	0.05	0.02	0.00	0.02	84.71	0.00	0.00	2.31	0.00	0.00	2.33
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024	20	2024	6	20	0.03	0.04	0.39	0.00	0.05	0.00	0.05	0.02	0.00	0.02	84.71	0.00	0.00	0.77	0.00	0.00	0.78
Energy Dissipation - Re-vegetation and site demob	12/16/2024	1/24/2025	30	2024	8	20	0.04	0.05	0.52	0.00	0.06	0.00	0.06	0.03	0.00	0.03	112.95	0.00	0.00	1.54	0.00	0.00	1.55
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023	30	2023	10	20	0.05	0.06	0.69	0.00	0.08	0.00	0.08	0.03	0.00	0.04	143.47	0.01	0.01	1.95	0.00	0.00	1.97
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023	15	2023	10	20	0.05	0.06	0.69	0.00	0.08	0.00	0.08	0.03	0.00	0.04	143.47	0.01	0.01	0.98	0.00	0.00	0.99
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023	15	2023	8	20	0.04	0.05	0.56	0.00	0.06	0.00	0.06	0.03	0.00	0.03	114.77	0.00	0.00	0.78	0.00	0.00	0.79
Energy Dissipation Structure Tunnel Portal - install erosion/sediment control and silt fencing	7/31/2023	8/18/2023	15	2023	8	20	0.04	0.05	0.56	0.00	0.06	0.00	0.06	0.03	0.00	0.03	114.77	0.00	0.00	0.78	0.00	0.00	0.79
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023	30	2023	10	20	0.05	0.06	0.69	0.00	0.08	0.00	0.08	0.03	0.00	0.04	143.47	0.01	0.01	1.95	0.00	0.00	1.97
Energy Dissipation Structure Tunnel Portal - install temporary utilities; water, power, sewage handling, communications	10/2/2023	11/10/2023	30	2023	6	20	0.03	0.04	0.42	0.00	0.05	0.00	0.05	0.02	0.00	0.02	86.08	0.00	0.00	1.17	0.00	0.00	1.18
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023	20	2023	8	20	0.04	0.05	0.56	0.00	0.06	0.00	0.06	0.03	0.00	0.03	114.77	0.00	0.00	1.04	0.00	0.00	1.05
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023	30	2023	8	20	0.04	0.05	0.56	0.00	0.06	0.00	0.06	0.03	0.00	0.03	114.77	0.00	0.00	1.56	0.00	0.00	1.58
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024	200	2023	0	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024	30	2023	10	20	0.05	0.06	0.69	0.00	0.08	0.00	0.08	0.03	0.00	0.04	143.47	0.01	0.01	1.95	0.00	0.00	1.97
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024	5	2024	146	20	0.67	0.86	9.41	0.02	1.10	0.01	1.11	0.51	0.01	0.52	2061.25	0.07	0.07	4.67	0.00	0.00	4.72
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024	180	2024	114	20	0.52	0.67	7.35	0.02	0.86	0.01	0.87	0.40	0.01	0.40	1609.47	0.05	0.05	131.41	0.00	0.00	132.81
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024	30	2024	56	20	0.26	0.33	3.61	0.01	0.42	0.00	0.43	0.19	0.00	0.20	790.62	0.03	0.03	10.76	0.00	0.00	10.87
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023	15	2023	0	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024	180	2024	78	20	0.36	0.46	5.03	0.01	0.59	0.01	0.59	0.27	0.01	0.28	1101.22	0.04	0.04	89.91	0.00	0.00	90.87
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024	30	2024	26	20	0.12	0.15	1.68	0.00	0.20	0.00	0.20	0.09	0.00	0.09	367.07	0.01	0.01	5.00	0.00	0.00	5.05

Vendor Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi) <sup>1,2</sup>	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	2	1.45	0.087	4.075	0.360	0.019	307.820	0.025	307.846	30.669	0.024	30.693	2041.633	0.004	0.322
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	6	1.45	0.087	4.075	0.360	0.019	307.820	0.025	307.846	30.669	0.024	30.693	2041.633	0.004	0.322
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	8	1.45	0.087	4.075	0.360	0.019	307.820	0.025	307.846	30.669	0.024	30.693	2041.633	0.004	0.322
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	2	1.45	0.087	4.075	0.360	0.019	307.820	0.025	307.846	30.669	0.024	30.693	2041.633	0.004	0.322
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	10	1.45	0.098	4.239	0.385	0.020	307.820	0.029	307.849	30.669	0.028	30.697	2072.096	0.005	0.326
Energy Dissipation Structure Tunnel Portal - improve access road	7/10/23	7/28/23	15	2023	2	1.45	0.098	4.239	0.385	0.020	307.820	0.029	307.849	30.669	0.028	30.697	2072.096	0.005	0.326
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	2	1.45	0.098	4.239	0.385	0.020	307.820	0.029	307.849	30.669	0.028	30.697	2072.096	0.005	0.326
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	2	1.45	0.098	4.239	0.385	0.020	307.820	0.029	307.849	30.669	0.028	30.697	2072.096	0.005	0.326
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	2	1.45	0.098	4.239	0.385	0.020	307.820	0.029	307.849	30.669	0.028	30.697	2072.096	0.005	0.326
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	8	1.45	0.098	4.239	0.385	0.020	307.820	0.029	307.849	30.669	0.028	30.697	2072.096	0.005	0.326
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	8	1.45	0.098	4.239	0.385	0.020	307.820	0.029	307.849	30.669	0.028	30.697	2072.096	0.005	0.326
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	8	1.45	0.098	4.239	0.385	0.020	307.820	0.029	307.849	30.669	0.028	30.697	2072.096	0.005	0.326
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	8	1.45	0.098	4.239	0.385	0.020	307.820	0.029	307.849	30.669	0.028	30.697	2072.096	0.005	0.326
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	1.45	0.098	4.239	0.385	0.020	307.820	0.029	307.849	30.669	0.028	30.697	2072.096	0.005	0.326
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	1.45	0.087	4.075	0.360	0.019	307.820	0.025	307.846	30.669	0.024	30.693	2041.633	0.004	0.322
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	10	1.45	0.087	4.075	0.360	0.019	307.820	0.025	307.846	30.669	0.024	30.693	2041.633	0.004	0.322
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	1.45	0.087	4.075	0.360	0.019	307.820	0.025	307.846	30.669	0.024	30.693	2041.633	0.004	0.322
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	8	1.45	0.098	4.239	0.385	0.020	307.820	0.029	307.849	30.669	0.028	30.697	2072.096	0.005	0.326
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	10	1.45	0.087	4.075	0.360	0.019	307.820	0.025	307.846	30.669	0.024	30.693	2041.633	0.004	0.322
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0	1.45	0.087	4.075	0.360	0.019	307.820	0.025	307.846	30.669	0.024	30.693	2041.633	0.004	0.322

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Vendor Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi) <sup>1,2</sup>	Non-Running Emission Factors (g/trip) <sup>1</sup>															
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O			
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	2	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	6	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	8	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	2	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	10	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - improve access road	7/10/23	7/28/23	15	2023	2	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	2	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	2	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	2	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	8	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	8	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	8	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	8	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	10	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	8	1.45	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	10	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0	1.45	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Vendor Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi) <sup>1,2</sup>	Emissions (lb/day) <sup>1</sup>										Total MT						
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2e	CH4	N2O	CO2e
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	2	1.45	0.00	0.05	0.02	0.00	0.31	0.00	0.32	0.03	0.00	0.03	15.54	0.00	0.00	0.14	0.00	0.00	0.15
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	6	1.45	0.00	0.15	0.05	0.00	0.94	0.00	0.95	0.09	0.00	0.09	46.61	0.00	0.01	1.27	0.00	0.00	1.33
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	8	1.45	0.01	0.20	0.07	0.00	1.26	0.00	1.26	0.13	0.00	0.13	62.14	0.00	0.01	0.56	0.00	0.00	0.59
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	2	1.45	0.00	0.05	0.02	0.00	0.31	0.00	0.32	0.03	0.00	0.03	15.54	0.00	0.00	0.21	0.00	0.00	0.22
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	10	1.45	0.01	0.25	0.08	0.00	1.57	0.00	1.58	0.16	0.00	0.16	78.88	0.00	0.01	1.07	0.00	0.00	1.12
Energy Dissipation Structure Tunnel Portal - improve access road	7/10/23	7/28/23	15	2023	2	1.45	0.00	0.05	0.02	0.00	0.31	0.00	0.32	0.03	0.00	0.03	15.78	0.00	0.00	0.11	0.00	0.00	0.11
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	2	1.45	0.00	0.05	0.02	0.00	0.31	0.00	0.32	0.03	0.00	0.03	15.78	0.00	0.00	0.11	0.00	0.00	0.11
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	2	1.45	0.00	0.05	0.02	0.00	0.31	0.00	0.32	0.03	0.00	0.03	15.78	0.00	0.00	0.11	0.00	0.00	0.11
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/2/23	9/29/23	30	2023	2	1.45	0.00	0.05	0.02	0.00	0.31	0.00	0.32	0.03	0.00	0.03	15.78	0.00	0.00	0.21	0.00	0.00	0.22
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	8	1.45	0.01	0.20	0.07	0.00	1.26	0.00	1.26	0.13	0.00	0.13	63.10	0.00	0.01	0.86	0.00	0.00	0.90
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	8	1.45	0.01	0.20	0.07	0.00	1.26	0.00	1.26	0.13	0.00	0.13	63.10	0.00	0.01	0.57	0.00	0.00	0.60
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	8	1.45	0.01	0.20	0.07	0.00	1.26	0.00	1.26	0.13	0.00	0.13	63.10	0.00	0.01	0.86	0.00	0.00	0.90
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	8	1.45	0.01	0.20	0.07	0.00	1.26	0.00	1.26	0.13	0.00	0.13	63.10	0.00	0.01	5.72	0.00	0.00	5.99
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	10	1.45	0.01	0.24	0.08	0.00	1.57	0.00	1.58	0.16	0.00	0.16	77.68	0.00	0.01	6.34	0.00	0.00	6.64
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	8	1.45	0.01	0.20	0.07	0.00	1.26	0.00	1.26	0.13	0.00	0.13	63.10	0.00	0.01	0.43	0.00	0.00	0.45
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	10	1.45	0.01	0.24	0.08	0.00	1.57	0.00	1.58	0.16	0.00	0.16	77.68	0.00	0.01	6.34	0.00	0.00	6.64
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	2	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	6	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	8	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	2	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	10	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - improve access road	7/10/23	7/28/23	15	2023	2	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	2	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	2	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/2/23	9/29/23	30	2023	2	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - Install temporary utilities, water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	8	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	8	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	8	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	8	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	10	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	8	20	0.030	1.689	0.114	0.013	0.385	0.025	0.410	0.101	0.024	0.125	1387.054	0.001	0.219
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	10	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0	20	0.027	1.592	0.104	0.013	0.385	0.023	0.408	0.101	0.022	0.123	1373.568	0.001	0.216

Vendor Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	2	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	6	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	8	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	2	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	10	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - improve access road	7/10/23	7/28/23	15	2023	2	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	2	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	2	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/2/23	9/29/23	30	2023	2	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	8	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	8	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	8	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	8	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	10	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	8	20	0.214	5.036	3.248	0.005	0.000	0.003	0.003	0.000	0.003	0.003	573.328	0.010	0.090
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	10	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0	20	0.212	5.185	3.242	0.005	0.000	0.003	0.003	0.000	0.003	0.003	562.948	0.010	0.089



Vendor Offsite Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day)											Total MT					
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2e	CH4	N2O	CO2e
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	2	20	0.00	0.16	0.02	0.00	0.02	0.00	0.02	0.01	0.00	0.01	123.61	0.00	0.02	1.12	0.00	0.00	1.17
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	6	20	0.01	0.49	0.07	0.00	0.05	0.01	0.06	0.03	0.01	0.03	370.83	0.00	0.06	10.09	0.00	0.00	10.57
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	8	20	0.01	0.65	0.09	0.00	0.07	0.01	0.08	0.04	0.01	0.04	494.44	0.00	0.08	4.49	0.00	0.00	4.70
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	2	20	0.00	0.16	0.02	0.00	0.02	0.00	0.02	0.01	0.00	0.01	123.61	0.00	0.02	1.68	0.00	0.00	1.76
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	10	20	0.02	0.86	0.12	0.01	0.09	0.01	0.10	0.04	0.01	0.06	624.23	0.00	0.10	8.49	0.00	0.00	8.89
Energy Dissipation Structure Tunnel Portal - improve access road	7/10/23	7/28/23	15	2023	2	20	0.00	0.17	0.02	0.00	0.02	0.00	0.02	0.01	0.00	0.01	124.85	0.00	0.02	0.85	0.00	0.00	0.89
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	2	20	0.00	0.17	0.02	0.00	0.02	0.00	0.02	0.01	0.00	0.01	124.85	0.00	0.02	0.85	0.00	0.00	0.89
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	2	20	0.00	0.17	0.02	0.00	0.02	0.00	0.02	0.01	0.00	0.01	124.85	0.00	0.02	0.85	0.00	0.00	0.89
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	2	20	0.00	0.17	0.02	0.00	0.02	0.00	0.02	0.01	0.00	0.01	124.85	0.00	0.02	1.70	0.00	0.00	1.78
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	8	20	0.01	0.68	0.10	0.00	0.07	0.01	0.08	0.04	0.01	0.04	499.38	0.00	0.08	6.80	0.00	0.00	7.11
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/18/23	20	2023	8	20	0.01	0.68	0.10	0.00	0.07	0.01	0.08	0.04	0.01	0.04	499.38	0.00	0.08	4.53	0.00	0.00	4.74
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	8	20	0.01	0.68	0.10	0.00	0.07	0.01	0.08	0.04	0.01	0.04	499.38	0.00	0.08	6.80	0.00	0.00	7.11
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	8	20	0.01	0.68	0.10	0.00	0.07	0.01	0.08	0.04	0.01	0.04	499.38	0.00	0.08	45.30	0.00	0.01	47.43
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	10	20	0.02	0.82	0.12	0.01	0.09	0.01	0.10	0.04	0.01	0.05	618.05	0.00	0.10	50.46	0.00	0.01	52.83
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	8	20	0.01	0.68	0.10	0.00	0.07	0.01	0.08	0.04	0.01	0.04	499.38	0.00	0.08	3.40	0.00	0.00	3.56
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	10	20	0.02	0.82	0.12	0.01	0.09	0.01	0.10	0.04	0.01	0.05	618.05	0.00	0.10	50.46	0.00	0.01	52.83
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	0	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Haul Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	94	0.38	0.06	5.71	0.41	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2500.40	0.00	0.39
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0	0.14	0.06	5.71	0.41	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2500.40	0.00	0.39
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	4	0.14	0.06	5.71	0.41	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2500.40	0.00	0.39
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	16	1.46	0.06	5.71	0.41	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2500.40	0.00	0.39
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0	0.58	0.06	5.87	0.42	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2551.76	0.00	0.40
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	54	1.25	0.06	5.87	0.42	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2551.76	0.00	0.40
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0	0.15	0.06	5.87	0.42	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2551.76	0.00	0.40
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0	0.14	0.06	5.87	0.42	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2551.76	0.00	0.40
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0	0.15	0.06	5.87	0.42	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2551.76	0.00	0.40
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0	0.14	0.06	5.87	0.42	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2551.76	0.00	0.40
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0	0.14	0.06	5.87	0.42	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2551.76	0.00	0.40
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	4	1.45	0.06	5.87	0.42	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2551.76	0.00	0.40
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/23	4/12/24	200	2023	4	1.45	0.06	5.87	0.42	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2551.76	0.00	0.40
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	0.14	0.06	5.87	0.42	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2551.76	0.00	0.40
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	1.45	0.06	5.71	0.41	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2500.40	0.00	0.39
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	6	1.45	0.06	5.71	0.41	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2500.40	0.00	0.39
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	1.45	0.06	5.71	0.41	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2500.40	0.00	0.39
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0	0.38	0.06	5.87	0.42	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2551.76	0.00	0.40
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	0	0.38	0.06	5.71	0.41	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2500.40	0.00	0.39
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	2	1.45	0.06	5.71	0.41	0.02	408.91	0.01	408.92	40.79	0.01	40.80	2500.40	0.00	0.39

Haul Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	94	0.38	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0	0.14	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	4	0.14	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	16	1.46	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0	0.58	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	54	1.25	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0	0.15	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0	0.14	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0	0.15	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0	0.14	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0	0.14	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	4	1.45	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/23	4/12/24	200	2023	4	1.45	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	0.14	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	1.45	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	6	1.45	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	1.45	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0	0.38	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	0	0.38	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	2	1.45	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15

Haul Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day) <sup>2</sup>												Total MT				
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	94	0.38	0.09	2.02	1.24	0.00	5.14	0.00	5.14	0.51	0.00	0.51	389.73	0.00	0.06	3.54	0.00	0.00	3.70
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	4	0.14	0.00	0.07	0.05	0.00	0.08	0.00	0.08	0.01	0.00	0.01	11.31	0.00	0.00	0.10	0.00	0.00	0.11
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	16	1.46	0.02	0.56	0.23	0.00	3.37	0.00	3.37	0.34	0.00	0.34	161.80	0.00	0.03	2.20	0.00	0.00	2.31
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	54	1.25	0.06	1.76	0.76	0.00	9.74	0.00	9.74	0.97	0.00	0.97	493.16	0.00	0.08	3.36	0.00	0.00	3.51
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	4	1.45	0.00	0.14	0.06	0.00	0.84	0.00	0.84	0.08	0.00	0.08	41.03	0.00	0.01	0.56	0.00	0.00	0.58
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/23	4/12/24	200	2023	4	1.45	0.00	0.14	0.06	0.00	0.84	0.00	0.84	0.08	0.00	0.08	41.03	0.00	0.01	3.72	0.00	0.00	3.90
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	6	1.45	0.01	0.21	0.08	0.00	1.25	0.00	1.26	0.13	0.00	0.13	60.31	0.00	0.01	4.92	0.00	0.00	5.16
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	0	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	2	1.45	0.00	0.07	0.03	0.00	0.42	0.00	0.42	0.04	0.00	0.04	20.10	0.00	0.00	0.27	0.00	0.00	0.29

Haul Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	94	0	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0	0	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	4	27	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	16	20	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	54	20.73068182	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	4	27	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/23	4/12/24	200	2023	4	27	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	0	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	6	27	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	0	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0	0	0.02	1.92	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1632.25	0.00	0.26
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	0	0	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	2	27	0.02	1.84	0.08	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1609.64	0.00	0.25

Haul Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	94	0	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0	0	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	4	27	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	16	20	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	54	20.73068182	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	4	27	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	7/10/23	4/12/24	200	2023	4	27	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	0	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	6	27	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	0	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0	0	0.40	7.41	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	952.79	0.02	0.15
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	0	0	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	2	27	0.40	7.60	5.84	0.01	0.00	0.00	0.00	0.00	0.00	0.00	933.49	0.02	0.15

Haul Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day)										Total MT							
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e	
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20	2024	94	0	0.08	1.58	1.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	193.45	0.00	0.03	1.75	0.00	0.00	0.00	1.84
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60	2024	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20	2024	4	27	0.01	0.51	0.07	0.00	0.05	0.01	0.06	0.03	0.01	0.03	391.49	0.00	0.06	3.55	0.00	0.00	0.00	3.72
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30	2024	16	20	0.03	1.57	0.26	0.01	0.16	0.02	0.18	0.08	0.02	0.10	1168.50	0.00	0.18	15.90	0.00	0.00	0.00	16.65
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15	2023	54	20.73068182	0.09	5.62	0.90	0.04	0.55	0.07	0.62	0.27	0.07	0.34	4141.80	0.00	0.65	28.18	0.00	0.00	0.00	29.50
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communications	10/2/23	11/10/23	30	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30	2023	4	27	0.01	0.52	0.07	0.00	0.05	0.01	0.06	0.03	0.01	0.03	397.04	0.00	0.06	5.40	0.00	0.00	0.00	5.66
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/23	4/12/24	200	2023	4	27	0.01	0.52	0.07	0.00	0.05	0.01	0.06	0.03	0.01	0.03	397.04	0.00	0.06	36.02	0.00	0.01	0.01	37.71
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5	2024	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180	2024	6	27	0.01	0.76	0.10	0.01	0.08	0.01	0.09	0.04	0.01	0.05	587.23	0.00	0.09	47.95	0.00	0.01	0.01	50.20
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30	2024	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15	2023	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180	2024	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30	2024	2	27	0.00	0.25	0.03	0.00	0.03	0.00	0.03	0.01	0.00	0.02	195.74	0.00	0.03	2.66	0.00	0.00	0.00	2.79





**Paving Off-Gassing Emissions**

Phase Name	Acres	Off-Gassing EF (lb/acre)	Total Emissions (lbs)
	0.00	2.62	0.00
	0.00	2.62	0.00

\*No Paving in North Central Coast Air Basin

Combined Phase Name5	Start Date5	End Date5	# of Workdays5	Emissions (lb/day)
				ROG
Energy Dissipation - Site Clearing and Grading	3/11/24	4/5/24	20.00	0.00
Energy Dissipation - Construct energy dissipation structure	4/8/24	6/28/24	60.00	0.00
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/24	12/13/24	20.00	0.00
Energy Dissipation - Re-vegetation and site demob	12/16/24	1/24/25	30.00	0.00
Energy Dissipation - Construct ATV Trail to south portal	10/2/23	11/10/23	30.00	0.00
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/23	7/28/23	15.00	0.00
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/23	8/18/23	15.00	0.00
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/23	8/18/23	15.00	0.00
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/23	9/29/23	30.00	0.00
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communication	10/2/23	11/10/23	30.00	0.00
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/23	12/8/23	20.00	0.00
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/23	11/10/23	30.00	0.00
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/23	4/12/24	200.00	0.00
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/23	1/19/24	30.00	0.00
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/24	1/26/24	5.00	0.00
Tunneling - Tunnel excavation and support @ 60' per day	1/29/24	10/4/24	180.00	0.00
Tunneling - TBM trailing gear and plant removal	10/7/24	11/15/24	30.00	0.00
Tunneling - Tunnel punch list/clearing	7/10/23	7/30/23	15.00	0.00
Tunneling - Muck disposal on site/grading	1/29/24	10/4/24	180.00	0.00
Tunneling - Demobilization tunnel plant	10/7/24	11/15/24	30.00	0.00

**Mechanical or Explosive Dismemberment**

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

EF emission factor (lb/ton)  
 k particle size multiplier, AP-42 default for PM10: 0.35; PM2.5: 0.053  
 U mean wind speed, m/s to mph  
 M material moisture content (%), AP-42 Default: 2

Parameter	PM10	PM2.5	CalEEMod Wind Speed (m/s)	Changes based on Project Location 2.8 CEC Forecast Zone 4
	Value	Value		
k (unitless)	0.35	0.053	<--confirm these parameters for location	
U (m/s to mph)	6.26	6.26	<--confirm these parameters for location	
M (%)	2	2	<--confirm these parameters for location	
<b>EF (lb/ton)</b>	<b>1.50E-03</b>	<b>2.27E-04</b>		

**Debris Loading**

$$EF_L = k \times EF_{L-TSP}$$

EF<sub>L</sub> emission factor (lb/ton)  
 k particle size multiplier, AP-42 default for PM10: 0.35; PM2.5: 0.053

Default EF<sub>L-TSP</sub> 0.058

lb/ton of debris	
PM10	PM2.5
0.0203	0.003074

lb/ton of debris	
PM10	PM2.5
2.18E-02	3.30E-03

**Total DEMO EF**

**Mechanical or Explosive Dismemberment**  
 Based on the MRI report, there is no AP-42 emission factor data available for this mechanical or explosive dismemberment. Thus, the emission factor for dismemberment and collapse of a structure is calculated using the following AP-42 equation for batch drop operations:

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

Where:  
 EF<sub>D</sub> = emission factor (lb PM/ton of debris)  
 EF<sub>D-PM10</sub> = 0.0011 lb PM<sub>10</sub>/ton of debris  
 EF<sub>D-PM2.5</sub> = 0.00017 lb PM<sub>2.5</sub>/ton of debris  
 k = particle size multiplier. The AP-42 default value for PM<sub>10</sub> is 0.35 and that for PM<sub>2.5</sub> is 0.053.  
 U = mean wind speed. The program selects the default mean wind speed based on the wind speed (m/s) provided on the project characteristics screen.  
 M = material moisture content. The program uses 2% as the default based on the MRI report.

The dust emissions are calculated by multiplying the above emission factors with the total weight of building waste using the following equation:

$$E_D = EF_D \times W$$

Where:  
 E<sub>D</sub> = emissions (lb of PM)  
 EF<sub>D</sub> = emission factor (lb of PM/ton of debris)  
 W = building waste (ton of debris)

<sup>10</sup> Midwest Research Institute, 1988. Gap Filling PM10 Emission Factors for Selected Open Area Dust Sources.

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**Debris Loading**  
 The dust emission factor of PM<sub>10</sub> and PM<sub>2.5</sub> in pounds per ton building waste is estimated based on the measured total suspended particulates (TSP) emission factor using the following equation:

$$EF_L = k \times EF_{L-TSP}$$

Where:  
 EF<sub>L</sub> = emission factor (lb/ton)  
 k = particle size multiplier. The AP-42 default value for PM<sub>10</sub> is 0.35 and that for PM<sub>2.5</sub> is 0.053.

The default value for EF<sub>L-TSP</sub> is 0.058 lb/ton, the average of the two TSP factor (i.e. 0.053 and 0.063 lb/ton) measured from two tests of the filling of trucks with crushed limestone using a front-end loader.

The dust emissions from debris loading are then calculated following the same methodology used for mechanical and or explosive dismemberment:

$$E_L = EF_L \times SF \times 0.046(\text{ton} / \text{ft}^2)$$

Where:  
 E<sub>L</sub> = emissions (lb)  
 EF<sub>L</sub> = emission factor (lb/ton)  
 SF = building square footage (ft<sup>2</sup>)

13 October 2017



Truck Loading Emissions

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

- EF emission factor (lb/ton)
- k particle size multiplier, AP-42 default for PM10: 0.35; PM2.5: 0.053
- U mean wind speed, m/s to mph
- M material moisture content (%), AP-42 Default: 12

Parameter	CalEEMod Wind Speed (m/s)		Changes based on Project Location
	PM10	PM2.5	2.8 CEC Forecast Zone 4
k (unitless)	0.35	0.053	<--confirm these parameters for location
U (m/s to mph)	6.26	6.26	<--confirm these parameters for location
M (%)	14	14	MJA, DRAFT - Preliminary Geotechnical Design Recommendations , February 2019.
EF (lb/ton)	9.85E-05	1.49E-05	

**Emissions** **E=EF x TP**

EF	Emission factor (lb/ton)
TP	Throughput (tons)
CY	39193 <--Enter in Project Value
tons/CY	1.2641662
TP	49546.466
# of days with truck loading	300

13.2.4.2

EMISSION FACTORS

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Table 13.2.4-1. TYPICAL SILT AND MOISTURE CONTENTS OF MATERIALS AT VARIOUS INDUSTRIES\*

Industry	No. Of Facilities	Material	Silt Content (%)			Moisture Content (%)		
			No. Of Samples	Range	Mean	No. Of Samples	Range	Mean
Iron and steel production	9	Pellet ore	13	1.3 - 13	4.3	11	0.64 - 4.0	2.2
		Lump ore	9	2.8 - 19	9.5	6	1.6 - 8.0	5.4
		Coal	12	2.0 - 7.7	4.6	11	2.8 - 11	4.8
		Slag	3	3.0 - 7.3	5.3	3	0.25 - 2.0	0.92
		Flue dust	3	2.7 - 23	13	1	—	7
		Coke breeze	2	4.4 - 5.4	4.9	2	6.4 - 9.2	7.8
		Blended ore	1	—	15	1	—	6.6
		Sinter	1	—	0.7	0	—	—
		Limestone	3	0.4 - 2.3	1.0	2	ND	0.2
		Crushed limestone	2	1.3 - 1.9	1.6	2	0.3 - 1.1	0.7
Stone quarrying and processing	2	Various limestone products	8	0.8 - 14	3.9	8	0.46 - 5.0	2.1
		Pellets	9	2.2 - 5.4	3.4	7	0.05 - 2.0	0.9
Taconite mining and processing	1	Tailings	2	ND	11	1	—	0.4
		Coal	15	3.4 - 16	6.2	7	2.8 - 20	6.9
Western surface coal mining	4	Overburden	15	3.8 - 15	7.5	0	—	—
		Exposed ground	3	5.1 - 21	15	3	0.8 - 6.4	3.4
		Coal (as received)	60	0.6 - 4.8	2.2	59	2.7 - 7.4	4.5
Coal-fired power plant	1	Sand	1	—	2.6	1	—	7.4
		Slag	2	3.0 - 4.7	3.8	2	2.3 - 4.9	3.6
Municipal solid waste landfills	4	Cover	5	5.0 - 16	9.0	5	8.9 - 16	12
		Clay/dirt mix	1	—	9.2	1	—	14
		Clay	2	4.5 - 7.4	6.0	2	8.9 - 11	10
		Fly ash	4	78 - 81	80	4	26 - 29	27
		Misc. fill materials	1	—	12	1	—	11

\* References 1-10. ND = no data.

**Truck Loading**

Processes such as truck dumping on the pile or loading out from the pile to a truck with a front-end loader also cause fugitive dust emissions. The program calculates these emissions using the methodology described in Section 13.2, Introduction to Fugitive Dust Sources, of USEPA AP-42. The emission factor that is based on the material moisture content and mean wind speed is calculated using the following formula:

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

Where:

EF = emission factor (lb/ton)

K = particle size multiplier. The AP-42 default value for PM<sub>10</sub> is 0.35 and that for PM<sub>2.5</sub> is 0.053

U = mean wind speed. The program selects wind speed based on the value listed on the Project Characteristics screen. It has been converted internally to miles per hour.

M = material moisture content (%). The moisture contents of different materials are listed in Table 13.2.4-1 of AP-42. The program uses the moisture content of cover (12%) as default.

The fugitive dust emissions are calculated by multiplying the emission factor with the throughput of loaded and unloaded material that is entered by the user.

$$E = EF \times TP$$

Where:

E = emissions (lb)

EF = emission factor (lb/ton)

TP = throughput of loaded and unloaded materials (ton)

CalEEMod assumes that 1.2641662 tons per cubic yard based on a bulk density of 1.5 grams per cubic centimeter. Typical soil densities range from about 1.25 to about 1.6 and 1.5 is the approximate density of a silty loam soil which is relatively common in most other parts of the state. The density reported above does not account for watering to suppress dust, it only accounts for natural moisture.

**Bulldozing Emissions**

$$EF_{TSP} = \frac{C_{TSP} \times s^{1.2}}{M^{1.3}}, \text{ and } EF_{PM_{2.5}} = EF_{TSP} \times F_{PM_{2.5}}$$

$$EF_{PM_{15}} = \frac{C_{PM_{15}} \times s^{1.5}}{M^{1.4}}, \text{ and } EF_{PM_{10}} = EF_{PM_{15}} \times F_{PM_{10}}$$

- EF emission factor (lb/hr)
- C arbitrary coefficient use by AP-42
- M material moisture content (%)
- S material silt content (%)
- F scaling factor

C <sub>TSP</sub> (unitless)	5.7
C <sub>PM15</sub> (unitless)	1
M(%)	7.9
s (%)	6.9
F <sub>PM10</sub> (unitless)	0.75
F <sub>PM2.5</sub> (unitless)	0.105

EF <sub>TSP</sub>	3.941
EF <sub>PM15</sub>	1.004

**Emission Factors (lb/hr)**

EF <sub>PM10</sub>	<b>0.753</b> Emission Factor Method Confirmed with comparison to CalEEMod outputs
EF <sub>PM2.5</sub>	<b>0.414</b> Emission Factor Method Confirmed with comparison to CalEEMod outputs

**Bulldozing**

Similar to the grading equipment passes emission estimation, the bulldozing emission factors for PM<sub>10</sub> and PM<sub>2.5</sub> are scaled from those of PM<sub>15</sub> and TSP. Based on Section 11.9 of AP-42, the dust emission factor for bulldozing is calculated using the following equations:

$$EF_{TSP} = \frac{C_{TSP} \times s^{1.2}}{M^{1.3}}, \text{ and } EF_{PM_{2.5}} = EF_{TSP} \times F_{PM_{2.5}}$$

$$EF_{PM_{15}} = \frac{C_{PM_{15}} \times s^{1.5}}{M^{1.4}}, \text{ and } EF_{PM_{10}} = EF_{PM_{15}} \times F_{PM_{10}}$$

- Where:
- EF = emission factor (lb/hr)
  - C = arbitrary coefficient used by AP-42
  - M = material moisture content (%)
  - S = material silt content (%)
  - F = scaling factor

C, M, s, and F vary depending on the bulldozed material. The following table summarizes the constants for overburden<sup>8</sup> presented in AP-42<sup>9</sup>.

**Bulldozing Fugitive Emission Factors**

Constant	Overburden
C <sub>TSP</sub>	5.7
C <sub>PM15</sub>	1.0
M	7.9%
s	6.9%
F <sub>PM10</sub>	0.75
F <sub>PM2.5</sub>	0.105

The program uses the constants associated with overburden as default for calculation of bulldozing dust emissions since overburden more closely models the bulldozed materials during the development construction. The dust emissions are calculated by multiplying the emission factor with the hours of operation for the dozers listed in the equipment list using the formula below:

$$E = EF \times Hr$$

- Where:
- E = emissions (lb)
  - EF = emission factor (lb/hr)
  - Hr = hours of operation

<sup>8</sup> The earth that is between the topsoil and the coal seam (USEPA AP-42).

<sup>9</sup> Tables 11.9-1 and 11.9-3 of USEPA AP-42

**Grading Emissions**

EFPM15

$$EF_{PM15} = 0.051 \times (S)^{2.0}, \text{ and } EF_{PM10} = EF_{PM15} \times F_{PM10}$$

$$EF_{TSP} = 0.04 \times (S)^{2.5}, \text{ and } EF_{PM2.5} = EF_{TSP} \times F_{PM2.5}$$

EF Emission Factor (lb/VMT)  
 S mean vehicle speed (mph), AP-42 Default: 7.1 mph  
 F<sub>PM2.5</sub> PM2.5 scaling factor, AP-42 default: 0.031  
 F<sub>PM10</sub> PM10 scaling factor, AP-42 default: 0.6

S	7.1
F <sub>PM2.5</sub>	0.031
F <sub>PM10</sub>	0.6
EF <sub>PM15</sub>	2.57
EF <sub>TSP</sub>	5.37
Emission factor (lb/VMT)	
EF <sub>PM10</sub>	1.543
EF <sub>PM2.5</sub>	0.167

**Emissions= EF x VMT**

VMT:

A<sub>site</sub> acreage of grading site  
 W<sub>b</sub> Width of blade, default: 12 feet  
 Feet/acre conversion 43560  
 feet/mile conversion 5280  
 Acres per 8-hr day amount of acres graded per day, see calc below

The grading dust emissions are calculated by multiplying the emission factors with the total vehicle miles traveled (VMT) for the grading equipment (i.e., grader). The VMT are estimated based on the dimensions of the grading area and the blade width of the grading equipment.

$$E = EF \times VMT, \text{ and}$$

$$VMT = A_s / W_b \times 43,560(\text{sqft} / \text{acre}) / 5,280(\text{ft} / \text{mile})$$

Where:  
 E: emissions (lb)  
 EF: emission factor (lb/VMT)  
 VMT: vehicle miles traveled (mile)  
 A<sub>s</sub>: the acreage of the grading site (acre)  
 W<sub>b</sub>: Blade width of the grading equipment. The program uses a default blade width of 12 ft. based on Caterpillar's 140 Motor Grader<sup>7</sup>.

Note that the dimensions (e.g., length and width) of the grading site have no impact on the calculation, only the total area to be graded. In order to properly grade a piece of land multiple passes with equipment may be required. The acres is based on the equipment list and days in grading or site preparation phase according to the anticipated maximum number of acres a given piece of equipment can pass over in an 8-hour workday. The equipment-specific grading rates are given in the following table as determined by SCAQMD in consultation with building estimator references.

Equipment Type	Acres/8hr-day
Crawler Tractors	0.5
Graders	0.5
Rubber Tired Dozers	0.5
Scrapers	1







Boys/Draft Rigs	2022	251	500	0.12805	0.108	1.00254	1.00212	0.005	0.005	0.030	487.1803	0.151
Boys/Draft Rigs	2022	502	750	0.10809	0.091	0.77209	0.97519	0.005	0.028	0.026	477.141	0.154
Boys/Draft Rigs	2022	751	1000	0.062607	0.057	2.27811	0.9452	0.005	0.028	0.017	472.9214	0.153
Boys/Draft Rigs	2023	15	15	0.71105	0.606	4.20811	4.10777	0.005	0.226	0.208	511.9856	0.172
Boys/Draft Rigs	2023	16	25	0.71105	0.606	4.20811	4.10777	0.005	0.226	0.208	511.9856	0.172
Boys/Draft Rigs	2023	17	50	0.71105	0.606	4.20811	4.10777	0.005	0.226	0.208	511.9856	0.172
Boys/Draft Rigs	2023	51	120	0.722828	0.187	2.18666	3.25754	0.005	0.102	0.091	461.214	0.149
Boys/Draft Rigs	2023	121	175	0.148078	0.125	1.07777	2.0801	0.005	0.048	0.044	478.8461	0.155
Boys/Draft Rigs	2023	176	250	0.111177	0.11	1.04603	1.04309	0.005	0.028	0.024	469.7058	0.152
Boys/Draft Rigs	2023	251	500	0.120261	0.101	0.89764	0.98883	0.005	0.03	0.029	464.9027	0.151
Boys/Draft Rigs	2023	501	750	0.108279	0.091	0.76666	0.98235	0.005	0.028	0.024	479.2329	0.155
Boys/Draft Rigs	2023	751	1000	0.062646	0.053	2.26246	0.93615	0.005	0.028	0.016	472.0201	0.153
Boys/Draft Rigs	2024	6	15	0.72424	0.609	4.15902	4.10088	0.005	0.219	0.203	519.8661	0.171
Boys/Draft Rigs	2024	16	25	0.72424	0.609	4.15902	4.10088	0.005	0.219	0.203	519.8661	0.171
Boys/Draft Rigs	2024	26	50	0.72424	0.609	4.15902	4.10088	0.005	0.219	0.203	519.8661	0.171
Boys/Draft Rigs	2024	51	120	0.110108	0.177	2.16134	3.25123	0.005	0.09	0.083	461.2076	0.149
Boys/Draft Rigs	2024	121	175	0.148377	0.125	1.02852	2.07803	0.005	0.046	0.043	478.9411	0.155
Boys/Draft Rigs	2024	176	250	0.118951	0.108	0.97942	1.04915	0.005	0.022	0.019	470.7151	0.152
Boys/Draft Rigs	2024	251	500	0.121213	0.103	0.86261	0.99426	0.005	0.029	0.027	464.4796	0.151
Boys/Draft Rigs	2024	501	750	0.108279	0.091	0.76666	0.98235	0.005	0.028	0.024	469.7058	0.152
Boys/Draft Rigs	2024	751	1000	0.062747	0.057	2.27206	0.94304	0.005	0.028	0.017	471.9261	0.153
Boys/Draft Rigs	2025	5	15	0.703256	0.591	3.97788	4.2728	0.005	0.189	0.178	512.8212	0.172
Boys/Draft Rigs	2025	16	25	0.703256	0.591	3.97788	4.2728	0.005	0.189	0.178	512.8212	0.172
Boys/Draft Rigs	2025	26	50	0.703256	0.591	3.97788	4.2728	0.005	0.189	0.178	512.8212	0.172
Boys/Draft Rigs	2025	51	120	0.118954	0.155	1.06361	3.21748	0.005	0.087	0.082	459.8291	0.149
Boys/Draft Rigs	2025	121	175	0.113422	0.114	0.88787	2.0776	0.005	0.029	0.026	478.2637	0.155
Boys/Draft Rigs	2025	176	250	0.12813	0.107	0.97171	1.04448	0.005	0.011	0.009	451.2497	0.152
Boys/Draft Rigs	2025	251	500	0.120956	0.102	0.82299	0.99738	0.005	0.028	0.026	467.2892	0.151
Boys/Draft Rigs	2025	501	750	0.105211	0.084	0.96268	0.98349	0.005	0.023	0.021	461.2497	0.152
Boys/Draft Rigs	2025	751	1000	0.07426	0.062	2.28923	0.91339	0.005	0.019	0.017	471.9168	0.153
Boys/Draft Rigs	2030	6	15	1.821	0.661	4.142	3.489	0.008	0.161	0.161	568.299	0.099
Boys/Draft Rigs	2030	16	25	1.821	0.661	4.142	3.489	0.008	0.161	0.161	568.299	0.099
Boys/Draft Rigs	2030	26	50	1.821	0.661	4.142	3.489	0.008	0.161	0.161	568.299	0.099
Boys/Draft Rigs	2030	51	120	1.773	0.183	1.415	4.414	0.006	0.021	0.021	568.299	0.016
Boys/Draft Rigs	2030	121	175	4.786	0.127	0.279	1.038	0.006	0.01	0.01	568.299	0.011
Boys/Draft Rigs	2030	176	250	10.363	0.127	0.274	1.006	0.006	0.01	0.01	568.299	0.011
Boys/Draft Rigs	2030	251	500	10.331	0.127	0.274	1.006	0.005	0.01	0.01	568.299	0.011
Boys/Draft Rigs	2030	501	750	20.808	0.127	0.274	1.006	0.005	0.01	0.01	568.299	0.011
Boys/Draft Rigs	2030	751	1000	11.441	0.127	0.274	1.006	0.005	0.01	0.01	568.299	0.011
Boys/Draft Rigs	2035	6	15	1.821	0.661	4.142	3.489	0.008	0.161	0.161	568.299	0.099
Boys/Draft Rigs	2035	16	25	1.821	0.661	4.142	3.489	0.008	0.161	0.161	568.299	0.099
Boys/Draft Rigs	2035	26	50	1.821	0.661	4.142	3.489	0.008	0.161	0.161	568.299	0.099
Boys/Draft Rigs	2035	51	120	1.788	0.183	1.411	4.414	0.006	0.021	0.021	568.299	0.016
Boys/Draft Rigs	2035	121	175	4.767	0.126	0.272	1.039	0.006	0.01	0.01	568.299	0.011
Boys/Draft Rigs	2035	176	250	10.357	0.126	0.272	1.039	0.005	0.01	0.01	568.299	0.011
Boys/Draft Rigs	2035	251	500	10.32	0.126	0.272	1.039	0.005	0.01	0.01	568.299	0.011
Boys/Draft Rigs	2035	501	750	20.787	0.126	0.272	1.039	0.005	0.01	0.01	568.299	0.011
Boys/Draft Rigs	2040	6	15	1.821	0.661	4.142	3.489	0.008	0.161	0.161	568.299	0.099
Boys/Draft Rigs	2040	16	25	1.821	0.661	4.142	3.489	0.008	0.161	0.161	568.299	0.099
Boys/Draft Rigs	2040	26	50	1.821	0.661	4.142	3.489	0.008	0.161	0.161	568.299	0.099
Boys/Draft Rigs	2040	51	120	1.777	0.183	1.411	4.414	0.006	0.021	0.021	568.299	0.016
Boys/Draft Rigs	2040	121	175	4.77	0.127	0.272	1.039	0.006	0.01	0.01	568.299	0.011
Boys/Draft Rigs	2040	176	250	10.36	0.127	0.272	1.039	0.006	0.01	0.01	568.299	0.011
Boys/Draft Rigs	2040	251	500	10.326	0.127	0.272	1.039	0.005	0.01	0.01	568.299	0.011
Boys/Draft Rigs	2040	501	750	20.799	0.127	0.272	1.039	0.005	0.01	0.01	568.299	0.011
Cement and Mortar Mixers	1990	6	15	1.932	1.804	1.999	4.999	1.949	0.979	0.979	568.299	0.162
Cement and Mortar Mixers	1990	16	25	1.932	1.804	1.999	4.999	1.949	0.979	0.979	568.299	0.162
Cement and Mortar Mixers	2000	6	15	2.702	1.662	8.911	4.78	0.879	0.746	0.746	568.299	0.151
Cement and Mortar Mixers	2000	16	25	2.702	1.662	8.911	4.78	0.879	0.746	0.746	568.299	0.151
Cement and Mortar Mixers	2000	26	50	2.702	1.662	8.911	4.78	0.879	0.746	0.746	568.299	0.151
Cement and Mortar Mixers	2000	51	120	1.628	1.001	6.3	7.91	0.979	0.465	0.465	568.299	0.09
Cement and Mortar Mixers	2005	6	15	6.992	1.548	1.963	3.788	0.065	0.471	0.471	568.299	0.139
Cement and Mortar Mixers	2005	16	25	1.133	1.709	1.545	1.402	0.246	0.246	0.246	568.299	0.064
Cement and Mortar Mixers	2010	6	15	1.056	1.119	1.286	1.049	0.077	0.346	0.346	568.299	0.101
Cement and Mortar Mixers	2010	16	25	1.114	0.683	0.851	1.478	0.058	0.211	0.211	568.299	0.051
Cement and Mortar Mixers	2011	6	15	4.656	1.031	1.544	2.887	0.077	0.319	0.319	568.299	0.093
Cement and Mortar Mixers	2011	16	25	1.096	0.674	0.712	1.472	0.036	0.209	0.209	568.299	0.06
Cement and Mortar Mixers	2012	6	15	4.288	0.949	1.012	2.757	0.077	0.293	0.293	568.299	0.085
Cement and Mortar Mixers	2012	16	25	1.087	0.689	0.723	1.489	0.038	0.195	0.195	568.299	0.06
Cement and Mortar Mixers	2013	6	15	1.922	0.875	0.887	2.81	0.077	0.249	0.249	568.299	0.079
Cement and Mortar Mixers	2013	16	25	1.082	0.666	0.791	1.489	0.038	0.177	0.177	568.299	0.06
Cement and Mortar Mixers	2014	6	15	1.781	0.837	0.793	2.157	0.077	0.213	0.213	568.299	0.079
Cement and Mortar Mixers	2014	16	25	1.079	0.663	0.748	1.489	0.038	0.171	0.171	568.299	0.059
Cement and Mortar Mixers	2015	6	15	1.664	0.811	0.712	1.531	0.077	0.24	0.24	568.299	0.079
Cement and Mortar Mixers	2015	16	25	1.076	0.662	0.743	1.489	0.038	0.167	0.167	568.299	0.059
Cement and Mortar Mixers	2016	6	15	1.518	0.788	0.486	2.486	0.077	0.227	0.227	568.299	0.079
Cement and Mortar Mixers	2016	16	25	1.075	0.661	0.743	1.489	0.038	0.161	0.161	568.299	0.059
Cement and Mortar Mixers	2017	6	15	1.466	0.767	0.567	2.466	0.077	0.216	0.216	568.299	0.067
Cement and Mortar Mixers	2017	16	25	1.075	0.661	0.743	1.489	0.038	0.161	0.161	568.299	0.059
Cement and Mortar Mixers	2018	6	15	1.384	0.749	0.504	2.44	0.077	0.205	0.205	568.299	0.067
Cement and Mortar Mixers	2018	16	25	1.075	0.661	0.743	1.489	0.038	0.161	0.161	568.299	0.059
Cement and Mortar Mixers	2019	6	15	1.321	0.735	0.469	2.417	0.077	0.196	0.196	568.299	0.066
Cement and Mortar Mixers	2019	16	25	1.075	0.661	0.743	1.489	0.038	0.161	0.161	568.299	0.059
Cement and Mortar Mixers	2020	6	15	1.075	0.661	0.743	1.489	0.038	0.161	0.161	568.299	0.059
Cement and Mortar Mixers	2020	16	25	1.075	0.661	0.743	1.489	0.038	0.161	0.161	568.299	0.059
Cement and Mortar Mixers	2021	6	15	1.075	0.661	0.743	1.489	0.038	0.161	0.161	568.299	0.059
Cement and Mortar Mixers	2021	16	25	1.075	0.661	0.743	1.489	0.038	0.161	0.161	568.299	0.059
Cement and Mortar Mixers	2022	6	15	1.075	0.661	0.743	1.489	0.038	0.161	0.161	568.299	0.059
Cement and Mortar Mixers	2022	16	25	1.075	0.661	0.743	1.489	0.038	0.161	0.161	568.299	0.059
Cement and Mortar Mixers	2023	6	15	1.075	0.661	0.743	1.489	0.038	0.161	0.161	568.299	0.059
Cement and Mortar Mixers	2023	16	25	1.075	0.661	0.743	1.489	0.038	0.161	0.161	568.299	0.059
Cement and Mortar Mixers	2024	6	15	1.075	0.661	0.743	1.489	0.038	0.161	0.161	568.299	0.059
Cement and Mortar Mixers	2024	16	25	1.075	0.661</							





Year	Month	Day	Hour	PM10	PM2.5	O3	CO	SO2	NO2	NOx	GHG	
Excavators	2012	12	17	0.13423	0.448	5.8897	3.1799	0.005	0.275	0.235	522.089	0.151
Excavators	2012	17	20	0.80261	0.338	5.3277	1.4262	0.005	0.189	0.155	522.498	0.151
Excavators	2012	20	00	0.03846	0.239	4.0274	1.4255	0.005	0.131	0.121	520.934	0.152
Excavators	2012	20	01	0.13416	0.281	4.3898	1.4762	0.005	0.145	0.134	517.287	0.151
Excavators	2013	16	25	0.95422	0.836	5.0526	4.8074	0.005	0.399	0.362	578.236	0.17
Excavators	2013	16	00	0.95422	0.836	5.0526	4.8074	0.005	0.399	0.362	578.236	0.17
Excavators	2013	11	120	0.83921	0.537	5.3703	3.6866	0.005	0.404	0.372	511.721	0.151
Excavators	2013	11	175	0.83921	0.537	5.3703	3.6866	0.005	0.404	0.372	511.721	0.151
Excavators	2013	17	00	0.83921	0.537	5.3703	3.6866	0.005	0.404	0.372	511.721	0.151
Excavators	2013	17	01	0.83921	0.537	5.3703	3.6866	0.005	0.404	0.372	511.721	0.151
Excavators	2013	20	00	0.83921	0.537	5.3703	3.6866	0.005	0.404	0.372	511.721	0.151
Excavators	2013	20	01	0.83921	0.537	5.3703	3.6866	0.005	0.404	0.372	511.721	0.151
Excavators	2014	16	25	0.881904	0.825	4.96504	4.84434	0.005	0.38	0.35	575.264	0.17
Excavators	2014	16	00	0.881904	0.825	4.96504	4.84434	0.005	0.38	0.35	575.264	0.17
Excavators	2014	11	130	0.832055	0.513	5.11137	3.66133	0.005	0.382	0.352	511.3057	0.151
Excavators	2014	11	175	0.832055	0.513	5.11137	3.66133	0.005	0.382	0.352	511.3057	0.151
Excavators	2014	17	00	0.832055	0.513	5.11137	3.66133	0.005	0.382	0.352	511.3057	0.151
Excavators	2014	17	01	0.832055	0.513	5.11137	3.66133	0.005	0.382	0.352	511.3057	0.151
Excavators	2014	20	00	0.832055	0.513	5.11137	3.66133	0.005	0.382	0.352	511.3057	0.151
Excavators	2014	20	01	0.832055	0.513	5.11137	3.66133	0.005	0.382	0.352	511.3057	0.151
Excavators	2015	16	25	0.910268	0.813	4.91817	4.92488	0.005	0.375	0.345	569.5116	0.17
Excavators	2015	16	00	0.910268	0.813	4.91817	4.92488	0.005	0.375	0.345	569.5116	0.17
Excavators	2015	11	120	0.80346	0.507	5.0307	3.67943	0.005	0.373	0.344	506.1277	0.151
Excavators	2015	11	175	0.80346	0.507	5.0307	3.67943	0.005	0.373	0.344	506.1277	0.151
Excavators	2015	17	00	0.80346	0.507	5.0307	3.67943	0.005	0.373	0.344	506.1277	0.151
Excavators	2015	17	01	0.80346	0.507	5.0307	3.67943	0.005	0.373	0.344	506.1277	0.151
Excavators	2015	20	00	0.80346	0.507	5.0307	3.67943	0.005	0.373	0.344	506.1277	0.151
Excavators	2015	20	01	0.80346	0.507	5.0307	3.67943	0.005	0.373	0.344	506.1277	0.151
Excavators	2016	16	25	0.910268	0.813	4.91817	4.92488	0.005	0.375	0.345	569.5116	0.17
Excavators	2016	16	00	0.910268	0.813	4.91817	4.92488	0.005	0.375	0.345	569.5116	0.17
Excavators	2016	11	120	0.816021	0.476	4.7806	3.6606	0.005	0.344	0.317	500.9659	0.151
Excavators	2016	11	175	0.816021	0.476	4.7806	3.6606	0.005	0.344	0.317	500.9659	0.151
Excavators	2016	17	00	0.816021	0.476	4.7806	3.6606	0.005	0.344	0.317	500.9659	0.151
Excavators	2016	17	01	0.816021	0.476	4.7806	3.6606	0.005	0.344	0.317	500.9659	0.151
Excavators	2016	20	00	0.816021	0.476	4.7806	3.6606	0.005	0.344	0.317	500.9659	0.151
Excavators	2016	20	01	0.816021	0.476	4.7806	3.6606	0.005	0.344	0.317	500.9659	0.151
Excavators	2017	16	25	0.910268	0.813	4.91817	4.92488	0.005	0.375	0.345	569.5116	0.17
Excavators	2017	16	00	0.910268	0.813	4.91817	4.92488	0.005	0.375	0.345	569.5116	0.17
Excavators	2017	11	120	0.832542	0.44	4.3792	3.63939	0.005	0.31	0.285	493.429	0.151
Excavators	2017	11	175	0.832542	0.44	4.3792	3.63939	0.005	0.31	0.285	493.429	0.151
Excavators	2017	17	00	0.832542	0.44	4.3792	3.63939	0.005	0.31	0.285	493.429	0.151
Excavators	2017	17	01	0.832542	0.44	4.3792	3.63939	0.005	0.31	0.285	493.429	0.151
Excavators	2017	20	00	0.832542	0.44	4.3792	3.63939	0.005	0.31	0.285	493.429	0.151
Excavators	2017	20	01	0.832542	0.44	4.3792	3.63939	0.005	0.31	0.285	493.429	0.151
Excavators	2018	16	25	0.881904	0.825	4.96504	4.84434	0.005	0.38	0.35	575.264	0.17
Excavators	2018	16	00	0.881904	0.825	4.96504	4.84434	0.005	0.38	0.35	575.264	0.17
Excavators	2018	11	130	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2018	11	175	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2018	17	00	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2018	17	01	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2018	20	00	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2018	20	01	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2019	16	25	0.910268	0.813	4.91817	4.92488	0.005	0.375	0.345	569.5116	0.17
Excavators	2019	16	00	0.910268	0.813	4.91817	4.92488	0.005	0.375	0.345	569.5116	0.17
Excavators	2019	11	120	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2019	11	175	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2019	17	00	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2019	17	01	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2019	20	00	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2019	20	01	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2020	16	25	0.910268	0.813	4.91817	4.92488	0.005	0.375	0.345	569.5116	0.17
Excavators	2020	16	00	0.910268	0.813	4.91817	4.92488	0.005	0.375	0.345	569.5116	0.17
Excavators	2020	11	120	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2020	11	175	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2020	17	00	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2020	17	01	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2020	20	00	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2020	20	01	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2021	16	25	0.910268	0.813	4.91817	4.92488	0.005	0.375	0.345	569.5116	0.17
Excavators	2021	16	00	0.910268	0.813	4.91817	4.92488	0.005	0.375	0.345	569.5116	0.17
Excavators	2021	11	120	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2021	11	175	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2021	17	00	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2021	17	01	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2021	20	00	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2021	20	01	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2022	16	25	0.910268	0.813	4.91817	4.92488	0.005	0.375	0.345	569.5116	0.17
Excavators	2022	16	00	0.910268	0.813	4.91817	4.92488	0.005	0.375	0.345	569.5116	0.17
Excavators	2022	11	120	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2022	11	175	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2022	17	00	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2022	17	01	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2022	20	00	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2022	20	01	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2023	16	25	0.910268	0.813	4.91817	4.92488	0.005	0.375	0.345	569.5116	0.17
Excavators	2023	16	00	0.910268	0.813	4.91817	4.92488	0.005	0.375	0.345	569.5116	0.17
Excavators	2023	11	120	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2023	11	175	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2023	17	00	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2023	17	01	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2023	20	00	0.838091	0.487	4.9514	4.7022	0.005	0.284	0.261	545.3468	0.17
Excavators	2023	20	01	0.838091	0.487	4.9514	4.7022	0.005				

Generator Sets	Year	Day	Hour	PM10	PM2.5	PM10-2.5	CO	CO2	CH4	N2O	SO2	NOx	NO2	NO	O3	PM10	PM2.5	PM10-2.5	CO	CO2	CH4	N2O	SO2	NOx	NO2	NO	O3
Generator Sets	2000	26	50	31.520	2.36	6.15	4.413	0.046	0.003	0.000	568.299	0.247	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2000	11	120	31.137	1.535	9.468	4.318	0.06	0.088	0.088	568.299	0.138	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2000	121	175	30.027	1.029	8.812	3.811	0.057	0.404	0.404	568.299	0.092	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2000	136	250	46.981	0.848	8.272	3.656	0.057	0.325	0.325	568.299	0.076	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2000	251	500	70.308	0.802	8.102	3.7	0.05	0.301	0.301	568.299	0.072	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2000	501	750	113.5	0.802	8.102	3.7	0.051	0.301	0.301	568.299	0.073	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2000	1001	9999	251.500	0.921	8.886	4.274	0.051	0.344	0.344	568.299	0.081	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2005	6	15	11.219	1.212	7.615	4.8	0.079	0.000	0.000	568.299	0.109	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2005	16	25	1.748	1.201	6.654	3.922	0.065	0.429	0.429	568.299	0.123	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2005	26	50	20.778	2.608	6.099	5.909	0.066	0.44	0.44	568.299	0.235	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2005	136	250	31.443	0.604	6.933	1.803	0.057	0.239	0.239	568.299	0.064	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2005	251	500	47.834	0.545	6.465	2.206	0.05	0.211	0.211	568.299	0.049	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2005	501	750	79.444	0.545	6.469	2.206	0.051	0.214	0.214	568.299	0.05	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2005	1001	9999	195.712	0.717	7.842	2.719	0.051	0.255	0.255	568.299	0.064	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2010	6	15	1.532	0.963	6.387	4.027	0.068	0.38	0.38	568.299	0.086	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2010	16	25	4.068	0.961	6.477	3.909	0.067	0.342	0.342	568.299	0.086	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2010	26	50	16.299	2.045	5.68	5.353	0.067	0.522	0.522	568.299	0.184	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2010	136	250	26.959	1.005	6.573	1.677	0.066	0.168	0.168	568.299	0.051	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2010	121	175	24.447	0.661	5.87	2.986	0.066	0.286	0.286	568.299	0.059	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2010	136	250	23.658	0.428	5.501	1.333	0.066	0.168	0.168	568.299	0.058	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2010	251	500	31.685	0.384	5.015	1.482	0.065	0.153	0.153	568.299	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2010	501	750	56.116	0.396	5.147	1.482	0.065	0.155	0.155	568.299	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2010	9999	147.466	0.34	6.444	1.93	0.065	0.169	0.169	568.299	0.048	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2011	6	15	1.413	0.908	6.134	3.952	0.068	0.358	0.358	568.299	0.081	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2011	16	25	4.2	0.9	5.36	3.178	0.067	0.325	0.325	568.299	0.081	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2011	26	50	15.152	1.901	5.585	5.7	0.067	0.495	0.495	568.299	0.171	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2011	136	250	23.023	0.937	6.236	3.4	0.066	0.493	0.493	568.299	0.084	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2011	121	175	22.889	0.619	5.544	2.974	0.066	0.274	0.274	568.299	0.055	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2011	136	250	21.62	0.391	5.125	1.249	0.066	0.147	0.147	568.299	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2011	251	500	32.74	0.38	4.654	1.36	0.065	0.138	0.138	568.299	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2011	501	750	51.271	0.362	4.784	1.36	0.065	0.14	0.14	568.299	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2011	9999	147.042	0.502	4.202	1.784	0.065	0.148	0.148	568.299	0.043	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2012	6	15	1.298	0.865	5.874	3.874	0.068	0.338	0.338	568.299	0.078	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2012	16	25	4.059	0.864	4.739	3.043	0.067	0.237	0.237	568.299	0.079	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2012	26	50	13.912	1.746	5.485	5.03	0.067	0.466	0.466	568.299	0.157	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2012	136	250	17.244	0.885	5.848	2.603	0.066	0.46	0.46	568.299	0.079	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2012	121	175	21.243	0.575	5.198	2.603	0.066	0.246	0.246	568.299	0.051	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2012	251	500	30.998	0.361	4.77	1.196	0.066	0.133	0.133	568.299	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2012	501	750	48.44	0.324	4.315	1.275	0.065	0.125	0.125	568.299	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2012	1001	9999	47.464	0.315	4.441	1.275	0.065	0.127	0.127	568.299	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2013	6	15	1.187	0.823	5.616	3.796	0.068	0.318	0.318	568.299	0.074	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2013	16	25	3.907	0.825	4.117	2.907	0.067	0.265	0.265	568.299	0.076	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2013	26	50	12.034	1.585	5.263	4.854	0.067	0.428	0.428	568.299	0.143	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generator Sets	2013	136	250	16.079	0.792	5.478	3.567	0.066	0.424	0.424	568.299																

Year	Month	Day	Hour	PM10	PM2.5	O3	CO	NOx	SO2	GHG		
2011	11	17	17	0.04313	0.044	8.8746	3.9589	0.005	0.488	0.447	517.2383	0.106
2011	11	17	20	0.071304	0.096	5.72754	1.46077	0.005	0.188	0.171	517.1275	0.154
2011	11	17	23	0.08063	0.126	3.7122	1.79127	0.005	0.144	0.133	513.2975	0.151
2011	11	17	26	0.0484	0.04	1.501	1.41	0.005	0.148	0.14	568.289	0.037
2011	11	17	29	0.07089	0.105	6.1971	9.1021	0.005	0.864	0.795	518.2444	0.159
2011	11	17	32	0.06059	0.109	0.4848	0.9788	0.005	0.78	0.718	503.1814	0.152
2011	11	17	35	0.06357	0.081	0.24966	3.9124	0.005	0.463	0.426	516.1305	0.154
2011	11	17	38	0.07996	0.104	5.8628	1.0931	0.005	0.184	0.169	511.8091	0.154
2011	11	17	41	0.07772	0.104	1.6824	1.7154	0.005	0.144	0.139	506.5654	0.154
2011	11	17	44	0.11959	0.303	3.154	1.387	0.005	0.112	0.112	568.299	0.035
2011	11	17	47	0.1987	0.007	0.421	0.9728	0.005	0.843	0.776	503.0747	0.159
2011	11	17	50	0.183767	1.164	9.2125	4.81041	0.005	0.759	0.698	495.9186	0.152
2011	11	17	53	0.1901	0.757	7.6026	1.8918	0.005	0.451	0.396	506.7478	0.159
2011	11	17	56	0.171391	0.396	5.1248	1.44925	0.005	0.18	0.166	503.8022	0.154
2011	11	17	59	0.07976	0.104	3.1570	1.70147	0.005	0.129	0.128	498.1096	0.152
2011	11	17	01	0.1127	0.372	1.815	1.371	0.005	0.1	0.1	568.299	0.031
2011	11	17	04	0.134571	1.809	6.1792	8.62611	0.005	0.79	0.726	511.9098	0.159
2011	11	17	07	0.1796	0.076	8.9564	4.09711	0.005	0.827	0.841	497.6079	0.159
2011	11	17	10	0.17878	0.861	6.0465	3.70957	0.005	0.371	0.342	497.3767	0.155
2011	11	17	13	0.17376	0.384	5.7709	1.41105	0.005	0.171	0.158	495.461	0.152
2011	11	17	16	0.180509	0.324	3.14465	1.54446	0.005	0.129	0.119	490.5758	0.151
2011	11	17	19	0.18251	0.323	1.541	1.286	0.005	0.09	0.09	568.299	0.031
2011	11	17	22	0.11378	2.616	9.4463	8.27912	0.005	0.737	0.678	503.7509	0.159
2011	11	17	25	0.128249	1.032	8.1552	4.6424	0.005	0.665	0.612	479.9011	0.152
2011	11	17	28	0.17464	0.609	6.9194	3.6588	0.005	0.327	0.311	489.6419	0.155
2011	11	17	31	0.148358	0.36	4.88575	1.3927	0.005	0.156	0.144	488.3218	0.154
2011	11	17	34	0.18009	0.323	3.1778	1.52849	0.005	0.124	0.114	487.6279	0.154
2011	11	17	37	0.11435	0.335	2.276	1.255	0.005	0.08	0.08	568.299	0.031
2011	11	17	40	0.209727	1.164	5.8249	1.13784	0.005	0.709	0.652	492.2615	0.159
2011	11	17	43	0.181574	0.978	7.7511	4.56142	0.005	0.622	0.572	469.3171	0.152
2011	11	17	46	0.142427	0.367	5.1504	3.21202	0.005	0.309	0.284	479.0403	0.155
2011	11	17	49	0.14877	0.322	4.87787	1.94181	0.005	0.151	0.138	478.3217	0.154
2011	11	17	52	0.181818	0.322	3.10721	1.5256	0.005	0.121	0.111	471.9795	0.153
2011	11	17	55	0.12461	0.318	1.011	1.228	0.005	0.027	0.027	568.299	0.028
2011	11	17	58	0.160226	2.235	8.4848	7.62621	0.005	0.813	0.741	497.9312	0.159
2011	11	17	01	0.177144	0.002	7.4212	4.61276	0.005	0.57	0.529	499.021	0.152
2011	11	17	04	0.160137	0.005	4.8947	3.10886	0.005	0.27	0.248	474.5289	0.155
2011	11	17	07	0.186627	0.438	3.1587	1.50867	0.005	0.139	0.128	474.5289	0.152
2011	11	17	10	0.181134	0.322	3.10215	1.6664	0.005	0.117	0.117	471.8981	0.153
2011	11	17	13	0.12333	0.303	1.808	1.207	0.005	0.064	0.064	568.299	0.027
2011	11	17	16	0.160226	1.196	5.1338	4.4248	0.005	0.595	0.547	489.6419	0.159
2011	11	17	19	0.147815	0.796	6.3004	4.1296	0.005	0.493	0.451	489.6301	0.152
2011	11	17	22	0.140205	0.44	4.12485	3.40283	0.005	0.29	0.211	476.5654	0.152
2011	11	17	25	0.163229	0.307	3.8881	1.72727	0.005	0.124	0.114	474.239	0.151
2011	11	17	28	0.170421	0.311	2.1421	1.9925	0.005	0.08	0.1	471.9273	0.151
2011	11	17	31	0.11747	0.289	1.606	1.187	0.005	0.057	0.057	568.299	0.028
2011	11	17	34	0.136861	1.947	5.14799	7.10994	0.005	0.549	0.505	498.6202	0.16
2011	11	17	37	0.16566	0.729	5.79026	4.22811	0.005	0.458	0.421	489.6419	0.159
2011	11	17	40	0.140341	0.39	3.14781	3.40206	0.005	0.195	0.18	474.6229	0.152
2011	11	17	43	0.167829	0.284	3.44021	1.91573	0.005	0.111	0.101	473.9256	0.151
2011	11	17	46	0.148459	0.309	2.70451	1.18481	0.005	0.105	0.097	471.0206	0.151
2011	11	17	49	0.1215	0.276	1.425	1.17	0.005	0.051	0.051	568.3	0.024
2011	11	17	52	0.16935	1.85	5.078	7.05059	0.005	0.52	0.479	481.7913	0.16
2011	11	17	55	0.181369	0.483	5.4339	4.20031	0.005	0.408	0.375	489.6208	0.152
2011	11	17	58	0.183005	0.364	3.20211	3.42329	0.005	0.177	0.168	474.6206	0.155
2011	11	17	01	0.132074	0.242	3.07721	1.2497	0.005	0.1	0.092	471.6685	0.151
2011	11	17	04	0.148213	0.291	2.42121	1.36413	0.005	0.066	0.066	470.2644	0.152
2011	11	17	07	0.1174	0.244	1.265	1.155	0.005	0.046	0.046	568.3	0.023
2011	11	17	10	0.181818	0.364	6.9430	3.12318	0.005	0.522	0.48	471.9273	0.16
2011	11	17	13	0.179044	0.638	5.0779	4.14911	0.005	0.371	0.342	468.3155	0.151
2011	11	17	16	0.191827	0.329	2.7799	1.41759	0.005	0.132	0.124	474.5289	0.155
2011	11	17	19	0.177782	0.21	2.04201	1.788	0.005	0.08	0.08	568.299	0.027
2011	11	17	22	0.181371	0.28	2.9488	1.14461	0.005	0.088	0.081	470.7133	0.152
2011	11	17	25	0.1301	0.251	1.25	1.41	0.005	0.041	0.041	568.299	0.022
2011	11	17	28	0.149	0.448	1.53	1.239	0.007	0.06	0.06	568.299	0.028
2011	11	17	31	0.149	0.233	1.903	1.775	0.006	0.06	0.06	568.299	0.029
2011	11	17	34	0.148	0.237	0.815	3.26	0.006	0.038	0.038	568.3	0.021
2011	11	17	37	0.114	0.218	0.684	1.148	0.006	0.038	0.038	568.299	0.029
2011	11	17	40	0.115	0.214	0.647	1.097	0.005	0.023	0.023	568.299	0.019
2011	11	17	43	0.117	0.214	0.654	1.097	0.005	0.023	0.023	568.299	0.019
2011	11	17	46	0.107	0.201	0.356	1.389	0.007	0.021	0.021	568.299	0.024
2011	11	17	49	0.1187	0.209	1.161	1.767	0.006	0.034	0.034	568.299	0.024
2011	11	17	52	0.116	0.206	0.506	1.326	0.006	0.028	0.028	568.3	0.021
2011	11	17	55	0.122	0.196	0.452	1.137	0.006	0.026	0.026	568.299	0.017
2011	11	17	58	0.146	0.195	0.414	1.083	0.005	0.026	0.026	568.299	0.017
2011	11	17	01	0.143	0.195	0.418	1.083	0.005	0.026	0.026	568.299	0.017
2011	11	17	04	0.127	0.163	0.298	1.161	0.007	0.026	0.026	568.3	0.017
2011	11	17	07	0.127	0.178	1.56	1.764	0.006	0.024	0.024	568.299	0.016
2011	11	17	10	0.1007	0.199	0.38	1.326	0.006	0.027	0.027	568.299	0.017
2011	11	17	13	0.119	0.188	0.36	1.131	0.006	0.021	0.021	568.299	0.017
2011	11	17	16	0.149	0.188	0.311	1.079	0.005	0.013	0.013	568.299	0.017
2011	11	17	19	0.148	0.188	0.313	1.079	0.005	0.013	0.013	568.299	0.017
2011	11	17	22	0.101	0.242	15.285	5.842	0.791	1.384	1.384	568.299	0.219
2011	11	17	25	0.183	1.81	14.447	3.217	0.758	1.031	1.031	568.299	0.146
2011	11	17	28	0.181	1.81	14.447	3.217	0.758	1.031	1.031	568.299	0.146
2011	11	17	31	0.1077	0.129	1.848	1.847	0.008	0.086	0.086	568.3	0.047
2011	11	17	34	0.179	1.422	1.848	1.847	0.008	0.086	0.086	568.3	0.047
2011	11	17	37	0.148	1.422	1.848	1.847	0.008	0.086	0.086	568.3	0.047
2011	11	17	40	0.148	1.422	1.848	1.847	0.008	0.086	0.086	568.3	0.047
2011	11	17	43	0.148	1.422	1.848	1.847	0.008	0.086	0.086	568.3	0.047
2011	11	17	46	0.148	1.422	1.848	1.847	0.008	0.086	0.086	568.3	0.047
2011	11	17	49	0.148	1.422	1.848	1.847	0.008	0.086	0.086	568.3	0.047
2011	11	17	52	0.148	1.422	1.848	1.847	0.008	0.086	0.086	568.3	0.047
2011	11	17	55	0.148</								









Paving Equipment	2017	11	130	0.07007	0.633	3.20745	3.74148	0.0005	0.391	0.309	502.3489	0.133
Paving Equipment	2017	121	175	0.807568	0.342	3.89631	3.07321	0.0005	0.395	0.179	497.148	0.137
Paving Equipment	2017	176	250	0.042631	0.288	4.12109	1.331	0.0005	0.141	0.13	488.7323	0.153
Paving Equipment	2018	16	25	0.87751	0.737	4.31244	4.41578	0.0005	0.286	0.263	540.6115	0.168
Paving Equipment	2018	11	120	0.034661	0.449	4.37021	3.67063	0.0005	0.302	0.278	493.2184	0.153
Paving Equipment	2018	111	175	0.517615	0.284	3.17208	3.02682	0.0005	0.155	0.141	488.2034	0.152
Paving Equipment	2018	176	250	0.027374	0.238	3.18056	1.28117	0.0005	0.123	0.114	480.6831	0.153
Paving Equipment	2019	26	50	0.038543	0.705	4.23779	4.40798	0.0005	0.27	0.248	531.8612	0.168
Paving Equipment	2019	11	120	0.00964	0.425	4.05413	3.19849	0.0005	0.281	0.268	484.387	0.153
Paving Equipment	2019	121	175	0.020273	0.254	2.6924	3.0209	0.0005	0.134	0.123	481.2251	0.152
Paving Equipment	2019	176	250	0.009236	0.241	3.21016	1.24449	0.0005	0.112	0.109	481.6461	0.153
Paving Equipment	2020	18	25	0.77951	0.621	3.81919	4.22122	0.0005	0.217	0.2	530.1235	0.168
Paving Equipment	2020	11	120	0.047707	0.387	3.78054	3.56172	0.0005	0.256	0.235	473.1249	0.153
Paving Equipment	2020	121	175	0.034586	0.248	2.55488	3.02393	0.0005	0.128	0.118	473.7359	0.152
Paving Equipment	2020	176	250	0.038784	0.285	3.2020	1.26215	0.0005	0.115	0.102	470.2514	0.153
Paving Equipment	2021	16	25	0.688022	0.587	3.88226	4.21072	0.0005	0.2	0.184	520.3955	0.168
Paving Equipment	2021	11	120	0.008022	0.487	3.88226	4.21072	0.0005	0.2	0.184	520.3955	0.168
Paving Equipment	2021	121	175	0.042573	0.355	3.45065	3.5537	0.0005	0.219	0.201	473.2205	0.153
Paving Equipment	2021	176	250	0.075807	0.229	2.51051	3.02329	0.0005	0.114	0.105	470.9685	0.152
Paving Equipment	2022	16	25	0.68013	0.571	3.81611	4.24448	0.0005	0.188	0.173	520.6594	0.168
Paving Equipment	2022	11	120	0.00101	0.571	3.81611	4.24448	0.0005	0.188	0.173	520.6594	0.168
Paving Equipment	2022	121	175	0.031718	0.296	2.99968	3.50075	0.0005	0.171	0.157	473.4475	0.153
Paving Equipment	2022	176	250	0.030077	0.213	2.07311	3.03777	0.0005	0.101	0.091	470.6466	0.153
Paving Equipment	2023	16	25	0.232651	0.195	2.22811	1.20361	0.0005	0.083	0.076	472.819	0.153
Paving Equipment	2023	11	120	0.044074	0.541	3.77446	4.24288	0.0005	0.173	0.159	521.1138	0.169
Paving Equipment	2023	111	175	0.044074	0.541	3.77446	4.24288	0.0005	0.173	0.159	521.1138	0.169
Paving Equipment	2023	176	250	0.031802	0.278	2.81717	3.50351	0.0005	0.152	0.14	474.427	0.153
Paving Equipment	2024	11	120	0.044444	0.204	1.91201	3.02029	0.0005	0.099	0.086	470.6463	0.152
Paving Equipment	2024	121	175	0.038228	0.175	1.84891	1.16023	0.0005	0.07	0.065	472.359	0.153
Paving Equipment	2024	176	250	0.032364	0.133	1.91201	4.27468	0.0005	0.164	0.151	521.0575	0.169
Paving Equipment	2024	111	175	0.032364	0.133	1.91201	4.27468	0.0005	0.164	0.151	521.0575	0.169
Paving Equipment	2024	176	250	0.032364	0.133	1.91201	4.27468	0.0005	0.164	0.151	521.0575	0.169
Paving Equipment	2024	111	175	0.031948	0.137	1.95112	3.06623	0.0005	0.086	0.079	470.6414	0.152
Paving Equipment	2024	176	250	0.034721	0.138	1.20296	1.11417	0.0005	0.048	0.044	472.2124	0.153
Paving Equipment	2025	16	25	0.066694	0.476	3.28272	4.20347	0.0005	0.141	0.13	520.9975	0.169
Paving Equipment	2025	11	120	0.066694	0.476	3.28272	4.20347	0.0005	0.141	0.13	520.9975	0.169
Paving Equipment	2025	121	175	0.038465	0.175	1.509	3.03837	0.0005	0.075	0.069	473.4844	0.152
Paving Equipment	2025	176	250	0.038556	0.133	1.09052	1.16023	0.0005	0.045	0.04	472.294	0.153
Paving Equipment	2030	18	25	1.628	0.685	4.332	2.339	0.0007	0.161	0.161	568.299	0.061
Paving Equipment	2030	11	120	4.007	0.29	3.293	3.774	0.0006	0.114	0.114	568.3	0.055
Paving Equipment	2030	121	175	3.525	0.29	3.183	3.306	0.0006	0.07	0.07	568.299	0.026
Paving Equipment	2035	16	25	1.628	0.685	4.332	2.339	0.0007	0.161	0.161	568.299	0.061
Paving Equipment	2035	11	120	4.007	0.29	3.293	3.774	0.0006	0.114	0.114	568.3	0.055
Paving Equipment	2035	121	175	3.525	0.29	3.183	3.306	0.0006	0.07	0.07	568.299	0.026
Paving Equipment	2040	16	25	1.628	0.685	4.332	2.339	0.0007	0.161	0.161	568.299	0.061
Paving Equipment	2040	11	120	3.989	0.291	3.187	3.744	0.0006	0.099	0.099	568.299	0.026
Paving Equipment	2040	121	175	3.901	0.295	3.186	3.304	0.0006	0.07	0.07	568.299	0.026
Paving Equipment	2040	176	250	4.462	0.193	0.485	1.137	0.0006	0.017	0.017	568.299	0.017
Plate Compactors	1990	6	15	2.156	0.804	9.999	4.999	1.049	0.979	0.979	568.299	0.162
Plate Compactors	2000	6	15	1.852	1.55	8.519	4.606	0.079	0.708	0.708	568.299	0.139
Plate Compactors	2005	6	15	0.993	0.799	5.435	3.603	0.079	0.377	0.377	568.299	0.079
Plate Compactors	2010	6	15	1.794	1.664	4.178	4.489	0.079	0.469	0.469	568.299	0.059
Plate Compactors	2015	6	15	0.791	0.662	4.15	3.489	0.008	0.372	0.372	568.299	0.059
Plate Compactors	2020	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.3	0.059
Plate Compactors	2025	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.3	0.059
Plate Compactors	2030	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2035	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2040	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2045	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2050	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2055	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2060	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2065	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2070	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2075	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2080	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2085	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2090	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2095	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2100	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2105	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2110	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2115	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2120	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2125	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2130	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2135	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2140	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2145	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2150	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2155	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2160	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2165	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2170	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2175	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2180	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2185	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2190	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2195	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2200	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2205	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2210	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2215	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	568.299	0.059
Plate Compactors	2220	6	15	0.79	0.661	4.142	3.489	0.008	0.361	0.361	5	





Rubber Tired Dozers	2014	251	500	0.841888	0.797	8.0819	8.16471	0.005	0.376	0.346	534.4798	0.150
Rubber Tired Dozers	2014	502	750	0.858646	0.513	7.14705	2.76055	0.005	0.258	0.237	517.7993	0.151
Rubber Tired Dozers	2014	751	1000	0.91347	0.691	6.849	1.996	0.005	0.236	0.236	568.1	0.062
Rubber Tired Dozers	2015	175	175	1.47927	0.965	8.8425	4.23794	0.005	0.564	0.519	515.0569	0.153
Rubber Tired Dozers	2015	176	250	0.868859	0.728	7.3817	2.7204	0.005	0.394	0.362	514.7919	0.154
Rubber Tired Dozers	2015	501	500	0.842228	0.728	7.9978	4.10151	0.005	0.375	0.343	515.1473	0.155
Rubber Tired Dozers	2015	501	750	0.816759	0.518	7.15777	2.76062	0.005	0.259	0.238	512.5253	0.153
Rubber Tired Dozers	2015	751	1000	0.87895	0.661	6.556	1.901	0.005	0.222	0.222	568.299	0.069
Rubber Tired Dozers	2016	175	175	1.120231	0.968	8.81024	4.24951	0.005	0.646	0.52	507.7744	0.152
Rubber Tired Dozers	2016	176	250	0.815531	0.736	7.99508	2.72943	0.005	0.395	0.364	509.4615	0.154
Rubber Tired Dozers	2016	501	500	0.819446	0.688	7.91034	3.82629	0.005	0.369	0.31	513.1029	0.155
Rubber Tired Dozers	2016	501	750	0.822662	0.523	7.18821	2.7651	0.005	0.26	0.239	507.2001	0.153
Rubber Tired Dozers	2016	751	1000	0.845	0.611	6.377	1.733	0.005	0.208	0.208	568.3	0.057
Rubber Tired Dozers	2017	175	175	1.074188	0.903	8.19215	4.14895	0.005	0.525	0.483	499.4096	0.153
Rubber Tired Dozers	2017	176	250	0.848865	0.707	7.5026	2.60314	0.005	0.375	0.345	501.1475	0.154
Rubber Tired Dozers	2017	501	500	0.784555	0.662	7.33345	3.52569	0.005	0.341	0.311	505.8493	0.155
Rubber Tired Dozers	2017	501	750	0.825767	0.526	7.17226	2.76746	0.005	0.26	0.239	499.3665	0.153
Rubber Tired Dozers	2017	751	1000	0.8108	0.602	6.5121	1.766	0.005	0.205	0.199	509.289	0.064
Rubber Tired Dozers	2018	175	175	0.954751	0.802	8.02079	3.98965	0.005	0.46	0.424	491.4911	0.153
Rubber Tired Dozers	2018	176	250	0.780829	0.668	7.30707	2.51156	0.005	0.31	0.322	493.8317	0.154
Rubber Tired Dozers	2018	501	500	0.71175	0.598	6.50284	1.98205	0.005	0.3	0.276	498.1882	0.155
Rubber Tired Dozers	2018	501	750	0.695959	0.506	6.75652	2.75925	0.005	0.248	0.228	491.4735	0.153
Rubber Tired Dozers	2018	751	1000	0.8	0.574	5.764	2.413	0.005	0.183	0.183	568.299	0.051
Rubber Tired Dozers	2019	175	175	0.930121	0.759	7.32037	3.94854	0.005	0.433	0.398	485.5305	0.153
Rubber Tired Dozers	2019	176	250	0.748822	0.611	6.92921	2.48815	0.005	0.388	0.311	485.152	0.154
Rubber Tired Dozers	2019	501	500	0.680488	0.572	6.14335	1.74309	0.005	0.283	0.26	490.381	0.155
Rubber Tired Dozers	2019	501	750	0.641027	0.453	6.12349	2.59614	0.005	0.218	0.218	493.5284	0.153
Rubber Tired Dozers	2019	751	1000	0.8196	0.547	5.128	2.281	0.005	0.171	0.171	568.299	0.049
Rubber Tired Dozers	2020	175	175	0.864245	0.736	7.18232	3.87028	0.005	0.412	0.378	473.0216	0.153
Rubber Tired Dozers	2020	176	250	0.717248	0.619	6.01832	2.37394	0.005	0.318	0.293	474.7938	0.154
Rubber Tired Dozers	2020	501	500	0.646621	0.535	5.44029	1.41134	0.005	0.209	0.209	479.7509	0.157
Rubber Tired Dozers	2020	501	750	0.614245	0.456	6.12329	2.60208	0.005	0.218	0.201	473.0562	0.153
Rubber Tired Dozers	2020	751	1000	0.811	0.522	5.306	2.264	0.005	0.16	0.16	568.299	0.047
Rubber Tired Dozers	2021	175	175	0.820527	0.691	6.79037	3.84814	0.005	0.386	0.352	469.861	0.153
Rubber Tired Dozers	2021	176	250	0.714624	0.6	6.29617	2.31719	0.005	0.306	0.281	474.7994	0.154
Rubber Tired Dozers	2021	501	500	0.658277	0.493	6.1081	1.60127	0.005	0.212	0.214	479.8668	0.154
Rubber Tired Dozers	2021	501	750	0.614338	0.458	6.12324	2.60396	0.005	0.218	0.201	473.0459	0.153
Rubber Tired Dozers	2021	751	1000	0.748	0.497	4.995	2.057	0.005	0.15	0.15	568.299	0.044
Rubber Tired Dozers	2022	175	175	0.714122	0.6	5.80781	3.75194	0.005	0.31	0.3	473.0122	0.154
Rubber Tired Dozers	2022	176	250	0.617170	0.48	5.04664	2.05583	0.005	0.24	0.22	474.6166	0.154
Rubber Tired Dozers	2022	501	500	0.600293	0.475	4.80773	1.89489	0.005	0.22	0.22	479.2017	0.153
Rubber Tired Dozers	2022	501	750	0.617887	0.46	6.12245	2.60677	0.005	0.218	0.201	473.055	0.153
Rubber Tired Dozers	2022	751	1000	0.7106	0.475	4.896	1.961	0.005	0.14	0.14	568.299	0.043
Rubber Tired Dozers	2023	175	175	0.700731	0.588	5.06638	3.7664	0.005	0.316	0.291	471.9009	0.153
Rubber Tired Dozers	2023	176	250	0.617651	0.459	4.90011	1.76265	0.005	0.218	0.209	474.5267	0.153
Rubber Tired Dozers	2023	501	500	0.613484	0.447	4.40835	1.68617	0.005	0.202	0.185	479.4678	0.155
Rubber Tired Dozers	2023	501	750	0.620999	0.423	5.13189	2.01211	0.005	0.196	0.18	473.0254	0.153
Rubber Tired Dozers	2023	751	1000	0.796	0.451	4.799	1.874	0.005	0.131	0.131	568.299	0.04
Rubber Tired Dozers	2024	175	175	0.613823	0.532	5.0144	1.96936	0.005	0.279	0.257	473.5147	0.153
Rubber Tired Dozers	2024	176	250	0.618202	0.399	4.9904	1.79625	0.005	0.184	0.17	474.6364	0.154
Rubber Tired Dozers	2024	501	500	0.609724	0.417	4.8094	1.67674	0.005	0.182	0.168	473.9918	0.155
Rubber Tired Dozers	2024	501	750	0.605446	0.425	5.13373	2.59604	0.005	0.18	0.18	473.0111	0.153
Rubber Tired Dozers	2024	751	1000	0.845	0.433	4.512	1.796	0.005	0.123	0.123	568.299	0.039
Rubber Tired Dozers	2025	175	175	0.648636	0.461	4.22889	3.12138	0.005	0.213	0.212	474.0259	0.153
Rubber Tired Dozers	2025	176	250	0.645025	0.372	4.80647	1.70202	0.005	0.152	0.152	475.4214	0.153
Rubber Tired Dozers	2025	501	500	0.608502	0.387	3.89957	2.06995	0.005	0.151	0.151	479.0915	0.153
Rubber Tired Dozers	2025	501	750	0.602525	0.428	5.13346	2.60066	0.005	0.184	0.184	473.0254	0.153
Rubber Tired Dozers	2025	751	1000	0.803	0.414	4.365	1.725	0.005	0.115	0.115	568.299	0.037
Rubber Tired Dozers	2026	175	175	0.603	0.398	3.234	1.496	0.005	0.113	0.113	568.299	0.035
Rubber Tired Dozers	2026	176	250	0.556	0.335	3.828	1.322	0.005	0.069	0.069	568.299	0.029
Rubber Tired Dozers	2026	501	500	0.516	0.322	1.408	1.401	0.005	0.064	0.064	568.299	0.029
Rubber Tired Dozers	2026	501	750	0.5261	0.321	4.084	1.401	0.005	0.064	0.064	568.299	0.029
Rubber Tired Dozers	2026	751	1000	0.603	0.338	3.876	1.465	0.005	0.062	0.062	568.299	0.031
Rubber Tired Dozers	2027	175	175	0.504	0.322	1.345	1.401	0.005	0.071	0.071	568.299	0.025
Rubber Tired Dozers	2027	176	250	0.526	0.296	1.203	1.262	0.005	0.046	0.046	568.299	0.021
Rubber Tired Dozers	2027	501	500	0.468	0.279	1.107	1.279	0.005	0.043	0.043	568.3	0.025
Rubber Tired Dozers	2027	501	750	0.456	0.279	1.126	1.279	0.005	0.043	0.043	568.299	0.025
Rubber Tired Dozers	2027	751	1000	0.506	0.287	1.204	1.312	0.005	0.06	0.06	568.299	0.025
Rubber Tired Dozers	2028	175	175	0.9	0.275	0.903	1.47	0.005	0.045	0.045	568.299	0.024
Rubber Tired Dozers	2028	176	250	0.176	0.263	0.81	1.225	0.005	0.031	0.031	568.299	0.022
Rubber Tired Dozers	2028	501	500	0.472	0.249	0.758	1.106	0.005	0.029	0.029	568.3	0.022
Rubber Tired Dozers	2028	501	750	0.519	0.25	0.767	1.108	0.005	0.029	0.029	568.3	0.022
Rubber Tired Dozers	2028	751	1000	0.454	0.254	0.91	1.218	0.005	0.045	0.045	568.3	0.022
Rubber Tired Loaders	1990	18	25	1.92	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Rubber Tired Loaders	1990	26	50	21.889	4.848	1.964	1.805	0.871	1.279	1.279	568.299	0.199
Rubber Tired Loaders	1990	51	120	22.055	2.368	14.978	5.728	0.791	1.345	1.345	568.299	0.213
Rubber Tired Loaders	1990	121	175	10.1	1.791	14.294	6.084	0.758	0.995	0.995	568.299	0.161
Rubber Tired Loaders	1990	176	250	42.179	1.791	14.294	6.084	0.758	0.995	0.995	568.3	0.161
Rubber Tired Loaders	1990	501	500	19.295	1.583	11.545	11.282	0.642	0.811	0.811	568.3	0.161
Rubber Tired Loaders	1990	501	750	11.4712	1.583	11.545	11.282	0.642	0.811	0.811	568.299	0.161
Rubber Tired Loaders	1990	751	1000	147.851	1.575	11.545	11.282	0.642	0.811	0.811	568.299	0.162
Rubber Tired Loaders	2000	18	25	1.105	1.908	6.126	4.438	0.603	0.555	0.555	568.299	0.173
Rubber Tired Loaders	2000	26	50	21.853	4.439	7.065	9.15	0.066	0.928	0.928	568.299	0.4
Rubber Tired Loaders	2000	51	120	17.155	1.842	10.433	4.632	0.56	0.896	0.896	568.299	0.164
Rubber Tired Loaders	2000	121	175	20.951	1.24	10.52	1.76	0.057	0.431	0.431	568.299	0.112
Rubber Tired Loaders	2000	176	250	24.776	1.052	9.216	1.019	0.057	0.431	0.431	568.299	0.112
Rubber Tired Loaders	2000	501	500	10.779	0.955	8.746	7.997	0.381	0.381	0.381	568.299	0.086
Rubber Tired Loaders	2000	501	750	11.296	0.955	8.746	7.997	0.381	0.381	0.381	568.299	0.086
Rubber Tired Loaders	2000	751	1000	85.549	0.938	8.162	1.803	0.005	0.333	0.333	568.299	0.076
Rubber Tired Loaders	2005	18	25	3.273	0.849	3.321	2.519	0.066	0.333	0.333	568.299	0.076
Rubber Tired Loaders	2005	26	50									

Rubber Tire Loaders	2011	176	250	11.14	0.911	6.414	1.179	0.006	0.010	0.010	568.299	0.017
Rubber Tire Loaders	2011	251	500	7.156	0.911	6.416	1.076	0.005	0.010	0.010	568.299	0.017
Rubber Tire Loaders	2015	101	750	14.460	0.910	6.421	1.076	0.005	0.010	0.010	568.299	0.017
Rubber Tire Loaders	2015	711	1000	16.204	0.910	6.424	1.081	0.005	0.010	0.010	568.299	0.017
Rubber Tire Loaders	2040	16	25	1.834	0.485	4.332	2.339	0.007	0.141	0.141	568.299	0.061
Rubber Tire Loaders	2040	16	50	1.804	0.545	4.328	1.120	0.007	0.024	0.024	568.299	0.049
Rubber Tire Loaders	2040	51	120	2.33	0.771	5.143	3.748	0.006	0.022	0.022	568.3	0.024
Rubber Tire Loaders	2040	121	175	1.172	0.188	6.365	1.314	0.006	0.016	0.016	568.299	0.017
Rubber Tire Loaders	2040	176	250	1.176	0.185	6.346	1.128	0.006	0.013	0.013	568.299	0.016
Rubber Tire Loaders	2040	251	500	4.953	0.185	6.338	1.076	0.005	0.013	0.013	568.3	0.016
Rubber Tire Loaders	2040	501	750	14.247	0.185	6.34	1.076	0.005	0.013	0.013	568.299	0.016
Rubber Tire Loaders	2040	751	1000	17.496	0.186	2.522	1.076	0.005	0.026	0.026	568.299	0.016
Scrapers	1990	11	120	1.335	2.413	11.183	8.006	0.791	1.373	1.373	568.299	0.217
Scrapers	1990	111	175	8.743	1.823	14.495	5.174	0.758	1.017	1.017	568.299	0.164
Scrapers	1990	176	250	12.209	1.823	14.495	5.174	0.758	1.017	1.017	568.299	0.164
Scrapers	1990	251	500	16.71	1.407	13.709	11.473	0.642	0.867	0.867	568.299	0.145
Scrapers	1990	501	750	20.902	1.607	11.709	11.473	1.018	0.883	0.883	568.299	0.145
Scrapers	1990	751	1000	24.906	1.975	11.173	4.906	0.916	0.949	0.949	568.299	0.178
Scrapers	2000	11	120	1.456	1.346	10.226	4.046	0.057	0.572	0.572	568.299	0.121
Scrapers	2000	121	175	6.023	1.103	8.944	1.423	0.057	0.410	0.410	568.299	0.106
Scrapers	2000	176	250	11.064	1.062	8.42	6.04	0.05	0.43	0.43	568.299	0.095
Scrapers	2000	251	500	15.108	1.062	8.42	6.04	0.052	0.43	0.43	568.299	0.095
Scrapers	2000	501	750	19.367	1.062	8.42	6.04	0.052	0.43	0.43	568.299	0.095
Scrapers	2000	751	1000	23.602	1.062	8.42	6.04	0.052	0.43	0.43	568.299	0.095
Scrapers	2005	11	120	1.36	1.763	9.807	4.038	0.04	0.901	0.901	568.299	0.159
Scrapers	2005	121	175	5.192	1.166	8.834	3.76	0.057	0.54	0.54	568.299	0.107
Scrapers	2005	176	250	6.251	0.921	8.38	2.623	0.057	0.377	0.377	568.299	0.081
Scrapers	2005	251	500	8.477	0.814	7.854	4.07	0.05	0.331	0.331	568.3	0.073
Scrapers	2005	501	750	14.794	0.822	7.99	4.051	0.052	0.310	0.310	568.299	0.074
Scrapers	2010	11	120	0.820186	0.406	7.09451	3.97834	0.005	0.507	0.466	517.9011	0.157
Scrapers	2010	121	175	0.807154	0.703	8.01761	3.81189	0.005	0.444	0.408	513.511	0.152
Scrapers	2010	176	250	0.919827	0.79	9.42837	3.25278	0.005	0.414	0.399	520.9381	0.152
Scrapers	2010	251	500	0.959261	0.74	6.75544	4.1939	0.005	0.272	0.25	525.1533	0.153
Scrapers	2010	501	750	0.944955	0.302	5.0444	3.18071	0.005	0.209	0.192	525.152	0.153
Scrapers	2011	11	120	0.81334	0.699	7.09271	4.00055	0.005	0.309	0.460	536.4011	0.157
Scrapers	2011	121	175	0.87027	0.762	8.03777	3.84517	0.005	0.444	0.405	533.685	0.153
Scrapers	2011	176	250	0.933155	0.748	9.34756	3.22574	0.005	0.43	0.396	515.6705	0.152
Scrapers	2011	251	500	0.90447	0.406	6.64073	4.06071	0.005	0.288	0.246	523.9883	0.153
Scrapers	2011	501	750	0.40821	0.385	5.48614	3.14185	0.005	0.208	0.191	524.1241	0.153
Scrapers	2012	11	120	0.817024	0.712	7.11199	4.06603	0.005	0.529	0.477	535.1218	0.157
Scrapers	2012	121	175	0.911185	0.709	8.01465	3.82261	0.005	0.448	0.412	531.8158	0.152
Scrapers	2012	176	250	0.918111	0.706	9.31179	3.22929	0.005	0.43	0.396	518.3095	0.152
Scrapers	2012	251	500	0.98648	0.501	6.44209	4.16122	0.005	0.289	0.247	522.8184	0.152
Scrapers	2012	501	750	0.88841	0.391	5.49999	3.16428	0.005	0.209	0.191	522.7021	0.153
Scrapers	2013	11	120	0.809627	0.715	7.09051	4.06071	0.005	0.523	0.482	524.4444	0.155
Scrapers	2013	121	175	0.915558	0.713	8.10226	3.81336	0.005	0.438	0.403	527.0754	0.155
Scrapers	2013	176	250	0.923168	0.716	9.20313	3.16428	0.005	0.419	0.389	515.7365	0.152
Scrapers	2013	251	500	0.939327	0.406	6.51716	4.08613	0.005	0.264	0.242	520.0884	0.153
Scrapers	2013	501	750	0.462466	0.389	5.1399	3.08805	0.005	0.204	0.187	520.0201	0.153
Scrapers	2014	11	120	0.85559	0.729	7.0654	4.09613	0.005	0.526	0.484	526.9465	0.152
Scrapers	2014	121	175	0.91471	0.718	7.90713	3.80661	0.005	0.419	0.385	524.1709	0.155
Scrapers	2014	176	250	0.862867	0.742	8.48461	3.06131	0.005	0.403	0.371	512.8229	0.153
Scrapers	2014	251	500	0.907719	0.479	6.31299	3.89824	0.005	0.211	0.211	517.3038	0.153
Scrapers	2014	501	750	0.83954	0.309	5.21246	2.95654	0.005	0.18	0.174	517.3037	0.152
Scrapers	2015	11	120	0.86923	0.711	7.10509	4.1878	0.005	0.535	0.492	524.5601	0.157
Scrapers	2015	121	175	0.849621	0.714	7.9471	3.80805	0.005	0.415	0.382	518.8294	0.155
Scrapers	2015	176	250	0.849271	0.71	8.86117	3.00713	0.005	0.395	0.364	517.5609	0.152
Scrapers	2015	251	500	0.919677	0.472	6.08571	3.798	0.005	0.246	0.226	511.9471	0.153
Scrapers	2015	501	750	0.47961	0.36	4.83962	2.68407	0.005	0.183	0.166	518.2929	0.153
Scrapers	2016	11	120	0.839317	0.742	7.14111	4.17771	0.005	0.543	0.5	515.1668	0.157
Scrapers	2016	121	175	0.92244	0.688	7.1944	3.76042	0.005	0.397	0.365	513.4343	0.155
Scrapers	2016	176	250	0.914104	0.684	8.10864	2.8398	0.005	0.367	0.338	502.251	0.151
Scrapers	2016	251	500	0.918444	0.432	5.71749	3.06313	0.005	0.212	0.213	506.201	0.153
Scrapers	2016	501	750	0.84644	0.34	4.48423	2.48131	0.005	0.154	0.154	504.6181	0.151
Scrapers	2017	11	120	0.849722	0.713	7.17948	4.2074	0.005	0.551	0.507	511.1123	0.157
Scrapers	2017	121	175	0.94829	0.629	6.47062	3.70473	0.005	0.398	0.331	513.3009	0.153
Scrapers	2017	176	250	0.97407	0.627	7.19867	2.64676	0.005	0.333	0.306	484.5211	0.152
Scrapers	2017	251	500	0.95677	0.425	5.19351	3.13039	0.005	0.214	0.197	488.4511	0.153
Scrapers	2017	501	750	0.918058	0.325	4.21648	2.29479	0.005	0.156	0.141	488.8029	0.153
Scrapers	2018	11	120	0.86981	0.74	7.0517	4.20429	0.005	0.518	0.499	502.888	0.151
Scrapers	2018	121	175	0.94966	0.539	5.64105	3.56847	0.005	0.303	0.279	497.3396	0.153
Scrapers	2018	176	250	0.842403	0.557	6.30394	2.40794	0.005	0.19	0.207	488.9998	0.152
Scrapers	2018	251	500	0.939118	0.309	4.50771	2.8211	0.005	0.136	0.166	477.1714	0.153
Scrapers	2018	501	750	0.918418	0.294	3.74021	1.94491	0.005	0.135	0.124	490.1775	0.153
Scrapers	2019	11	120	0.84648	0.718	6.44131	4.19613	0.005	0.525	0.483	494.1	0.156
Scrapers	2019	121	175	0.908989	0.51	5.26136	3.15297	0.005	0.283	0.261	489.2546	0.155
Scrapers	2019	176	250	0.92624	0.501	6.18111	2.21211	0.005	0.237	0.238	479.0187	0.152
Scrapers	2019	251	500	0.84084	0.343	4.15546	2.95646	0.005	0.163	0.15	482.7119	0.153
Scrapers	2019	501	750	0.92394	0.277	3.41011	1.87901	0.005	0.123	0.113	482.0863	0.153
Scrapers	2020	11	120	0.818444	0.701	6.4787	4.19749	0.005	0.51	0.469	483.245	0.156
Scrapers	2020	121	175	0.918451	0.478	4.88813	3.00114	0.005	0.262	0.241	471.8677	0.155
Scrapers	2020	176	250	0.910212	0.446	4.109	2.06409	0.005	0.135	0.124	490.1775	0.153
Scrapers	2020	251	500	0.903126	0.31	3.78254	2.40063	0.005	0.148	0.136	471.1711	0.153
Scrapers	2020	501	750	0.91991	0.262	3.12981	1.77382	0.005	0.113	0.104	471.7716	0.153
Scrapers	2021	11	120	0.817922	0.704	6.65882	4.21819	0.005	0.512	0.471	481.7128	0.156
Scrapers	2021	121	175	0.914014	0.432	4.34131	3.40399	0.005	0.212	0.213	478.024	0.153
Scrapers	2021	176	250	0.846444	0.34	4.48423	2.48131	0.005	0.154	0.154	504.6181	0.151
Scrapers	2021	251	500	0.916021	0.299	3.44481	2.24544	0.005	0.134	0.123	471.8678	0.153
Scrapers	2021	501	750	0.928025	0.25	2.88701	1.60772	0.005	0.107	0.107	471.3919	0.153
Scrapers	2022	11	120	0.809995	0.681	6.61481	4.20484	0.005	0.494	0.454	481.4481	0.156
Scrapers	2022	121	175	0.918184	0.39	4.83962	3.16428	0.005	0.214	0.197	479.0187	0.153







Fracture/Loaders/Backhoe	2040	11	120	11.135	0.254	1.483	1.703	0.006	0.008	0.008	568.299	0.022
Fracture/Loaders/Backhoe	2040	121	175	1.891	0.175	0.305	3.270	0.006	0.002	0.002	568.299	0.015
Fracture/Loaders/Backhoe	2040	176	250	4.877	0.174	0.297	1.136	0.006	0.011	0.011	568.3	0.015
Fracture/Loaders/Backhoe	2040	251	500	1.794	0.174	0.297	1.066	0.006	0.011	0.011	568.299	0.015
Fracture/Loaders/Backhoe	2040	501	750	14.49	0.174	0.297	1.066	0.006	0.011	0.011	568.299	0.015
Fracture/Loaders/Backhoe	1990	6	15	1.844	1.804	1.999	4.999	1.049	0.975	0.975	568.299	0.163
Fracture/Loaders/Backhoe	1990	16	25	38.341	2.213	6.919	4.999	0.855	0.742	0.742	568.3	0.199
Fracture/Loaders/Backhoe	1990	26	50	37.289	4.335	7.849	3.212	0.871	1.213	1.213	568.3	0.209
Fracture/Loaders/Backhoe	1990	51	120	37.539	1.296	14.720	5.621	0.791	1.248	1.248	568.299	0.157
Fracture/Loaders/Backhoe	1990	121	175	61.364	1.748	14.125	5.014	0.758	0.96	0.96	568.299	0.157
Fracture/Loaders/Backhoe	1990	176	250	61.312	1.748	14.125	5.014	0.758	0.96	0.96	568.299	0.157
Fracture/Loaders/Backhoe	1990	251	500	111.775	1.553	13.45	10.572	0.642	0.827	0.827	568.299	0.154
Fracture/Loaders/Backhoe	1990	501	750	223.27	1.553	13.45	10.572	0.642	0.827	0.827	568.299	0.154
Fracture/Loaders/Backhoe	2000	6	15	1.824	1.325	7.875	4.257	0.879	0.61	0.61	568.299	0.119
Fracture/Loaders/Backhoe	2000	16	25	15.813	1.068	6.124	4.488	0.655	0.555	0.555	568.299	0.172
Fracture/Loaders/Backhoe	2000	26	50	34.945	4.216	7.029	8.713	0.666	0.89	0.89	568.299	0.172
Fracture/Loaders/Backhoe	2000	51	120	30.939	1.893	10.38	4.777	0.56	0.882	0.882	568.299	0.171
Fracture/Loaders/Backhoe	2000	121	175	48.959	1.296	8.927	1.908	0.627	0.941	0.941	568.299	0.168
Fracture/Loaders/Backhoe	2000	176	250	64.445	1.151	9.8	3.402	0.557	0.474	0.474	568.299	0.163
Fracture/Loaders/Backhoe	2000	251	500	61.478	1.042	9.354	4.231	0.61	0.416	0.416	568.299	0.168
Fracture/Loaders/Backhoe	2000	501	750	119.818	1.042	9.354	4.231	0.61	0.416	0.416	568.299	0.168
Fracture/Loaders/Backhoe	2000	6	15	1.502	0.742	4.961	1.449	0.979	0.25	0.25	568.299	0.066
Fracture/Loaders/Backhoe	2000	16	25	7.041	0.848	3.311	2.519	0.665	0.333	0.333	568.3	0.076
Fracture/Loaders/Backhoe	2000	26	50	32.497	3.921	6.874	8.33	0.66	0.849	0.849	568.299	0.153
Fracture/Loaders/Backhoe	2000	51	120	27.751	1.698	7.727	1.328	0.96	0.839	0.839	568.299	0.153
Fracture/Loaders/Backhoe	2000	121	175	40.799	1.126	8.861	1.895	0.557	0.487	0.487	568.299	0.161
Fracture/Loaders/Backhoe	2000	176	250	41.43	0.91	8.545	1.668	0.627	0.379	0.379	568.299	0.161
Fracture/Loaders/Backhoe	2000	251	500	81.494	0.812	7.903	4.395	0.55	0.332	0.332	568.299	0.173
Fracture/Loaders/Backhoe	2000	501	750	121.568	0.823	8.023	4.287	0.552	0.333	0.333	568.299	0.173
Fracture/Loaders/Backhoe	2010	6	15	1.51711	1.287	5.5761	5.1138	0.005	0.509	0.468	568.297	0.171
Fracture/Loaders/Backhoe	2010	16	25	1.51711	1.287	5.5761	5.1138	0.005	0.509	0.468	568.297	0.171
Fracture/Loaders/Backhoe	2010	26	50	1.69927	0.924	7.9924	4.7421	0.005	0.42	0.371	570.326	0.154
Fracture/Loaders/Backhoe	2010	51	120	1.69927	0.924	7.9924	4.7421	0.005	0.42	0.371	570.326	0.154
Fracture/Loaders/Backhoe	2010	121	175	0.70197	0.593	7.8842	2.3676	0.005	0.34	0.288	577.317	0.154
Fracture/Loaders/Backhoe	2010	176	250	0.80761	0.37	4.8934	2.1567	0.005	0.441	0.402	573.728	0.152
Fracture/Loaders/Backhoe	2010	251	500	0.19499	0.164	3.20501	1.3412	0.005	0.113	0.104	521.788	0.153
Fracture/Loaders/Backhoe	2010	501	750	0.19499	0.164	3.20501	1.3412	0.005	0.113	0.104	521.788	0.153
Fracture/Loaders/Backhoe	2011	6	15	1.52052	1.277	5.5236	5.14932	0.005	0.507	0.467	565.033	0.171
Fracture/Loaders/Backhoe	2011	16	25	1.52052	1.277	5.5236	5.14932	0.005	0.507	0.467	565.033	0.171
Fracture/Loaders/Backhoe	2011	26	50	1.52052	1.277	5.5236	5.14932	0.005	0.507	0.467	565.033	0.171
Fracture/Loaders/Backhoe	2011	51	120	1.49218	0.828	7.47483	4.02468	0.005	0.588	0.55	577.817	0.154
Fracture/Loaders/Backhoe	2011	121	175	0.16044	0.77	8.5169	3.7304	0.005	0.438	0.403	518.4008	0.151
Fracture/Loaders/Backhoe	2011	176	250	0.16044	0.77	8.5169	3.7304	0.005	0.438	0.403	518.4008	0.151
Fracture/Loaders/Backhoe	2011	251	500	0.17561	0.511	7.4222	2.1932	0.005	0.29	0.257	525.943	0.151
Fracture/Loaders/Backhoe	2011	501	750	0.17561	0.511	7.4222	2.1932	0.005	0.29	0.257	525.943	0.151
Fracture/Loaders/Backhoe	2012	6	15	1.54009	1.298	5.53504	5.24421	0.005	0.512	0.471	583.539	0.171
Fracture/Loaders/Backhoe	2012	16	25	1.54009	1.298	5.53504	5.24421	0.005	0.512	0.471	583.539	0.171
Fracture/Loaders/Backhoe	2012	26	50	1.54009	1.298	5.53504	5.24421	0.005	0.512	0.471	583.539	0.171
Fracture/Loaders/Backhoe	2012	51	120	1.60236	0.885	7.4849	4.02676	0.005	0.604	0.566	571.912	0.154
Fracture/Loaders/Backhoe	2012	121	175	0.16752	0.761	8.4762	3.7162	0.005	0.456	0.417	517.1457	0.153
Fracture/Loaders/Backhoe	2012	176	250	0.16752	0.761	8.4762	3.7162	0.005	0.456	0.417	517.1457	0.153
Fracture/Loaders/Backhoe	2012	251	500	0.18956	0.31	4.5564	2.03489	0.005	0.168	0.151	512.624	0.152
Fracture/Loaders/Backhoe	2012	501	750	0.18956	0.31	4.5564	2.03489	0.005	0.168	0.151	512.624	0.152
Fracture/Loaders/Backhoe	2013	6	15	1.51809	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Fracture/Loaders/Backhoe	2013	16	25	1.51809	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Fracture/Loaders/Backhoe	2013	26	50	1.51809	1.292	5.51011	5.2883	0.005	0.509	0.469	568.793	0.171
Fracture/Loaders/Backhoe	2013	51	120	1.45926	0.848	7.46023	4.02089	0.005	0.646	0.608	514.296	0.154
Fracture/Loaders/Backhoe	2013	121	175	0.19382	0.77	8.49413	3.73712	0.005	0.441	0.406	114.51	0.151
Fracture/Loaders/Backhoe	2013	176	250	0.19382	0.77	8.49413	3.73712	0.005	0.441	0.406	114.51	0.151
Fracture/Loaders/Backhoe	2013	251	500	0.176293	0.318	4.60225	2.04997	0.005	0.17	0.156	519.643	0.153
Fracture/Loaders/Backhoe	2013	501	750	0.176293	0.318	4.60225	2.04997	0.005	0.17	0.156	519.643	0.153
Fracture/Loaders/Backhoe	2014	6	15	1.50894	1.288	5.45359	5.29219	0.005	0.501	0.46	577.7275	0.171
Fracture/Loaders/Backhoe	2014	16	25	1.50894	1.288	5.45359	5.29219	0.005	0.501	0.46	577.7275	0.171
Fracture/Loaders/Backhoe	2014	26	50	1.50894	1.288	5.45359	5.29219	0.005	0.501	0.46	577.7275	0.171
Fracture/Loaders/Backhoe	2014	51	120	0.17613	0.818	7.3127	3.9876	0.005	0.363	0.318	520.7618	0.154
Fracture/Loaders/Backhoe	2014	121	175	0.17613	0.818	7.3127	3.9876	0.005	0.363	0.318	520.7618	0.154
Fracture/Loaders/Backhoe	2014	176	250	0.181196	0.487	6.48427	2.07029	0.005	0.258	0.237	517.788	0.153
Fracture/Loaders/Backhoe	2014	251	500	0.181196	0.487	6.48427	2.07029	0.005	0.258	0.237	517.788	0.153
Fracture/Loaders/Backhoe	2014	501	750	0.140039	0.118	1.825	0.96403	0.005	0.061	0.056	515.676	0.154
Fracture/Loaders/Backhoe	2015	6	15	1.48028	1.239	5.40562	5.12346	0.005	0.489	0.454	571.6674	0.171
Fracture/Loaders/Backhoe	2015	16	25	1.48028	1.239	5.40562	5.12346	0.005	0.489	0.454	571.6674	0.171
Fracture/Loaders/Backhoe	2015	26	50	1.48028	1.239	5.40562	5.12346	0.005	0.489	0.454	571.6674	0.171
Fracture/Loaders/Backhoe	2015	51	120	0.197387	0.817	7.17957	4.01434	0.005	0.457	0.417	515.3595	0.154
Fracture/Loaders/Backhoe	2015	121	175	0.197387	0.817	7.17957	4.01434	0.005	0.457	0.417	515.3595	0.154
Fracture/Loaders/Backhoe	2015	176	250	0.197387	0.817	7.17957	4.01434	0.005	0.457	0.417	515.3595	0.154
Fracture/Loaders/Backhoe	2015	251	500	0.197387	0.817	7.17957	4.01434	0.005	0.457	0.417	515.3595	0.154
Fracture/Loaders/Backhoe	2015	501	750	0.197387	0.817	7.17957	4.01434	0.005	0.457	0.417	515.3595	0.154
Fracture/Loaders/Backhoe	2016	6	15	1.48028	1.239	5.40562	5.12346	0.005	0.489	0.454	571.6674	0.171
Fracture/Loaders/Backhoe	2016	16	25	1.48028	1.239	5.40562	5.12346	0.005	0.489	0.454	571.6674	0.171
Fracture/Loaders/Backhoe	2016	26	50	1.48028	1.239	5.40562	5.12346	0.005	0.489	0.454	571.6674	0.171
Fracture/Loaders/Backhoe	2016	51	120	0.197387	0.817	7.17957	4.01434	0.005	0.457	0.417	515.3595	0.154
Fracture/Loaders/Backhoe	2016	121	175	0.197387	0.817	7.17957	4.01434	0.005	0.457	0.417	515.3595	0.154
Fracture/Loaders/Backhoe	2016	176	250	0.197387	0.817	7.17957	4.01434	0.005	0.457	0.417	515.3595	0.154
Fracture/Loaders/Backhoe	2016	251	500	0.197387	0.817	7.17957	4.01434	0.005	0.457	0.417	515.3595	0.154
Fracture/Loaders/Backhoe	2016	501	750	0.197387	0.817	7.17957	4.01434	0.005	0.457	0.417	515.3595	0.154
Fracture/Loaders/Backhoe	2017	6	15	1.48028	1.239	5.40562	5.12346	0.005	0.489	0.454	571.6674	0.171
Fracture/Loaders/Backhoe	2017	16	25	1.48028	1.239	5.40562	5.12346	0.005	0.489	0.454	571.6674	0.171
Fracture/Loaders/Backhoe	2017	26	50	1.48028	1.239	5.40562	5.12346	0.005	0.489	0.454	571.6674	0.171
Fracture/Loaders/Backhoe	2017	51	120	0.197387	0.817	7.17957	4.01434	0.005	0.457	0.417		

Wardens	2011	4	15	1.109	0.84	5.198	4.638	0.008	0.111	0.111	568.299	0.079
Wardens	2015	16	25	4.078	0.894	4.89	2.666	0.007	0.27	0.27	568.299	0.08
Wardens	2015	26	50	17.994	1.715	5.113	5.562	0.007	0.43	0.43	568.3	0.154
Wardens	2015	11	120	12.137	0.772	5.072	3.738	0.006	0.418	0.418	568.299	0.069
Wardens	2015	121	175	21.139	0.532	4.408	1.133	0.006	0.23	0.23	568.299	0.048
Wardens	2015	176	250	36.976	0.323	3.88	1.178	0.006	0.188	0.188	568.299	0.031
Wardens	2015	211	500	21.953	0.324	3.398	1.178	0.005	0.108	0.108	568.299	0.029
Wardens	2016	6	15	1.03	0.809	5.021	2.621	0.008	0.289	0.289	568.299	0.079
Wardens	2016	16	25	3.903	0.915	4.803	2.609	0.007	0.293	0.293	568.299	0.077
Wardens	2016	26	50	16.155	1.54	4.936	5.395	0.007	0.389	0.389	568.299	0.138
Wardens	2016	11	120	11.165	0.699	4.692	3.705	0.006	0.375	0.375	568.3	0.063
Wardens	2016	121	175	19.285	0.486	3.973	1.128	0.006	0.206	0.206	568.299	0.043
Wardens	2016	176	250	31.905	0.33	3.481	1.113	0.006	0.168	0.168	568.299	0.029
Wardens	2016	211	500	20.713	0.306	3.032	1.134	0.005	0.097	0.097	568.299	0.027
Wardens	2017	6	15	1.973	0.798	4.867	3.099	0.008	0.272	0.272	568.299	0.07
Wardens	2017	16	25	3.785	0.83	4.729	2.564	0.007	0.243	0.243	568.299	0.074
Wardens	2017	26	50	14.392	1.372	4.768	5.239	0.007	0.35	0.35	568.299	0.122
Wardens	2017	11	120	11.908	0.843	4.328	3.675	0.006	0.312	0.312	568.299	0.066
Wardens	2017	121	175	17.561	0.442	3.562	1.124	0.006	0.183	0.183	568.299	0.039
Wardens	2017	176	250	34.942	0.31	3.105	1.131	0.006	0.098	0.098	568.299	0.028
Wardens	2017	211	500	19.705	0.29	2.713	1.102	0.005	0.088	0.088	568.299	0.026
Wardens	2018	6	15	1.923	0.765	4.762	3.58	0.008	0.256	0.256	568.3	0.069
Wardens	2018	16	25	3.684	0.807	4.661	2.511	0.007	0.232	0.232	568.299	0.072
Wardens	2018	26	50	12.698	1.31	4.607	5.092	0.007	0.311	0.311	568.299	0.109
Wardens	2018	11	120	11.016	0.964	3.98	3.648	0.006	0.29	0.29	568.299	0.051
Wardens	2018	121	175	15.966	0.402	3.176	1.123	0.006	0.162	0.162	568.299	0.036
Wardens	2018	176	250	34.008	0.292	2.751	1.118	0.006	0.084	0.084	568.299	0.026
Wardens	2018	211	500	18.804	0.277	2.43	1.08	0.005	0.08	0.08	568.299	0.025
Wardens	2019	6	15	1.877	0.748	4.647	3.562	0.008	0.242	0.242	568.299	0.067
Wardens	2019	16	25	3.592	0.787	4.596	2.501	0.007	0.222	0.222	568.299	0.071
Wardens	2019	26	50	11.072	1.055	4.449	4.95	0.007	0.273	0.273	568.299	0.099
Wardens	2019	11	120	11.032	0.920	3.648	3.623	0.006	0.25	0.25	568.299	0.045
Wardens	2019	121	175	14.499	0.37	2.832	1.122	0.006	0.145	0.145	568.3	0.033
Wardens	2019	176	250	31.246	0.278	2.432	1.104	0.006	0.075	0.075	568.299	0.024
Wardens	2019	211	500	17.937	0.246	2.143	1.065	0.005	0.072	0.072	568.3	0.023
Wardens	2020	6	15	1.795	0.715	4.542	3.546	0.008	0.227	0.227	568.299	0.066
Wardens	2020	16	25	3.507	0.769	4.538	2.473	0.007	0.212	0.212	568.299	0.069
Wardens	2020	26	50	10.83	1.037	4.268	4.84	0.007	0.238	0.238	568.299	0.084
Wardens	2020	11	120	11.728	0.615	3.911	3.605	0.006	0.238	0.238	568.299	0.044
Wardens	2020	121	175	13.663	0.344	2.523	1.122	0.006	0.127	0.127	568.299	0.031
Wardens	2020	176	250	32.377	0.261	2.143	1.091	0.006	0.066	0.066	568.299	0.023
Wardens	2020	211	500	17.094	0.212	1.91	1.055	0.005	0.064	0.064	568.299	0.022
Wardens	2021	6	15	1.8	0.717	4.462	3.514	0.008	0.214	0.214	568.299	0.067
Wardens	2021	16	25	3.411	0.752	4.487	2.446	0.007	0.201	0.201	568.299	0.067
Wardens	2021	26	50	8.704	0.829	4.123	4.708	0.007	0.235	0.235	568.299	0.074
Wardens	2021	11	120	8.572	0.411	3.042	3.579	0.006	0.184	0.184	568.299	0.037
Wardens	2021	121	175	12.512	0.315	2.189	1.112	0.006	0.11	0.11	568.299	0.028
Wardens	2021	176	250	31.711	0.241	1.836	1.061	0.006	0.067	0.067	568.299	0.021
Wardens	2021	211	500	15.998	0.236	1.642	1.044	0.005	0.055	0.055	568.299	0.021
Wardens	2022	6	15	1.774	0.707	4.408	3.518	0.008	0.203	0.203	568.3	0.063
Wardens	2022	16	25	3.174	0.739	4.47	2.426	0.007	0.193	0.193	568.299	0.064
Wardens	2022	26	50	7.959	0.758	4.007	4.645	0.007	0.175	0.175	568.299	0.064
Wardens	2022	11	120	8.112	0.382	2.808	3.57	0.006	0.16	0.16	568.299	0.034
Wardens	2022	121	175	11.714	0.295	1.935	1.113	0.006	0.097	0.097	568.3	0.028
Wardens	2022	176	250	31.128	0.231	1.598	1.074	0.006	0.05	0.05	568.299	0.021
Wardens	2022	211	500	15.267	0.225	1.454	1.038	0.005	0.049	0.049	568.3	0.021
Wardens	2023	6	15	1.751	0.698	4.359	3.508	0.008	0.194	0.194	568.3	0.063
Wardens	2023	16	25	3.132	0.728	4.447	2.407	0.007	0.186	0.186	568.299	0.063
Wardens	2023	26	50	7.118	0.697	3.891	4.596	0.007	0.151	0.151	568.299	0.062
Wardens	2023	11	120	7.173	0.357	2.999	3.564	0.006	0.139	0.139	568.299	0.032
Wardens	2023	121	175	11.013	0.277	1.726	1.111	0.006	0.085	0.085	568.299	0.029
Wardens	2023	176	250	30.906	0.22	1.404	1.071	0.006	0.044	0.044	568.299	0.023
Wardens	2023	211	500	14.602	0.215	1.289	1.034	0.005	0.042	0.042	568.299	0.019
Wardens	2024	6	15	1.711	0.69	4.316	3.499	0.008	0.188	0.188	568.299	0.062
Wardens	2024	16	25	3.176	0.718	4.426	2.39	0.007	0.181	0.181	568.299	0.064
Wardens	2024	26	50	6.78	0.648	3.762	4.557	0.007	0.13	0.13	568.299	0.054
Wardens	2024	11	120	6.366	0.336	2.43	3.56	0.006	0.12	0.12	568.299	0.031
Wardens	2024	121	175	10.389	0.261	1.541	1.118	0.006	0.074	0.074	568.299	0.023
Wardens	2024	176	250	30.107	0.21	1.234	1.068	0.005	0.038	0.038	568.299	0.018
Wardens	2024	211	500	13.957	0.206	1.135	1.032	0.005	0.037	0.037	568.299	0.018
Wardens	2025	6	15	1.713	0.681	4.278	3.491	0.008	0.183	0.183	568.3	0.061
Wardens	2025	16	25	3.137	0.709	4.407	2.376	0.007	0.177	0.177	568.299	0.064
Wardens	2025	26	50	6.155	0.602	3.676	4.524	0.007	0.112	0.112	568.299	0.054
Wardens	2025	11	120	5.055	0.316	2.283	3.557	0.006	0.102	0.102	568.299	0.028
Wardens	2025	121	175	8.743	0.245	1.365	1.121	0.006	0.063	0.063	568.299	0.022
Wardens	2025	176	250	24.621	0.199	1.075	1.065	0.006	0.032	0.032	568.299	0.018
Wardens	2025	211	500	13.325	0.186	0.99	1.029	0.005	0.031	0.031	568.299	0.017
Wardens	2030	6	15	1.665	0.661	4.164	3.47	0.008	0.166	0.166	568.299	0.059
Wardens	2030	16	25	3.113	0.687	4.347	2.34	0.007	0.165	0.165	568.299	0.061
Wardens	2030	26	50	4.719	0.449	1.773	3.887	0.007	0.045	0.045	568.299	0.04
Wardens	2030	11	120	3.827	0.239	1.707	3.535	0.006	0.04	0.04	568.299	0.021
Wardens	2030	121	175	7.011	0.176	0.628	1.121	0.006	0.027	0.027	568.299	0.013
Wardens	2030	176	250	7.829	0.162	0.525	1.063	0.006	0.017	0.017	568.299	0.014
Wardens	2030	211	500	30.907	0.161	0.495	1.027	0.005	0.017	0.017	568.299	0.014
Wardens	2035	6	15	1.659	0.661	4.141	3.469	0.008	0.162	0.162	568.299	0.059
Wardens	2035	16	25	3.126	0.685	4.332	2.339	0.007	0.162	0.162	568.299	0.061
Wardens	2035	26	50	4.262	0.406	1.147	3.449	0.007	0.022	0.022	568.299	0.016
Wardens	2035	11	120	3.418	0.214	1.509	3.528	0.006	0.019	0.019	568.299	0.019
Wardens	2035	121	175	6.087	0.153	0.587	1.121	0.006	0.015	0.015	568.299	0.013
Wardens	2035	176	250	7.189	0.149	0.343	1.063	0.006	0.012	0.012	568.299	0.013
Wardens	2040	6	15	1.659	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Wardens	2040	16	25	3.126	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Wardens	2040	26	50	4.218	0.402	1.093	3.336	0.007	0.015	0.015	568.3	0.016
Wardens	2040	11	120	3.322	0.208	1.447	3.524	0.006	0.014	0.014	568.299	0.018
Wardens	2040	121	175	5.753	0.145	0.503	1.118	0.006	0.011	0.011	568.299	0.013
Wardens	2040	176	250	6.								

**Table 3.3 OFFROAD Default Horsepower and Load Factors**

<b>OFFROAD Equipment Type</b>	<b>Horsepower</b>	<b>Load Factor</b>
Aerial Lifts	63	0.31
Air Compressors	78	0.48
Bore/Drill Rigs	221	0.5
Cement and Mortar Mixers	9	0.56
Concrete/Industrial Saws	81	0.73
Cranes	231	0.29
Crawler Tractors	212	0.43
Crushing/Proc. Equipment	85	0.78
Dumpers/Tenders	16	0.38
Excavators	158	0.38
Forklifts	89	0.2
Generator Sets	84	0.74
Graders	187	0.41
Off-Highway Tractors	124	0.44
Off-Highway Trucks	402	0.38
Other Construction Equipment	172	0.42
Other General Industrial Equipment	88	0.34
Other Material Handling Equipment	168	0.4
Pavers	130	0.42
Paving Equipment	132	0.36
Plate Compactors	8	0.43
Pressure Washers	13	0.3
Pumps	84	0.74
Rollers	80	0.38
Rough Terrain Forklifts	100	0.4
Rubber Tired Dozers	247	0.4
Rubber Tired Loaders	203	0.36
Scrapers	367	0.48
Signal Boards	6	0.82
Skid Steer Loaders	65	0.37
Surfacing Equipment	263	0.3
Sweepers/Scrubbers	64	0.46
Tractors/Loaders/Backhoes	97	0.37
Trenchers	78	0.5
Welders	46	0.45

**Table G-13. Offroad Equipment Emission Factors by Engine Tier (grams per horsepower-hour)**

Tier	Low HP	High HP	CO	NOX	PM10	PM2.5	ROG	TOG
Tier 1	25	49	4.100	5.260	0.480	0.440	1.320	1.340
Tier 1	50	74	8.500	6.540	0.550	0.510	0.900	0.910
Tier 1	75	119	8.500	6.540	0.550	0.510	0.900	0.910
Tier 1	120	174	8.500	6.540	0.300	0.280	0.620	0.630
Tier 1	175	299	8.500	5.930	0.120	0.110	0.290	0.290
Tier 1	300	599	8.500	5.930	0.120	0.110	0.290	0.290
Tier 1	600	750	8.500	5.930	0.120	0.110	0.290	0.290
Tier 1	751	999	8.500	5.930	0.120	0.110	0.290	0.290
Tier 2	25	49	4.100	4.630	0.280	0.260	0.220	0.220
Tier 2	50	74	3.700	4.750	0.190	0.180	0.170	0.170
Tier 2	75	119	3.700	4.750	0.190	0.180	0.170	0.170
Tier 2	120	174	3.700	4.150	0.130	0.120	0.150	0.150
Tier 2	175	299	2.600	4.150	0.090	0.080	0.110	0.110
Tier 2	300	599	2.600	3.790	0.090	0.080	0.090	0.090
Tier 2	600	750	2.600	3.790	0.090	0.080	0.090	0.090
Tier 2	751	999	2.600	3.790	0.090	0.080	0.090	0.090
Tier 3	25	49	4.100	4.630	0.280	0.260	0.220	0.220
Tier 3	50	74	3.700	2.740	0.190	0.180	0.090	0.090
Tier 3	75	119	3.700	2.740	0.110	0.100	0.090	0.090
Tier 3	120	174	3.700	2.320	0.110	0.100	0.090	0.090
Tier 3	175	299	2.600	2.320	0.090	0.080	0.090	0.090
Tier 3	300	599	2.600	2.320	0.090	0.080	0.090	0.090
Tier 3	600	750	2.600	2.320	0.090	0.080	0.090	0.090
Tier 3	751	999	2.600	2.320	0.090	0.080	0.090	0.090
Tier 4 Final	25	49	4.100	2.750	0.010	0.010	0.090	0.090
Tier 4 Final	50	74	3.700	2.740	0.010	0.010	0.090	0.090
Tier 4 Final	75	119	3.700	0.260	0.010	0.010	0.050	0.050
Tier 4 Final	120	174	3.700	0.260	0.010	0.010	0.050	0.050
Tier 4 Final	175	299	2.600	0.260	0.010	0.010	0.050	0.050
Tier 4 Final	300	599	2.600	0.260	0.010	0.010	0.050	0.050
Tier 4 Final	600	750	2.600	0.260	0.010	0.010	0.050	0.050
Tier 4 Final	751	999	2.600	2.240	0.020	0.020	0.050	0.050
Tier 4 Interim	25	49	4.100	4.550	0.130	0.120	0.090	0.090
Tier 4 Interim	50	74	3.700	2.740	0.110	0.100	0.090	0.090
Tier 4 Interim	75	119	3.700	2.150	0.010	0.010	0.080	0.080
Tier 4 Interim	120	174	3.700	2.150	0.010	0.010	0.080	0.080
Tier 4 Interim	175	299	2.600	1.290	0.010	0.010	0.060	0.060
Tier 4 Interim	300	599	2.600	1.290	0.010	0.010	0.060	0.060
Tier 4 Interim	600	750	2.600	1.290	0.010	0.010	0.060	0.060
Tier 4 Interim	751	999	2.600	2.240	0.050	0.050	0.060	0.060

Source: California Air Resources Board (CARB). 2017. The Carl Moyer Program Guidelines. April. Available: [https://ww2.arb.ca.gov/sites/default/files/classic/msprog/moyer/guidelines/2017/2017\\_cmpgl.pdf](https://ww2.arb.ca.gov/sites/default/files/classic/msprog/moyer/guidelines/2017/2017_cmpgl.pdf). Accessed: December 2, 2021.

**Road Dust Emission Factors**

**Daily Paved Road Dust EF<sup>1</sup>**

$$E_{ext} = [ k (sL)^{0.91} \times (W)^{1.02} ]$$

- EF<sub>paved</sub> Annual or other long-term average emission factor in the same units as k
- k particle size multiplier for particle size range and units of interest
- sL road surface silt loading (g/m<sup>2</sup>)
- W average weight (tons) of all the vehicles raveling the road (2.4 tons)
- P Number of "wet" days with at least 0.254 (0.01 in) of precipitation during the averaging period
- N Number of days in the averaging period (e.g. 365 for annual, 91 for seasonal, 30 for monthly)

Parameters	PM10	PM2.5
k (g/VMT) <sup>2</sup>	0.997898	0.244939
sL (g/m <sup>2</sup> )	0.1	0.1
W (tons)	2.4	2.4
EF (g/mi)	3.00E-01	7.36E-02

- 1) CalEEMod User's Guide, Appendix A, p. 29
- 2) AP42: Chapter 13: Miscellaneous Sources, 13.2.1 Paved Roads, Table 13.2.1-1

**Daily Unpaved Road Dust EF<sup>1</sup> - Construction Sites**

$$E.F._{dust,i} = \left( \frac{k(s/12)^1 (S/30)^{0.5}}{(M/0.5)^{0.2}} - C \right)$$

- k particle size multiplier for particle size range and units of interest
- s surface material silt content (%)
- M surface material moisture content (%)
- S mean vehicle speed (mph)
- C emission factor for 1980s vehicle fleet exhaust, brakewear and tire wear

Parameters	PM10	PM2.5
k (g/VMT) <sup>2</sup>	816.462	81.6462
s <sup>3</sup>	8.5	8.5
M	0.5	0.5
S	15	15 Mitigated onsite speed of 15 mph for large construction equipment.
C	0.213187	0.163292
EF (g/mi)	408.7259	40.73062

- 1) CalEEMod User's Guide, Appendix A, p. 29
- 2) AP42: Chapter 13: Miscellaneous Sources, 13.2.2 Unpaved Roads, Table 13.2.2-2
- 3) AP42: Chapter 13: Miscellaneous Sources, 13.2.2 Unpaved Roads, Table 13.2.2-1, "Construction sites"

**Daily Unpaved Road Dust EF<sup>1</sup> - Gravel Roads**

$$E.F._{dust,i} = \left( \frac{k(s/12)^1 (S/30)^{0.5}}{(M/0.5)^{0.2}} - C \right)$$

- k particle size multiplier for particle size range and units of interest
- s surface material silt content (%)
- M surface material moisture content (%)
- S mean vehicle speed (mph)
- C emission factor for 1980s vehicle fleet exhaust, brakewear and tire wear

Parameters	PM10	PM2.5
k (g/VMT) <sup>2</sup>	816.462	81.6462
s <sup>3</sup>	6.4	6.4
M	0.5	0.5
S	15	15 Mitigated onsite speed of 15 mph for Gravel Roads
C	0.213187	0.163292
EF (g/mi)	307.6939	30.62742

- 1) CalEEMod User's Guide, Appendix A, p. 29
- 2) AP42: Chapter 13: Miscellaneous Sources, 13.2.2 Unpaved Roads, Table 13.2.2-2
- 3) AP42: Chapter 13: Miscellaneous Sources, 13.2.2 Unpaved Roads, Table 13.2.2-1, "Publicly Accessible Roads"

Vendor

**Speed**

5
10
15
20
25
30
35
40

Haul

**Speed**

5
10
15
20
25
30
35
40

Worker

**Speed**

5
10
15
20
25
30
35
40

Project Name:MCWRA ILT Project SLOAPCD Portion - Mitigated  
 -Construction Days per week

Construction Schedule<sup>1</sup>

Phase feature <sup>5</sup>	Phase Name <sup>5</sup>	Combined Phase Name <sup>5</sup>	Code <sup>5</sup>	Start Date <sup>5</sup>	End Date <sup>5</sup>	# of Workdays <sup>5</sup>
Tunnel Intake Structure	Excavate and support for approach channel and intake structure	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	025	10/2/2023	12/1/2023	45
Tunnel Intake Structure	Construct Intake structure structural elements	Tunnel Intake Structure - Construct Intake structure structural elements	026	12/4/2023	6/28/2024	150
Tunnel Intake Structure	Install mechanical systems	Tunnel Intake Structure - Install mechanical systems	027	7/1/2024	8/9/2024	30
Tunnel Intake Structure	Construct Control Building	Tunnel Intake Structure - Construct Control Building	028	8/12/2024	9/20/2024	30
Tunnel Intake Structure	Install pipe connection from tunnel to intake and backfill	Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	029	11/18/2024	12/13/2024	20
Tunnel Intake Structure	Install fencing and security systems	Tunnel Intake Structure - Install fencing and security systems	030	1/13/2025	1/31/2025	15
Tunnel Intake Structure	Install electrical and control systems	Tunnel Intake Structure - Install electrical and control systems	031	12/16/2024	1/10/2025	20
Tunnel Intake Structure	Testing of control systems	Tunnel Intake Structure - Testing of control systems	032	1/13/2025	1/24/2025	10
Tunnel Intake Structure	Re-vegetation and site demob	Tunnel Intake Structure - Re-vegetation and site demob	033	2/3/2025	2/28/2025	20
Tunnel Intake Structure Portal	Upgrade access road from Nacimiento Reservoir Drive	Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	059	4/17/2023	5/26/2023	30
Tunnel Intake Structure Portal	Install erosion/sediment control and silt fencing	Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	060	5/29/2023	7/7/2023	30
Tunnel Intake Structure Portal	Grade and improve staging/laydown area	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	061	5/29/2023	6/9/2023	10
Tunnel Intake Structure Portal	Install buried power/fiber optic lines	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	062	4/17/2023	6/16/2023	45
Tunnel Intake Structure Portal	Install temporary utilities. Water, power, sewage Handling, communications	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	063	7/10/2023	8/18/2023	30
Tunnel Intake Structure Portal	TBM reception portal excavation and support	Tunnel Intake Structure Portal - TBM reception portal excavation and support	064	8/21/2023	9/29/2023	30
Tunnel Intake Structure Portal	Remove TBM	Tunnel Intake Structure Portal - Remove TBM	065	10/7/2024	11/15/2024	30

SOIL VOLUMES

Soil Export Tunnel Intake Structure

Parameter	Value
Total Export Volume (CY) <sup>1</sup>	76,327.00
Haul Truck Capacity (CY/truck) <sup>2</sup>	16.00
Haul Trucks Required	4,770.44
<b>Total One-Way Haul Trucks</b>	<b>9,542.00</b>

Soil Import Tunnel Intake Structure

Parameter	Value
Total Import Volume (CY) <sup>1</sup>	30,118.00
Haul Truck Capacity (CY/truck) <sup>2</sup>	16.00
Haul Trucks Required	1,882.38
<b>Total One-Way Haul Trucks</b>	<b>3,766.00</b>

Total additional import

Parameter	Value
<b>Total One-Way Truck Trips</b>	<b>13,308.00</b>

CONCRETE POUR

Concrete Volume - Intake Structure

Parameter	Value
Total Concrete Volume (CY) <sup>1</sup>	9,493.00
Max Daily Concrete Volume (CY) <sup>1</sup>	52.74
Concrete Truck Capacity (CY/truck) <sup>2</sup>	8.00
Max Daily Concrete Trucks	6.59
<b>Total One-Way Truck Trips</b>	<b>14.00</b>

Aggregate and Chipseal<sup>6</sup>

Aggregate - South Portal

Parameter	Value
Total Import Volume (CY) <sup>1</sup>	2,316.00
Haul Truck Capacity (CY/truck) <sup>2</sup>	16.00
Haul Trucks Required	144.75
<b>Total One-Way Haul Trucks</b>	<b>290.00</b>

Aggregate - South Portal

Parameter	Value
<b>Total One-Way Truck Trips</b>	<b>290.00</b>

Chip Seal/Paving

Chipseal amount - South Portal

Parameter	Value
Total Chipseal Volume (cubic yards) <sup>1</sup>	3,444.00
Total Chipseal Volume (square feet) <sup>1</sup>	93,000.00
Total Chipseal Volume (Gallons) <sup>7</sup>	1,395.00
Max Daily Chip Seal Gallons (CY) <sup>1</sup>	3,100.00
Chipseal Truck Capacity (Gallon/truck) <sup>8</sup>	600.00
Max Daily Chip Seal Trucks	6.00
<b>Total One-Way Truck Trips</b>	<b>12.00</b>

AMM GEN-8 Avoidance/Minimization Measure

Water 2x a day/ every four hours (unpaved roads) <sup>4</sup>	55%	
Street sweeping (paved roads) <sup>5</sup>	7%	
Cover storage piles (material handling) <sup>4</sup>	90%	
		<b>MITIGATION MEASURES - DUST</b>
Water Truck/Watering PM Reduction <sup>4</sup>	reduction	
Every three hours + 12% moisture	69%	
Every two hours	74%	
Gravel Road /Trackout for connection to paved roads	46%	
Chemical Dust Suppression (unpaved roads) <sup>4</sup> pg6-11	84%	
		<b>ONSITE VEHICLE SPEED</b>
SLO Region Default	32.40	mph
15 mph mitigation	15.00	mph
		<b>Offroad engine Emission Reduction</b>
SLOAPCD BACT	Tier 4 Final for equip. over 50hp	

Vendor Truck Trips<sup>8</sup>

Parameter	Value
<b>Daily Vendor Trips<sup>8</sup></b>	<b>8.00</b>

Sources

- 1 [Project Description](#)
- 2 [Concrete Truck Capacity](#)
- 3 [worker trips](#)
- 4 [https://www.env.nm.gov/wp-content/uploads/sites/2/2017/02/WRAP\\_FDHandbook\\_Rev\\_06.pdf](https://www.env.nm.gov/wp-content/uploads/sites/2/2017/02/WRAP_FDHandbook_Rev_06.pdf)
- 5 [Saved project files](#)
- 6 [Chip sealing trailers, trucks and chip spreaders 518-218-7676 \(pavementgroup.com\)](#)
- 7 [Asphalt Sealcoating and Crack Filling Calculators | Asphalt Sealcoating Direct](#)
- 8 [ILT Data Needs - Vendor Truck info](#)
- 9 [CalEEMod User guide Page 36](#)

Total # of One-Way Worker Trips/day (Roundtrip) <sup>3</sup>	Total # of One-Way Vendor Trips/day (Roundtrip)	Total # of One-Way Haul Trucks Trips (Roundtrip)	Total One-Way Haul Truck Trips/day (Roundtrip)	Offsite Trip Length (mi)			Onsite Trip Length (mi)			Vehicle Class		
				Worker	Vendor	Haul	ONSITE (Worker)	ONSITE (Vendor)	ONSITE (Haul)	Worker	Vendor	Haul
16	8	9542	214	20.95	20.95	5.55	0.14	0.14	1.51	LD_Mix	HDT_Mix	HHDT
18	36	3766	26	20.95	20.95	27.95	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
4	8	0	0	20.95	20.95	0.00	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
6	8	0	0	20.95	20.95	0.00	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
8	8	0	0	20.95	20.95	0.00	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
6	8	0	0	20.95	20.95	0.00	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
6	8	0	0	20.95	20.95	0.00	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
6	0	0	0	20.95	20.95	0.00	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
8	10	0	0	20.95	20.95	27.95	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
8	22	290	10	20.95	20.95	27.95	1.09	1.09	1.09	LD_Mix	HDT_Mix	HHDT
8	8	0	0	20.95	20.95	0.95	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
10	10	0	0	20.95	20.95	0.95	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
6	8	0	0	20.95	20.95	0.95	1.09	1.09	1.09	LD_Mix	HDT_Mix	HHDT
6	12	0	0	20.95	20.95	0.95	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
8	8	0	0	20.95	20.95	27.95	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT
56	0	0	0	20.95	20.95	0.95	0.14	0.14	0.14	LD_Mix	HDT_Mix	HHDT

LD\_Mix LDA, LDT1, LDT2  
HDT\_Mix T6 Instate Construction Heavy/T7 Single Construction  
HHDT T7 Single Construction

Trip Lengths

Location	feet	miles	Source
Outlet Staging area to Energy Dissipation Structure - MBARD	737	0.14	Waypoint/PD
Tunnel opening to Soil Disposal Area - MBARD	2000	0.38	Waypoint/PD
Length of the Energy Dissipation/Site Access Road - MBARD	1600	0.30	Waypoint/PD
Length of the ATV Trail - MBARD	3045	0.58	Waypoint/PD
Spillway Work Staging Area to Work Area - MBARD	2750	0.52	Waypoint/PD
Width of Spillway area - MBARD	1800	0.34	Waypoint/PD
Outlet Staging Area Length - MBARD	450	0.09	Waypoint/PD
Intake Staging Area Length - SLOAPCD	750	0.14	Waypoint/PD
Length of Road from Nacimiento Lake Drive to Intake Structure - SLOAPCD	5000	0.95	Waypoint/PD
Vault Site Access Road - MBARD	6600	1.25	Waypoint/PD
Width of Soil disposal area - MBARD	800	0.15	Waypoint/PD
Length of Tunnel within SLOAPCD (underground)	9410	1.78	Google Earth
Distance to Paso Robles Landfill	-	27.00	PD
Distance from Nacimiento Lake Drive to Vault site access Road	-	4.60	Google Earth
Vault access Road to Soil disposal Area	7220	1.37	Waypoint/PD

Offroad Equipment (Fossil Fuel) Inventory

PLEASE READ

Code	Phase	Equipment Name	General Equipment Category	#/day	Hrs/Day	# of Equipment	Fuel Type	Engine Horsepower (if known)
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	513
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Compactor, Cat 816, 25ton	Other Construction Equipment	45	10	2	Diesel	220
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Mine Truck 20ton/15cy	Off-Highway Trucks	45	10	2	Diesel	214
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Pile Hammer	Bore/Drill Rigs	45	10	1	Diesel	40
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	246
026	Tunnel Intake Structure - Construct Intake structure structural elements	Concrete Pump Truck	--	17	10	2	Diesel	500
026	Tunnel Intake Structure - Construct Intake structure structural elements	Concrete Truck	--	17	4	5	Diesel	300
026	Tunnel Intake Structure - Construct Intake structure structural elements	Pickup	--	45	10	3	--	350
027	Tunnel Intake Structure - Install mechanical systems	Pickup	--	10	10	1	--	350
028	Tunnel Intake Structure - Construct Control Building	Pickup	--	30	10	1	--	350
028	Tunnel Intake Structure - Construct Control Building	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	246
029	Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	Pickup	--	20	10	1	--	350
030	Tunnel Intake Structure - Install fencing and security systems	Pickup	--	15	10	1	--	350
031	Tunnel Intake Structure - Install electrical and control systems	Pickup	--	20	10	1	--	350
032	Tunnel Intake Structure - Testing of control systems	Pickup	--	10	10	1	--	350
033	Tunnel Intake Structure - Re-vegetation and site demob	Pickup	--	10	10	1	--	350
033	Tunnel Intake Structure - Re-vegetation and site demob	Water Truck	--	10	10	1	diesel	350
059	Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	Pickup	--	15	10	1	--	350
059	Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	Pile Hammer	Crushing/Proc. Equipment	15	10	1	diesel	40
060	Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	Pickup	Pickup	10	10	1	--	350
060	Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	Water Truck	--	10	10	1	Diesel	350
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Dozer Cat D6/5.6cy	Rubber Tired Dozers	10	10	1	Diesel	145
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Mine Truck 20ton/15cy	Off-Highway Trucks	10	10	1	Diesel	214
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Water Truck	--	10	10	1	diesel	350
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	10	10	1	Diesel	246
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	513
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Compactor, Cat 816, 25ton	Other Construction Equipment	45	10	2	Diesel	220
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Mine Truck 20ton/15cy	Off-Highway Trucks	45	10	2	Diesel	214
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	246
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	513
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Compactor, Cat 816, 25ton	Other Construction Equipment	30	10	2	Diesel	220
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Mine Truck 20ton/15cy	Off-Highway Trucks	30	10	2	Diesel	214
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	246
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Backhoe Cat 375, 176k/5cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	273
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Crawler Crane 100ton/200'	Cranes	30	10	1	Diesel	265
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Excavator >0.5cy	Excavators	30	10	1	Diesel	100
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Hydraulic Crane 40ton/105'	Cranes	30	10	1	Diesel	152
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Mine Truck 20ton/15cy	Off-Highway Trucks	30	10	1	Diesel	214
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	246
065	Tunnel Intake Structure Portal - Remove TBM	500 Ton Crane	Cranes	30	24	1	Diesel	1325
065	Tunnel Intake Structure Portal - Remove TBM	Compressor, Stationary 1200cfm	Air Compressors	30	24	1	Electric	350
065	Tunnel Intake Structure Portal - Remove TBM	Crawler Crane 100ton/200'	Cranes	30	24	1	Diesel	265
065	Tunnel Intake Structure Portal - Remove TBM	EPBM and Backup 14'9"	Bore/Drill Rigs	30	24	1	Electric	1800
065	Tunnel Intake Structure Portal - Remove TBM	Flat Car, Rail	Other Material Handling Equipment	30	24	1	--	0
065	Tunnel Intake Structure Portal - Remove TBM	Hydraulic Crane 20ton/60'	Cranes	30	24	1	Diesel	130
065	Tunnel Intake Structure Portal - Remove TBM	Locomotive 12ton/120hp	Other Material Handling Equipment	30	24	1	Diesel	120
065	Tunnel Intake Structure Portal - Remove TBM	Pump, trash 200gpm/100ft head	Other Construction Equipment	30	24	1	Electric	10
065	Tunnel Intake Structure Portal - Remove TBM	Ventilation Fan 40hp	Other Construction Equipment	30	24	1	Electric	40
065	Tunnel Intake Structure Portal - Remove TBM	Water Treatment Plant	Other Construction Equipment	30	24	1	Electric	200
065	Tunnel Intake Structure Portal - Remove TBM	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	24	1	Diesel	246
						Total for QC	69	

Notes:

- 1. Equipment that will not be modeled.
- 2. Offroad construction equipment is listed.
- 3. Onroad equipment is listed.
- 4. Electric equipment is listed.



SLOAPCD and Tunneling -offroad equipment

Code	Phase	Equipment Name	General Equipment Category	#/day	Hrs/Day	# of Equipment	Fuel Type	Engine Horsepower
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	513
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Compactor, Cat 816, 25ton	Other Construction Equipment	45	10	2	Diesel	220
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Mine Truck 20ton/15cy	Off-Highway Trucks	45	10	2	Diesel	214
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Pile Hammer	Bore/Drill Rigs	45	10	1	Diesel	40
025	Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	246
028	Tunnel Intake Structure - Construct Control Building	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	246
059	Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	Pile Hammer	Crushing/Proc. Equipment	15	10	1	diesel	40
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Dozer Cat D6/5.6cy	Rubber Tired Dozers	10	10	1	Diesel	145
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Mine Truck 20ton/15cy	Off-Highway Trucks	10	10	1	Diesel	214
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	10	10	1	Diesel	246
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	513
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Compactor, Cat 816, 25ton	Other Construction Equipment	45	10	2	Diesel	220
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Mine Truck 20ton/15cy	Off-Highway Trucks	45	10	2	Diesel	214
062	Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	45	10	2	Diesel	246
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Backhoe Cat 375, 176k,5cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	513
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Compactor, Cat 816, 25ton	Other Construction Equipment	30	10	2	Diesel	220
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Mine Truck 20ton/15cy	Off-Highway Trucks	30	10	2	Diesel	214
063	Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	2	Diesel	246
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Backhoe Cat 375, 176k/5cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	273
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Crawler Crane 100ton/200'	Cranes	30	10	1	Diesel	265
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Excavator >0.5cy	Excavators	30	10	1	Diesel	100
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Hydraulic Crane 40ton/105'	Cranes	30	10	1	Diesel	152
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Mine Truck 20ton/15cy	Off-Highway Trucks	30	10	1	Diesel	214
064	Tunnel Intake Structure Portal - TBM reception portal excavation and support	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	10	1	Diesel	246
065	Tunnel Intake Structure Portal - Remove TBM	500 Ton Crane	Cranes	30	24	1	Diesel	1325
065	Tunnel Intake Structure Portal - Remove TBM	Crawler Crane 100ton/200'	Cranes	30	24	1	Diesel	265
065	Tunnel Intake Structure Portal - Remove TBM	Flat Car, Rail	Other Material Handling Equipment	30	24	1	--	0
065	Tunnel Intake Structure Portal - Remove TBM	Hydraulic Crane 20ton/60'	Cranes	30	24	1	Diesel	130
065	Tunnel Intake Structure Portal - Remove TBM	Locomotive 12ton/120hp	Other Material Handling Equipment	30	24	1	Diesel	120
065	Tunnel Intake Structure Portal - Remove TBM	Wheel Loader Cat 966/4.8 cy	Tractors/Loaders/Backhoes	30	24	1	Diesel	246

**Vehicle Inventory - Onroad**

Code	Phase	Equipment Name	General Equipment Category	#/day	Hrs/Day	# of Equipment	Fuel Type	Engine Horsepower (if known)
026	Tunnel Intake Structure - Construct Intake structure structural elements	Concrete Pump Truck	--	17	10	2	Diesel	500
026	Tunnel Intake Structure - Construct Intake structure structural elements	Concrete Truck	--	17	4	5	Diesel	300
026	Tunnel Intake Structure - Construct Intake structure structural elements	Pickup	--	45	10	3	--	350
027	Tunnel Intake Structure - Install mechanical systems	Pickup	--	10	10	1	--	350
028	Tunnel Intake Structure - Construct Control Building	Pickup	--	30	10	1	--	350
029	Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	Pickup	--	20	10	1	--	350
030	Tunnel Intake Structure - Install fencing and security systems	Pickup	--	15	10	1	--	350
031	Tunnel Intake Structure - Install electrical and control systems	Pickup	--	20	10	1	--	350
032	Tunnel Intake Structure - Testing of control systems	Pickup	--	10	10	1	--	350
033	Tunnel Intake Structure - Re-vegetation and site demob	Pickup	--	10	10	1	--	350
033	Tunnel Intake Structure - Re-vegetation and site demob	Water Truck	--	10	10	1	diesel	350
059	Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	Pickup	--	15	10	1	--	350
060	Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	Pickup	Pickup	10	10	1	--	350
060	Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	Water Truck	--	10	10	1	Diesel	350
061	Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Water Truck	--	10	10	1	diesel	350

1. This equipment would just be used to calculate vendor truck trips. Pickup trucks are accounted in the worker trips.

**Offroad Equipment (Electric) Inventory**

1 hp = 0.7456999 kilowatts

Code	Phase	equipment Name	Category	Days	Hours per day	Number	Fuel Type	Horsepower	Kilowatts	Kilowatt Hours (day)	Kilowatt Hours (total)
065	Tunnel Intake Structure Portal - Remove TBM	Compressor, Stationary 1200cfm	Air Compressors	30	24	1	Electric	350	260.99495	6263.878908	187916.3672
065	Tunnel Intake Structure Portal - Remove TBM	EPBM and Backup 14'9"	Bore/Drill Rigs	30	24	1	Electric	1800	1342.2598	32214.23438	966427.0315
065	Tunnel Intake Structure Portal - Remove TBM	Pump, trash 200gpm/100ft head	Other Construction Equipment	30	24	1	Electric	10	7.4569987	178.9679688	5369.039064
065	Tunnel Intake Structure Portal - Remove TBM	Ventilation Fan 40hp	Other Construction Equipment	30	24	1	Electric	40	29.827995	715.8718752	21476.15626
065	Tunnel Intake Structure Portal - Remove TBM	Water Treatment Plant	Other Construction Equipment	30	24	1	Electric	200	149.13997	3579.359376	107380.7813

1. Provided by the contractor. Assumed 100% load factor to calculate kilowatt hours.

Total kWh 1288569.375

Regional Emissions Summary

Phase Name	Start Date	End Date	# of Workdays	Daily Emissions (lb/day)									Daily Emissions (lb/day)			Total MT						
				ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e		
Tunnel Intake Structure	10/2/23	12/1/23	45	1.6	23.8	77.9	0.2	72.6	0.3	72.9	10.3	0.3	10.6	17642.73	3.18	1.22	360.12	0.06	0.02	369.15		
Tunnel Intake Structure	12/4/23	6/28/24	150	1.6	8.5	2.7	0.1	4.9	0.1	5.0	3.9	0.1	4.0	5545.45	0.02	0.84	377.31	0.00	0.06	394.37		
Tunnel Intake Structure	7/1/24	8/9/24	30	0.0	0.8	0.4	0.0	0.8	0.0	0.8	0.8	0.0	0.8	600.37	0.00	0.09	8.17	0.00	0.00	8.52		
Tunnel Intake Structure	8/12/24	9/20/24	30	0.2	1.4	8.0	0.0	1.0	0.0	1.0	1.2	0.0	1.2	1586.97	0.31	0.09	21.60	0.00	0.00	22.06		
Tunnel Intake Structure	11/18/24	12/13/24	20	0.1	0.9	0.7	0.0	1.1	0.0	1.1	1.5	0.0	1.5	660.30	0.01	0.09	5.99	0.00	0.00	6.23		
Tunnel Intake Structure	1/13/25	1/31/25	15	0.1	0.8	0.5	0.0	1.0	0.0	1.0	1.1	0.0	1.2	623.14	0.00	0.09	4.24	0.00	0.00	4.42		
Tunnel Intake Structure	12/16/24	1/10/25	20	0.1	0.9	0.5	0.0	1.0	0.0	1.0	1.2	0.0	1.2	630.34	0.00	0.09	5.72	0.00	0.00	5.96		
Tunnel Intake Structure	1/13/25	1/24/25	10	0.0	0.0	0.4	0.0	0.4	0.0	0.4	1.1	0.0	1.1	88.44	0.00	0.00	0.40	0.00	0.00	0.41		
Tunnel Intake Structure	2/3/25	2/28/25	20	0.1	1.0	0.7	0.0	1.2	0.0	1.2	1.5	0.0	1.5	786.30	0.01	0.11	7.13	0.00	0.00	7.43		
Tunnel Intake Structure	4/17/23	5/26/23	30	0.4	4.6	3.8	0.0	16.4	0.0	16.5	12.4	0.0	12.4	3228.28	0.03	0.43	41.27	0.00	0.01	43.03		
Tunnel Intake Structure	5/29/23	7/7/23	30	0.1	0.9	0.7	0.0	1.1	0.0	1.1	1.5	0.0	1.6	667.62	0.01	0.09	9.08	0.00	0.00	9.45		
Tunnel Intake Structure	5/29/23	6/9/23	10	0.4	2.4	16.3	0.0	3.9	0.1	4.0	3.2	0.1	3.3	3249.09	0.79	0.11	14.74	0.00	0.00	14.98		
Tunnel Intake Structure	4/17/23	6/16/23	45	1.1	6.2	70.8	0.1	6.6	0.2	6.8	8.6	0.2	8.8	10189.05	3.08	0.09	207.98	0.06	0.00	210.13		
Tunnel Intake Structure	7/10/23	8/18/23	30	1.1	6.5	70.9	0.1	1.2	0.2	1.5	1.2	0.2	1.4	10425.91	3.08	0.13	141.87	0.04	0.00	143.46		
Tunnel Intake Structure	8/21/23	9/29/23	30	0.6	3.4	31.1	0.1	1.1	0.1	1.2	1.5	0.1	1.6	5192.93	1.47	0.09	70.66	0.02	0.00	71.53		
Tunnel Intake Structure	10/7/24	11/15/24	30	2.1	9.1	99.6	0.2	3.8	0.3	4.1	10.1	0.3	10.4	16931.99	6.37	0.17	230.41	0.09	0.00	233.26		
0				1.6	23.8	99.6	0.2	72.6	0.3	72.9	21.0	0.3	21.3							Total	1544.39	
Max Daily (lb/day)					25.4	99.6	0.2	72.6	0.3	72.9	21.0	0.3	21.3									
SLOAPCD Regional Thresholds (Daily Thresholds)					137	-	-	-	-	-	-	-	-									
Exceeds Threshold?					No	No	No	No	No	No	No	No	No									
																				100	-Year Amortization	15

Row Labels	Daily Emissions (lb/day)									
	Max of VOC	Max of NOX	Max of CO	Max of SOX	Max of Fugitive PM10	Max of Exhaust PM10	Max of Total PM10	Max of Fugitive PM2.5	Max of Exhaust PM2.5	Max of Total PM2.5
2023	1.6	23.8	87.8	0.2	72.6	0.3	72.9	21.0	0.3	21.3
2024	2.1	9.1	99.6	0.2	4.9	0.3	5.0	10.1	0.3	10.4
2025	0.1	1.0	0.9	0.0	1.4	0.0	1.4	2.2	0.0	2.2
Max Daily (lbs/day)	2.1	23.8	99.6	0.2	72.6	0.3	72.9	21.0	0.3	21.3
	25.4		99.6	0.2	72.6	0.3	72.9	21.0	0.3	21.3
SLOAPCD Regional Thresholds (Daily Thresholds)	137	-	-	-	-	-	-	7	-	-
	No	No	No	No	No	No	No	No	No	No

Total GHG Emission Per Phase									
Phase Name	Start Date	End Date	# of Workdays	CO2 (MT)	CH4 (MT)	N2O (MT)	CO2e (MT)	Amortized CO2e (MT)	
Tunnel Intake Structure	10/2/23	2/28/25	370	790.7	0.1	0.1	818.5	8.2	
Tunnel Intake Structure Portal	4/17/23	11/15/24	415	716.0	0.2	0.0	725.8	7.3	

Regional Emissions Summary - Tons per Quarter

Row Labels	Quarters	Sum of VOC Tons	Sum of NOx Tons	Sum of CO tons	Sum of SOX tons	Sum of Fugitive PM10 Tons	Sum of Exhaust PM10 Ton	Sum of Total PM10 Tons	Sum of Fugitive PM2.5 Tons	Sum of Exhaust PM2.5 Tons	Sum of Total PM2.5 Tons	Sum of ROG + NOx
2023	Qtr2	0.0323	0.2320	1.7413	0.0031	0.4269	0.0059	0.4328	0.4154	0.0059	0.4212	0.2642
2023	Qtr3	0.0247	0.1508	1.5307	0.0025	0.0378	0.0048	0.0426	0.0453	0.0048	0.0501	0.1755
2023	Qtr4	0.0518	0.6196	1.7788	0.0045	1.6821	0.0077	1.6898	0.2712	0.0076	0.2788	0.6714
2024	Qtr1	0.0515	0.2747	0.0863	0.0017	0.1589	0.0028	0.1616	0.1273	0.0027	0.1300	0.3262
2024	Qtr2	0.0515	0.2747	0.0863	0.0017	0.1589	0.0028	0.1616	0.1273	0.0027	0.1300	0.3262
2024	Qtr3	0.0031	0.0332	0.1256	0.0003	0.0269	0.0006	0.0274	0.0295	0.0005	0.0300	0.0363
2024	Qtr4	0.0327	0.1503	1.5036	0.0028	0.0737	0.0053	0.0789	0.1730	0.0053	0.1783	0.1830
2025	Qtr1	0.0016	0.0198	0.0146	0.0001	0.0255	0.0002	0.0257	0.0338	0.0002	0.0340	0.0214
2025	Qtr2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2025	Qtr3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2025	Qtr4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Regional Emissions Summary - Quarterly

Quarters	Sum of VOC	Sum of NOx Tons	Sum of CO tons	Sum of SOX tons	Sum of Fugitive PM10	Sum of Exhaust PM10 Ton	Sum of Total PM10 Tons	Sum of Fugitive PM2.5 Tons	Sum of Exhaust PM2.5 Tons	Sum of Total PM2.5 Tons	Sum of ROG + NOx
Q2 2023	0.0	0.2	1.7	0.0	0.4	0.0	0.4	0.4	0.0	0.4	0.3
Q3 2023	0.0	0.2	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Q4 2023	0.1	0.6	1.8	0.0	1.7	0.0	1.7	0.3	0.0	0.3	0.7
Q1 2024	0.1	0.3	0.1	0.0	0.2	0.0	0.2	0.1	0.0	0.1	0.3
Q2 2024	0.1	0.3	0.1	0.0	0.2	0.0	0.2	0.1	0.0	0.1	0.3
Q3 2024	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Q4 2024	0.0	0.2	1.5	0.0	0.1	0.0	0.1	0.2	0.0	0.2	0.2
Q1 2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Q2 2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Q3 2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Q4 2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.1	0.6	1.8	0.0	1.7	0.0	1.7	0.4	0.0	0.4	0.7
SLOAPCD Threshold Tier 1	-	-	-	-	2.50	-	-	-	0.13	-	2.50
Exceed Threshold	No	No	No	No	No	No	No	No	No	No	No
PCD Threshold	-	-	-	-	2.5	-	-	-	0.32	-	6.30
Exceed Threshold	No	No	No	No	No	No	No	No	No	No	No
	Q4 2024	Q4 2024	Q4 2024	Q4 2024	Q4 2023	Q4 2024	Q4 2023	Q4 2023	Q4 2024	Q4 2023	Q4 2024

Offroad Equipment

Phase Name	Start	End	# of Workdays	First Year of CSTN	EF Year	Equipment Type	# of Equipment	hours/day	HP	LF
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	2023	Tractors/Loaders/Backhoes	2	10	513	0.37
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	2023	Other Construction Equipment	2	10	220	0.42
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	2023	Off-Highway Trucks	2	10	214	0.38
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	2023	Bore/Drill Rigs	1	10	40	0.5
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	2023	Tractors/Loaders/Backhoes	2	10	246	0.37
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	2024	Tractors/Loaders/Backhoes	1	10	246	0.37
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	15	2023	2023	Crushing/Proc. Equipment	1	10	40	0.78
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	2023	Rubber Tired Dozers	1	10	145	0.4
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	2023	Off-Highway Trucks	1	10	214	0.38
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	2023	Tractors/Loaders/Backhoes	2	10	513	0.37
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	2023	Other Construction Equipment	2	10	220	0.42
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	2023	Off-Highway Trucks	2	10	214	0.38
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	2023	Tractors/Loaders/Backhoes	2	10	246	0.37
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	2023	Tractors/Loaders/Backhoes	2	10	513	0.37
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	2023	Other Construction Equipment	2	10	220	0.42
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	2023	Off-Highway Trucks	2	10	214	0.38
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	2023	Tractors/Loaders/Backhoes	2	10	246	0.37
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	2023	Tractors/Loaders/Backhoes	1	10	273	0.37
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	2023	Cranes	1	10	265	0.29
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	2023	Excavators	1	10	100	0.38
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	2023	Cranes	1	10	152	0.29
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	2023	Off-Highway Trucks	1	10	214	0.38
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	2023	Tractors/Loaders/Backhoes	1	10	246	0.37
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	2024	Cranes	1	24	1325	0.29
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	2024	Cranes	1	24	265	0.29
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	2024	Other Material Handling Equipment	1	24	0	0.4
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	2024	Cranes	1	24	130	0.29
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	2024	Other Material Handling Equipment	1	24	120	0.4
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	2024	Tractors/Loaders/Backhoes	1	24	246	0.37

Phase Name	Emission Factor (g/bhp-hr)												
	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	476.43	0.15	0.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.56	0.15	0.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	475.05	0.15	0.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.71	0.15	0.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	476.43	0.15	0.00
Tunnel Intake Structure - Construct Control Building	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	476.73	0.15	0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	568.30	0.03	0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	474.60	0.15	0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	475.05	0.15	0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	476.43	0.15	0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	476.43	0.15	0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.56	0.15	0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	475.05	0.15	0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	476.43	0.15	0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	476.43	0.15	0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	469.56	0.15	0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	475.05	0.15	0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	476.43	0.15	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	476.43	0.15	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.97	0.15	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.28	0.15	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.97	0.15	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	475.05	0.15	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	476.43	0.15	0.00
Tunnel Intake Structure Portal - Remove TBM	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.96	0.15	0.00
Tunnel Intake Structure Portal - Remove TBM	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.96	0.15	0.00
Tunnel Intake Structure Portal - Remove TBM	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.22	0.15	0.00
Tunnel Intake Structure Portal - Remove TBM	0.05	0.26	2.60	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.96	0.15	0.00
Tunnel Intake Structure Portal - Remove TBM	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	472.22	0.15	0.00
Tunnel Intake Structure Portal - Remove TBM	0.05	0.26	3.70	0.01	0.00	0.01	0.01	0.00	0.01	0.01	476.73	0.15	0.00

Offroad Equipment Phase Name	Emissions (lb/day)												Total MT				
	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.42	2.18	30.97	0.04	0.00	0.08	0.08	0.00	0.08	0.08	3987.36	1.29	0.00	81.39	0.03	0.00	82.05
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.20	1.06	15.07	0.02	0.00	0.04	0.04	0.00	0.04	0.04	1913.06	0.62	0.00	39.05	0.01	0.00	39.36
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.18	0.93	9.32	0.02	0.00	0.04	0.04	0.00	0.04	0.04	1703.34	0.55	0.00	34.77	0.01	0.00	35.05
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.02	0.11	1.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	207.11	0.07	0.00	4.23	0.00	0.00	4.26
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.20	1.04	14.85	0.02	0.00	0.04	0.04	0.00	0.04	0.04	1912.07	0.62	0.00	39.03	0.01	0.00	39.34
Tunnel Intake Structure - Construct Control Building	0.10	0.52	7.42	0.01	0.00	0.02	0.02	0.00	0.02	0.02	956.64	0.31	0.00	13.02	0.00	0.00	13.12
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	0.03	0.18	2.55	0.00	0.00	0.01	0.01	0.00	0.01	0.01	390.90	0.02	0.00	2.66	0.00	0.00	2.66
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.06	0.33	3.32	0.01	0.00	0.01	0.01	0.00	0.01	0.01	606.86	0.20	0.00	2.75	0.00	0.00	2.77
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.09	0.47	4.66	0.01	0.00	0.02	0.02	0.00	0.02	0.02	851.67	0.28	0.00	3.86	0.00	0.00	3.89
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.10	0.52	7.42	0.01	0.00	0.02	0.02	0.00	0.02	0.02	956.03	0.31	0.00	4.34	0.00	0.00	4.37
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.42	2.18	30.97	0.04	0.00	0.08	0.08	0.00	0.08	0.08	3987.36	1.29	0.00	81.39	0.03	0.00	82.05
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.20	1.06	15.07	0.02	0.00	0.04	0.04	0.00	0.04	0.04	1913.06	0.62	0.00	39.05	0.01	0.00	39.36
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.18	0.93	9.32	0.02	0.00	0.04	0.04	0.00	0.04	0.04	1703.34	0.55	0.00	34.77	0.01	0.00	35.05
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.20	1.04	14.85	0.02	0.00	0.04	0.04	0.00	0.04	0.04	1912.07	0.62	0.00	39.03	0.01	0.00	39.34
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.42	2.18	30.97	0.04	0.00	0.08	0.08	0.00	0.08	0.08	3987.36	1.29	0.00	54.26	0.02	0.00	54.70
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.20	1.06	15.07	0.02	0.00	0.04	0.04	0.00	0.04	0.04	1913.06	0.62	0.00	26.03	0.01	0.00	26.24
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.18	0.93	9.32	0.02	0.00	0.04	0.04	0.00	0.04	0.04	1703.34	0.55	0.00	23.18	0.01	0.00	23.37
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.20	1.04	14.85	0.02	0.00	0.04	0.04	0.00	0.04	0.04	1912.07	0.62	0.00	26.02	0.01	0.00	26.23
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.11	0.58	8.24	0.01	0.00	0.02	0.02	0.00	0.02	0.02	1060.96	0.34	0.00	14.44	0.00	0.00	14.55
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.08	0.44	4.41	0.01	0.00	0.02	0.02	0.00	0.02	0.02	801.34	0.26	0.00	10.90	0.00	0.00	10.99
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.04	0.22	3.10	0.00	0.00	0.01	0.01	0.00	0.01	0.01	395.66	0.13	0.00	5.38	0.00	0.00	5.43
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.05	0.25	2.53	0.00	0.00	0.01	0.01	0.00	0.01	0.01	459.64	0.15	0.00	6.25	0.00	0.00	6.31
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.09	0.47	4.66	0.01	0.00	0.02	0.02	0.00	0.02	0.02	851.67	0.28	0.00	11.59	0.00	0.00	11.68
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.10	0.52	7.42	0.01	0.00	0.02	0.02	0.00	0.02	0.02	956.03	0.31	0.00	13.01	0.00	0.00	13.11
Tunnel Intake Structure Portal - Remove TBM	1.02	5.29	52.86	0.10	0.00	0.20	0.20	0.00	0.20	0.20	9615.89	3.11	0.00	130.85	0.04	0.00	131.91
Tunnel Intake Structure Portal - Remove TBM	0.20	1.06	10.57	0.02	0.00	0.04	0.04	0.00	0.04	0.04	1923.18	0.62	0.00	26.17	0.01	0.00	26.38
Tunnel Intake Structure Portal - Remove TBM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Remove TBM	0.10	0.52	5.19	0.01	0.00	0.02	0.02	0.00	0.02	0.02	943.45	0.31	0.00	12.84	0.00	0.00	12.94
Tunnel Intake Structure Portal - Remove TBM	0.13	0.66	9.40	0.01	0.00	0.03	0.03	0.00	0.03	0.03	1199.31	0.39	0.00	16.32	0.01	0.00	16.45
Tunnel Intake Structure Portal - Remove TBM	0.24	1.25	17.82	0.02	0.00	0.05	0.05	0.00	0.05	0.05	2295.93	0.74	0.00	31.24	0.01	0.00	31.49



Offroad Equipment - Energy Consumption

Phase	Start Date	equipment Name	Category	Year	Days	Hours per day	Number	Fuel Type	Horsepower	Kilowatts	Kilowatt Hours (day)	Kilowatt Hours (total)	lbs of CO2 per day				Total MT			
													CO2	CH4	N2O	CO2e	CO2	CH4	N2O	CO2e
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	Compressor, Stationary 1200cfm	Air compressors	2024	30	24	1	Electric	350	261	6264	187916	16.79	0.17	0.02	27.19	0.23	0.00	0.00	0.37
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	EPBM and Backup 14'9"	Air compressors	2024	30	24	1	Electric	1800	1342	32214	966427	86.33	0.87	0.11	139.81	1.17	0.01	0.00	1.90
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	Pump, trash 200gpm/100ft head	Air compressors	2024	30	24	1	Electric	10	7	179	5369	0.48	0.00	0.00	0.78	0.01	0.00	0.00	0.01
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	Ventilation Fan 40hp	Air compressors	2024	30	24	1	Electric	40	30	716	21476	1.92	0.02	0.00	3.11	0.03	0.00	0.00	0.04
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	Water Treatment Plant	Air compressors	2024	30	24	1	Electric	200	149	3579	107381	9.59	0.10	0.01	15.53	0.13	0.00	0.00	0.21

Notes:

PG&E 2019 CO2 (lbs per MWh) delivered rate 2.68  
 GHG Intensity Factor lb CH4/MWh (Statewide EF's for 2024) 0.03  
 GHG Intensity Factor lb N2O/MWh (Statewide EF's for 2024) 0.00

Source:

1. [https://www.pgecorp.com/corp\\_responsibility/reports/2021/assets/PGE\\_CRSR\\_2021.pdf](https://www.pgecorp.com/corp_responsibility/reports/2021/assets/PGE_CRSR_2021.pdf)

Demolition Fugitive Dust Emissions

Phase Name	Start Date	End Date	Total Days	Year	Demo Debris Weight (tons)	Demo EF (lb/ton throughput)						Emissions (lb/day)					
						PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Construct intake structure structural elements	12/4/23	6/28/24	150	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0.00	0.022		0.022	0.003		0.003	0.00		0.00	0.00		0.00

**Truck Loading Fugitive Dust Emissions**

Phase Name	Start Date	End Date	Total Days	Year	Total CY	Tons/CY	Throughput (tons)
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	66794	1.2642	84438.72
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	26362	1.2642	33325.95
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0	1.2642	0.00
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0	1.2642	0.00
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0	1.2642	0.00
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0	1.2642	0.00
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0	1.2642	0.00
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	1.2642	0.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0	1.2642	0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	2030	1.2642	2566.26
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0	1.2642	0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0	1.2642	0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0	1.2642	0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0	1.2642	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0	1.2642	0.00
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	1.2642	0.00

**Truck Loading Fugitive Dust Emissions**

Phase Name	Truck Loading EF (lb/ton throughput)						Emissions (lb/day) <sup>1</sup>					
	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.02		0.02	0.00		0.00
Tunnel Intake Structure - Construct Intake structure structural elements	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install mechanical systems	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Construct Control Building	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install fencing and security systems	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Install electrical and control systems	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Testing of control systems	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Re-vegetation and site demob	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	1.17E-04		1.17E-04	1.77E-05		1.77E-05	0.00		0.00	0.00		0.00

**Bulldozing Fugitive Dust Emissions**

Phase Name	Start	End	# of Workdays	First Year of CSTN	Equipment Type	# of Equipment	hours/day
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Tractors/Loaders/Backhoes	2	10
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Other Construction Equipment	2	10
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Off-Highway Trucks	2	10
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Bore/Drill Rigs	1	10
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	Tractors/Loaders/Backhoes	2	10
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	Tractors/Loaders/Backhoes	1	10
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	15	2023	Crushing/Proc. Equipment	1	10
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	Rubber Tired Dozers	1	10
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	Off-Highway Trucks	1	10
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	Tractors/Loaders/Backhoes	1	10
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	Tractors/Loaders/Backhoes	2	10
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	Other Construction Equipment	2	10
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	Off-Highway Trucks	2	10
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	Tractors/Loaders/Backhoes	2	10
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	Tractors/Loaders/Backhoes	2	10
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	Other Construction Equipment	2	10
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	Off-Highway Trucks	2	10
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	Tractors/Loaders/Backhoes	2	10
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Tractors/Loaders/Backhoes	1	10
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Cranes	1	10
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Excavators	1	10
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Cranes	1	10
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Off-Highway Trucks	1	10
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	Tractors/Loaders/Backhoes	1	10
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Cranes	1	24
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Cranes	1	24
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Other Material Handling Equipment	1	24
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Cranes	1	24
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Other Material Handling Equipment	1	24
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	Tractors/Loaders/Backhoes	1	24

Bulldozing Fugitive Dust Emissions	Emission Factor (lb/hr)						Emissions (lb/day) <sup>1</sup>					
	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure - Construct Control Building	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.75		0.75	0.41		0.41	2.33		2.33	1.28		1.28
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Tunnel Intake Structure Portal - Remove TBM	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00

Grading Fugitive Dust Emissions

Phase Name	Start	End	# of Workdays	First Year of		Equipment Type	# of Equipment	Equipment Usage (hours/day)	Acres per 8- hr day	Scaling Factor	Acres per day	Daily VMT
				CSTN								
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023		Tractors/Loaders/Backhoes	2	10	0	8	0.000	0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023		Other Construction Equipment	2	10	0	8	0.000	0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023		Off-Highway Trucks	2	10	0	8	0.000	0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023		Bore/Drill Rigs	1	10	0	8	0.000	0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023		Tractors/Loaders/Backhoes	2	10	0	8	0.000	0.000
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024		Tractors/Loaders/Backhoes	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	15	2023		Crushing/Proc. Equipment	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023		Rubber Tired Dozers	1	10	0.5	8	0.625	0.430
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023		Off-Highway Trucks	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023		Tractors/Loaders/Backhoes	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023		Tractors/Loaders/Backhoes	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023		Other Construction Equipment	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023		Off-Highway Trucks	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023		Tractors/Loaders/Backhoes	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023		Tractors/Loaders/Backhoes	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023		Other Construction Equipment	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023		Off-Highway Trucks	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023		Tractors/Loaders/Backhoes	2	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023		Tractors/Loaders/Backhoes	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023		Cranes	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023		Excavators	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023		Cranes	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023		Off-Highway Trucks	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023		Tractors/Loaders/Backhoes	1	10	0	8	0.000	0.000
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024		Cranes	1	24	0	8	0.000	0.000
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024		Cranes	1	24	0	8	0.000	0.000
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024		Other Material Handling Equipment	1	24	0	8	0.000	0.000
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024		Cranes	1	24	0	8	0.000	0.000
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024		Other Material Handling Equipment	1	24	0	8	0.000	0.000
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024		Tractors/Loaders/Backhoes	1	24	0	8	0.000	0.000

Grading Fugitive Dust Emissions

Phase Name	Emission Factor (lb/VMT)						Emissions (lb/day)					
	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure - Construct Control Building	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	1.543		1.543	0.167		0.167	0.205		0.205	0.022		0.022
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Remove TBM	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Remove TBM	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Remove TBM	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Remove TBM	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Remove TBM	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000
Tunnel Intake Structure Portal - Remove TBM	1.543		1.543	0.167		0.167	0.000		0.000	0.000		0.000



Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi) <sup>1</sup>	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	16	0.14	0.057	0.136	1.821	0.005	617.129	0.004	617.132	569.943	0.013	569.956	0.011	0.083	0.000
Tunnel Intake Structure - Construct intake structure structural elements	12/4/2023	6/28/2024	150	2023	18	0.14	0.057	0.136	1.821	0.005	617.129	0.004	617.132	569.943	0.013	569.956	0.011	0.083	0.000
Tunnel Intake Structure - Install mechanical systems	7/1/2024	8/9/2024	30	2024	4	0.14	0.051	0.123	1.696	0.005	617.128	0.004	617.132	561.945	0.012	561.957	0.010	0.074	0.000
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	6	0.14	0.051	0.123	1.696	0.005	617.128	0.004	617.132	561.945	0.012	561.957	0.010	0.074	0.000
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/2024	12/13/2024	20	2024	8	0.14	0.051	0.123	1.696	0.005	617.128	0.004	617.132	561.945	0.012	561.957	0.010	0.074	0.000
Tunnel Intake Structure - Install fencing and security systems	1/13/2025	1/31/2025	15	2025	6	0.14	0.046	0.112	1.587	0.005	617.128	0.004	617.132	553.831	0.011	553.842	0.009	0.067	0.000
Tunnel Intake Structure - Install electrical and control systems	12/16/2024	1/10/2025	20	2024	6	0.14	0.051	0.123	1.696	0.005	617.128	0.004	617.132	561.945	0.012	561.957	0.010	0.074	0.000
Tunnel Intake Structure - Testing of control systems	1/13/2025	1/24/2025	10	2025	6	0.14	0.046	0.112	1.587	0.005	617.128	0.004	617.132	553.831	0.011	553.842	0.009	0.067	0.000
Tunnel Intake Structure - Re-vegetation and site demob	2/3/2025	2/28/2025	20	2025	8	0.14	0.046	0.112	1.587	0.005	617.128	0.004	617.132	553.831	0.011	553.842	0.009	0.067	0.000
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	30	2023	8	1.09	0.057	0.136	1.821	0.005	617.129	0.004	617.132	569.943	0.013	569.956	0.011	0.083	0.000
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/2023	7/7/2023	30	2023	8	0.14	0.057	0.136	1.821	0.005	617.129	0.004	617.132	569.943	0.013	569.956	0.011	0.083	0.000
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	10	0.14	0.057	0.136	1.821	0.005	617.129	0.004	617.132	569.943	0.013	569.956	0.011	0.083	0.000
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	6	1.09	0.057	0.136	1.821	0.005	617.129	0.004	617.132	569.943	0.013	569.956	0.011	0.083	0.000
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	6	0.14	0.057	0.136	1.821	0.005	617.129	0.004	617.132	569.943	0.013	569.956	0.011	0.083	0.000
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	8	0.14	0.057	0.136	1.821	0.005	617.129	0.004	617.132	569.943	0.013	569.956	0.011	0.083	0.000
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	56	0.14	0.051	0.123	1.696	0.005	617.128	0.004	617.132	561.945	0.012	561.957	0.010	0.074	0.000

Worker Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi) <sup>1</sup>	Non-Running Emission Factors (g/trip)**												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	16	0.14	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure - Construct intake structure structural elements	12/4/2023	6/28/2024	150	2023	18	0.14	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure - Install mechanical systems	7/1/2024	8/9/2024	30	2024	4	0.14	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	6	0.14	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/2024	12/13/2024	20	2024	8	0.14	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Install fencing and security systems	1/13/2025	1/31/2025	15	2025	6	0.14	1.444	0.361	4.427	0.001	0.000	0.002	0.002	0.000	0.002	0.002	80.445	0.092	0.037
Tunnel Intake Structure - Install electrical and control systems	12/16/2024	1/10/2025	20	2024	6	0.14	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Testing of control systems	1/13/2025	1/24/2025	10	2025	6	0.14	1.444	0.361	4.427	0.001	0.000	0.002	0.002	0.000	0.002	0.002	80.445	0.092	0.037
Tunnel Intake Structure - Re-vegetation and site demob	2/3/2025	2/28/2025	20	2025	8	0.14	1.444	0.361	4.427	0.001	0.000	0.002	0.002	0.000	0.002	0.002	80.445	0.092	0.037
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	30	2023	8	1.09	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/2023	7/7/2023	30	2023	8	0.14	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	10	0.14	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	6	1.09	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	6	0.14	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	8	0.14	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	56	0.14	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi) <sup>1</sup>	Emissions (lb/day)													Total MT			
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	16	0.14	0.06	0.01	0.18	0.00	0.96	0.00	0.96	2.86	0.00	2.86	2.95	0.00	0.00	0.06	0.00	0.00	0.07
Tunnel Intake Structure - Construct intake structure structural elements	12/4/2023	6/28/2024	150	2023	18	0.14	0.06	0.02	0.21	0.00	1.08	0.00	1.08	3.21	0.00	3.21	3.32	0.00	0.00	0.23	0.00	0.00	0.27
Tunnel Intake Structure - Install mechanical systems	7/1/2024	8/9/2024	30	2024	4	0.14	0.01	0.00	0.04	0.00	0.24	0.00	0.24	0.70	0.00	0.70	0.72	0.00	0.00	0.01	0.00	0.00	0.01
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	6	0.14	0.02	0.01	0.07	0.00	0.36	0.00	0.36	1.06	0.00	1.06	1.09	0.00	0.00	0.01	0.00	0.00	0.02
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/2024	12/13/2024	20	2024	8	0.14	0.03	0.01	0.09	0.00	0.48	0.00	0.48	1.41	0.00	1.41	1.45	0.00	0.00	0.01	0.00	0.00	0.02
Tunnel Intake Structure - Install fencing and security systems	1/13/2025	1/31/2025	15	2025	6	0.14	0.02	0.00	0.06	0.00	0.36	0.00	0.36	1.04	0.00	1.04	1.06	0.00	0.00	0.01	0.00	0.00	0.01
Tunnel Intake Structure - Install electrical and control systems	12/16/2024	1/10/2025	20	2024	6	0.14	0.02	0.01	0.07	0.00	0.36	0.00	0.36	1.06	0.00	1.06	1.09	0.00	0.00	0.01	0.00	0.00	0.01
Tunnel Intake Structure - Testing of control systems	1/13/2025	1/24/2025	10	2025	6	0.14	0.02	0.00	0.06	0.00	0.36	0.00	0.36	1.04	0.00	1.04	1.06	0.00	0.00	0.00	0.00	0.00	0.01
Tunnel Intake Structure - Re-vegetation and site demob	2/3/2025	2/28/2025	20	2025	8	0.14	0.03	0.01	0.08	0.00	0.48	0.00	0.48	1.39	0.00	1.39	1.42	0.00	0.00	0.01	0.00	0.00	0.02
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	30	2023	8	1.09	0.03	0.01	0.12	0.00	3.67	0.00	3.67	10.95	0.00	10.95	1.48	0.00	0.00	0.02	0.00	0.00	0.02
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/2023	7/7/2023	30	2023	8	0.14	0.03	0.01	0.09	0.00	0.48	0.00	0.48	1.43	0.00	1.43	1.48	0.00	0.00	0.02	0.00	0.00	0.02
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	10	0.14	0.03	0.01	0.12	0.00	0.60	0.00	0.60	1.78	0.00	1.78	1.84	0.00	0.00	0.01	0.00	0.00	0.01
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	6	1.09	0.02	0.01	0.09	0.00	2.76	0.00	2.76	8.21	0.00	8.21	1.11	0.00	0.00	0.02	0.00	0.00	0.03
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	6	0.14	0.02	0.01	0.07	0.00	0.36	0.00	0.36	1.07	0.00	1.07	1.11	0.00	0.00	0.02	0.00	0.00	0.02
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	8	0.14	0.03	0.01	0.09	0.00	0.48	0.00	0.48	1.43	0.00	1.43	1.48	0.00	0.00	0.02	0.00	0.00	0.02
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	56	0.14	0.19	0.05	0.61	0.00	3.35	0.00	3.36	9.85	0.00	9.86	10.13	0.01	0.00	0.14	0.00	0.00	0.16

Worker Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	16	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/2023	6/28/2024	150	2023	18	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure - Install mechanical systems	7/1/2024	8/9/2024	30	2024	4	20.9469697	0.017	0.089	0.987	0.003	0.315	0.002	0.316	0.078	0.001	0.079	316.640	0.004	0.007
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	6	20.9469697	0.017	0.089	0.987	0.003	0.315	0.002	0.316	0.078	0.001	0.079	316.640	0.004	0.007
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/2024	12/13/2024	20	2024	8	20.9469697	0.017	0.089	0.987	0.003	0.315	0.002	0.316	0.078	0.001	0.079	316.640	0.004	0.007
Tunnel Intake Structure - Install fencing and security systems	1/13/2025	1/31/2025	15	2025	6	20.9469697	0.016	0.081	0.923	0.003	0.315	0.001	0.316	0.078	0.001	0.079	311.517	0.004	0.007
Tunnel Intake Structure - Install electrical and control systems	12/16/2024	1/10/2025	20	2024	6	20.9469697	0.017	0.089	0.987	0.003	0.315	0.002	0.316	0.078	0.001	0.079	316.640	0.004	0.007
Tunnel Intake Structure - Testing of control systems	1/13/2025	1/24/2025	10	2025	6	20.9469697	0.016	0.081	0.923	0.003	0.315	0.001	0.316	0.078	0.001	0.079	311.517	0.004	0.007
Tunnel Intake Structure - Re-vegetation and site demob	2/3/2025	2/28/2025	20	2025	8	20.9469697	0.016	0.081	0.923	0.003	0.315	0.001	0.316	0.078	0.001	0.079	311.517	0.004	0.007
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	30	2023	8	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/2023	7/7/2023	30	2023	8	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	10	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	6	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	6	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	8	20.9469697	0.019	0.099	1.060	0.003	0.315	0.002	0.316	0.078	0.001	0.079	321.688	0.004	0.008
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	56	20.9469697	0.017	0.089	0.987	0.003	0.315	0.002	0.316	0.078	0.001	0.079	316.640	0.004	0.007

1) Accounts for all exhaust and evaporative processes

Worker Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	16	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/2023	6/28/2024	150	2023	18	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure - Install mechanical systems	7/1/2024	8/9/2024	30	2024	4	20.9469697	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	6	20.9469697	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/2024	12/13/2024	20	2024	8	20.9469697	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Install fencing and security systems	1/13/2025	1/31/2025	15	2025	6	20.9469697	1.444	0.361	4.427	0.001	0.000	0.002	0.002	0.000	0.002	0.002	80.445	0.092	0.037
Tunnel Intake Structure - Install electrical and control systems	12/16/2024	1/10/2025	20	2024	6	20.9469697	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038
Tunnel Intake Structure - Testing of control systems	1/13/2025	1/24/2025	10	2025	6	20.9469697	1.444	0.361	4.427	0.001	0.000	0.002	0.002	0.000	0.002	0.002	80.445	0.092	0.037
Tunnel Intake Structure - Re-vegetation and site demob	2/3/2025	2/28/2025	20	2025	8	20.9469697	1.444	0.361	4.427	0.001	0.000	0.002	0.002	0.000	0.002	0.002	80.445	0.092	0.037
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	30	2023	8	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/2023	7/7/2023	30	2023	8	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	10	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	6	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	6	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	8	20.9469697	1.563	0.403	4.973	0.001	0.000	0.003	0.003	0.000	0.002	0.002	83.680	0.103	0.039
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	56	20.9469697	1.501	0.381	4.688	0.001	0.000	0.003	0.003	0.000	0.002	0.002	82.048	0.098	0.038

1) Accounts for all exhaust and evaporative processes

Worker Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Worker Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day)										Total MT						
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023	45	2023	16	20.9469697	0.07	0.09	0.96	0.00	0.13	0.00	0.13	0.06	0.00	0.06	240.64	0.01	0.01	4.91	0.00	0.00	4.96
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/2023	6/28/2024	150	2023	18	20.9469697	0.08	0.10	1.08	0.00	0.14	0.00	0.14	0.06	0.00	0.07	270.72	0.01	0.01	18.42	0.00	0.00	18.60
Tunnel Intake Structure - Install mechanical systems	7/1/2024	8/9/2024	30	2024	4	20.9469697	0.02	0.02	0.22	0.00	0.03	0.00	0.03	0.01	0.00	0.01	59.21	0.00	0.00	0.81	0.00	0.00	0.81
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024	30	2024	6	20.9469697	0.02	0.03	0.34	0.00	0.05	0.00	0.05	0.02	0.00	0.02	88.82	0.00	0.00	1.21	0.00	0.00	1.22
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/2024	12/13/2024	20	2024	8	20.9469697	0.03	0.04	0.45	0.00	0.06	0.00	0.06	0.03	0.00	0.03	118.43	0.00	0.00	1.07	0.00	0.00	1.08
Tunnel Intake Structure - Install fencing and security systems	1/13/2025	1/31/2025	15	2025	6	20.9469697	0.02	0.03	0.31	0.00	0.05	0.00	0.05	0.02	0.00	0.02	87.38	0.00	0.00	0.59	0.00	0.00	0.60
Tunnel Intake Structure - Install electrical and control systems	12/16/2024	1/10/2025	20	2024	6	20.9469697	0.02	0.03	0.34	0.00	0.05	0.00	0.05	0.02	0.00	0.02	88.82	0.00	0.00	0.81	0.00	0.00	0.81
Tunnel Intake Structure - Testing of control systems	1/13/2025	1/24/2025	10	2025	6	20.9469697	0.02	0.03	0.31	0.00	0.05	0.00	0.05	0.02	0.00	0.02	87.38	0.00	0.00	0.40	0.00	0.00	0.40
Tunnel Intake Structure - Re-vegetation and site demob	2/3/2025	2/28/2025	20	2025	8	20.9469697	0.03	0.04	0.42	0.00	0.06	0.00	0.06	0.03	0.00	0.03	116.51	0.00	0.00	1.06	0.00	0.00	1.07
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023	30	2023	8	20.9469697	0.03	0.04	0.48	0.00	0.06	0.00	0.06	0.03	0.00	0.03	120.32	0.00	0.00	1.64	0.00	0.00	1.65
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/2023	7/7/2023	30	2023	8	20.9469697	0.03	0.04	0.48	0.00	0.06	0.00	0.06	0.03	0.00	0.03	120.32	0.00	0.00	1.64	0.00	0.00	1.65
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023	10	2023	10	20.9469697	0.04	0.05	0.60	0.00	0.08	0.00	0.08	0.04	0.00	0.04	150.40	0.00	0.00	0.68	0.00	0.00	0.69
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023	45	2023	6	20.9469697	0.03	0.03	0.36	0.00	0.05	0.00	0.05	0.02	0.00	0.02	90.24	0.00	0.00	1.84	0.00	0.00	1.86
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023	30	2023	6	20.9469697	0.03	0.03	0.36	0.00	0.05	0.00	0.05	0.02	0.00	0.02	90.24	0.00	0.00	1.23	0.00	0.00	1.24
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023	30	2023	8	20.9469697	0.03	0.04	0.48	0.00	0.06	0.00	0.06	0.03	0.00	0.03	120.32	0.00	0.00	1.64	0.00	0.00	1.65
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024	30	2024	56	20.9469697	0.23	0.28	3.13	0.01	0.44	0.00	0.44	0.20	0.00	0.21	828.99	0.02	0.02	11.28	0.00	0.00	11.38

1) Accounts for all exhaust and evaporative processes

Vendor Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi) <sup>2</sup>	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	8	0.14	0.093	4.688	0.374	0.020	617.244	0.027	617.271	61.612	0.026	61.638	2158.440	0.004	0.340
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	36	0.14	0.093	4.688	0.374	0.020	617.244	0.027	617.271	61.612	0.026	61.638	2158.440	0.004	0.340
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	8	0.14	0.083	4.481	0.352	0.020	617.243	0.024	617.267	61.612	0.023	61.635	2121.912	0.004	0.334
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	8	0.14	0.083	4.481	0.352	0.020	617.243	0.024	617.267	61.612	0.023	61.635	2121.912	0.004	0.334
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	8	0.14	0.083	4.481	0.352	0.020	617.243	0.024	617.267	61.612	0.023	61.635	2121.912	0.004	0.334
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	8	0.14	0.074	4.254	0.330	0.020	617.243	0.021	617.264	61.612	0.020	61.632	2084.647	0.003	0.328
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	8	0.14	0.083	4.481	0.352	0.020	617.243	0.024	617.267	61.612	0.023	61.635	2121.912	0.004	0.334
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.14	0.074	4.254	0.330	0.020	617.243	0.021	617.264	61.612	0.020	61.632	2084.647	0.003	0.328
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	10	0.14	0.074	4.254	0.330	0.020	617.243	0.021	617.264	61.612	0.020	61.632	2084.647	0.003	0.328
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	22	1.09	0.093	4.688	0.374	0.020	617.244	0.027	617.271	61.612	0.026	61.638	2158.440	0.004	0.340
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	8	0.14	0.093	4.688	0.374	0.020	617.244	0.027	617.271	61.612	0.026	61.638	2158.440	0.004	0.340
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	10	0.14	0.093	4.688	0.374	0.020	617.244	0.027	617.271	61.612	0.026	61.638	2158.440	0.004	0.340
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	8	1.09	0.093	4.688	0.374	0.020	617.244	0.027	617.271	61.612	0.026	61.638	2158.440	0.004	0.340
Tunnel Intake Structure Portal - Install temporary utilities, Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	12	0.14	0.093	4.688	0.374	0.020	617.244	0.027	617.271	61.612	0.026	61.638	2158.440	0.004	0.340
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	8	0.14	0.093	4.688	0.374	0.020	617.244	0.027	617.271	61.612	0.026	61.638	2158.440	0.004	0.340
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.14	0.083	4.481	0.352	0.020	617.243	0.024	617.267	61.612	0.023	61.635	2121.912	0.004	0.334

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Vendor Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi) <sup>2</sup>	Non-Running Emission Factors (g/trip) <sup>1</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	8	0.14	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	36	0.14	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	8	0.14	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	8	0.14	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	8	0.14	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	8	0.14	0.182	5.021	2.801	0.005	0.000	0.003	0.003	0.000	0.002	0.002	496.226	0.008	0.078
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	8	0.14	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.14	0.182	5.021	2.801	0.005	0.000	0.003	0.003	0.000	0.002	0.002	496.226	0.008	0.078
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	10	0.14	0.182	5.021	2.801	0.005	0.000	0.003	0.003	0.000	0.002	0.002	496.226	0.008	0.078
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	22	1.09	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	8	0.14	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	10	0.14	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	8	1.09	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Install temporary utilities, Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	12	0.14	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	8	0.14	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.14	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area



Vendor Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi) <sup>2</sup>	Emissions (lb/day) <sup>2</sup>											Total MT					
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	8	0.14	0.00	0.10	0.05	0.00	0.48	0.00	0.48	0.05	0.00	0.05	14.47	0.00	0.00	0.30	0.00	0.00	0.31
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	36	0.14	0.02	0.44	0.23	0.00	2.16	0.00	2.16	0.22	0.00	0.22	65.09	0.00	0.01	4.43	0.00	0.00	4.64
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	8	0.14	0.00	0.10	0.05	0.00	0.48	0.00	0.48	0.05	0.00	0.05	14.22	0.00	0.00	0.19	0.00	0.00	0.20
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	8	0.14	0.00	0.10	0.05	0.00	0.48	0.00	0.48	0.05	0.00	0.05	14.22	0.00	0.00	0.19	0.00	0.00	0.20
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	8	0.14	0.00	0.10	0.05	0.00	0.48	0.00	0.48	0.05	0.00	0.05	14.22	0.00	0.00	0.13	0.00	0.00	0.14
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	8	0.14	0.00	0.10	0.05	0.00	0.48	0.00	0.48	0.05	0.00	0.05	13.97	0.00	0.00	0.10	0.00	0.00	0.10
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	8	0.14	0.00	0.10	0.05	0.00	0.48	0.00	0.48	0.05	0.00	0.05	14.22	0.00	0.00	0.13	0.00	0.00	0.14
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	10	0.14	0.00	0.12	0.06	0.00	0.60	0.00	0.60	0.06	0.00	0.06	17.47	0.00	0.00	0.16	0.00	0.00	0.17
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	22	1.09	0.01	0.48	0.15	0.00	9.95	0.00	9.96	0.99	0.00	1.00	136.81	0.00	0.02	1.86	0.00	0.00	1.95
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	8	0.14	0.00	0.10	0.05	0.00	0.48	0.00	0.48	0.05	0.00	0.05	14.47	0.00	0.00	0.20	0.00	0.00	0.21
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	10	0.14	0.00	0.12	0.06	0.00	0.60	0.00	0.60	0.06	0.00	0.06	18.08	0.00	0.00	0.08	0.00	0.00	0.09
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	8	1.09	0.01	0.18	0.06	0.00	3.68	0.00	3.68	0.37	0.00	0.37	50.52	0.00	0.01	1.03	0.00	0.00	1.08
Tunnel Intake Structure Portal - Install temporary utilities, Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	12	0.14	0.01	0.15	0.08	0.00	0.72	0.00	0.72	0.07	0.00	0.07	21.70	0.00	0.00	0.30	0.00	0.00	0.31
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	8	0.14	0.00	0.10	0.05	0.00	0.48	0.00	0.48	0.05	0.00	0.05	14.47	0.00	0.00	0.20	0.00	0.00	0.21
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Vendor Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	8	20.9469697	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	36	20.9469697	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	8	20.9469697	0.026	1.702	0.106	0.013	0.386	0.021	0.407	0.101	0.020	0.122	1400.228	0.001	0.221
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	8	20.9469697	0.026	1.702	0.106	0.013	0.386	0.021	0.407	0.101	0.020	0.122	1400.228	0.001	0.221
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	8	20.9469697	0.026	1.702	0.106	0.013	0.386	0.021	0.407	0.101	0.020	0.122	1400.228	0.001	0.221
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	8	20.9469697	0.023	1.595	0.098	0.013	0.385	0.020	0.405	0.101	0.019	0.120	1385.789	0.001	0.218
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	8	20.9469697	0.026	1.702	0.106	0.013	0.386	0.021	0.407	0.101	0.020	0.122	1400.228	0.001	0.221
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	20.9469697	0.023	1.595	0.098	0.013	0.385	0.020	0.405	0.101	0.019	0.120	1385.789	0.001	0.218
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	10	20.9469697	0.023	1.595	0.098	0.013	0.385	0.020	0.405	0.101	0.019	0.120	1385.789	0.001	0.218
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	22	20.9469697	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	8	20.9469697	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	10	20.9469697	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	8	20.9469697	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure Portal - Install temporary utilities, Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	12	20.9469697	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	8	20.9469697	0.029	1.808	0.115	0.013	0.386	0.023	0.408	0.101	0.022	0.123	1413.756	0.001	0.223
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	20.9469697	0.026	1.702	0.106	0.013	0.386	0.021	0.407	0.101	0.020	0.122	1400.228	0.001	0.221

1) Accounts for all exhaust and evaporative processes  
 2) Off-site would only be cement trips

Vendor Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	8	20.9469697	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	36	20.9469697	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	8	20.9469697	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	8	20.9469697	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	8	20.9469697	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	8	20.9469697	0.182	5.021	2.801	0.005	0.000	0.003	0.003	0.000	0.002	0.002	496.226	0.008	0.078
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	8	20.9469697	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	20.9469697	0.182	5.021	2.801	0.005	0.000	0.003	0.003	0.000	0.002	0.002	496.226	0.008	0.078
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	10	20.9469697	0.182	5.021	2.801	0.005	0.000	0.003	0.003	0.000	0.002	0.002	496.226	0.008	0.078
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	22	20.9469697	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	8	20.9469697	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	10	20.9469697	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	8	20.9469697	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Install temporary utilities, Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	12	20.9469697	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	8	20.9469697	0.185	4.856	2.805	0.005	0.000	0.003	0.003	0.000	0.003	0.003	513.577	0.009	0.081
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	20.9469697	0.183	5.023	2.803	0.005	0.000	0.003	0.003	0.000	0.003	0.003	504.887	0.009	0.080

1) Accounts for all exhaust and evaporative processes  
 2) Off-site would only be cement trips

Vendor Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Vendor Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day)											Total MT					
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	8	20.9469697	0.01	0.75	0.09	0.01	0.08	0.01	0.09	0.04	0.01	0.05	531.36	0.00	0.08	10.85	0.00	0.00	11.36
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	36	20.9469697	0.06	3.39	0.41	0.02	0.35	0.04	0.38	0.17	0.04	0.20	2391.12	0.00	0.38	162.69	0.00	0.03	170.33
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	8	20.9469697	0.01	0.72	0.09	0.00	0.08	0.01	0.08	0.04	0.01	0.04	526.21	0.00	0.08	7.16	0.00	0.00	7.50
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	8	20.9469697	0.01	0.72	0.09	0.00	0.08	0.01	0.08	0.04	0.01	0.04	526.21	0.00	0.08	7.16	0.00	0.00	7.50
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	8	20.9469697	0.01	0.72	0.09	0.00	0.08	0.01	0.08	0.04	0.01	0.04	526.21	0.00	0.08	4.77	0.00	0.00	5.00
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	8	20.9469697	0.01	0.68	0.09	0.00	0.08	0.01	0.08	0.04	0.01	0.04	520.72	0.00	0.08	3.54	0.00	0.00	3.71
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	8	20.9469697	0.01	0.72	0.09	0.00	0.08	0.01	0.08	0.04	0.01	0.04	526.21	0.00	0.08	4.77	0.00	0.00	5.00
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	20.9469697	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	10	20.9469697	0.01	0.85	0.11	0.01	0.10	0.01	0.11	0.05	0.01	0.06	650.90	0.00	0.10	5.90	0.00	0.00	6.18
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	22	20.9469697	0.04	2.04	0.25	0.01	0.21	0.02	0.23	0.10	0.02	0.12	1439.10	0.00	0.23	19.58	0.00	0.00	20.50
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	8	20.9469697	0.01	0.75	0.09	0.01	0.08	0.01	0.09	0.04	0.01	0.05	531.36	0.00	0.08	7.23	0.00	0.00	7.57
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	10	20.9469697	0.02	0.94	0.11	0.01	0.10	0.01	0.11	0.05	0.01	0.06	664.20	0.00	0.10	3.01	0.00	0.00	3.15
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	8	20.9469697	0.01	0.75	0.09	0.01	0.08	0.01	0.09	0.04	0.01	0.05	531.36	0.00	0.08	10.85	0.00	0.00	11.36
Tunnel Intake Structure Portal - Install temporary utilities, Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	12	20.9469697	0.02	1.13	0.14	0.01	0.12	0.01	0.13	0.06	0.01	0.07	797.04	0.00	0.13	10.85	0.00	0.00	11.36
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	8	20.9469697	0.01	0.75	0.09	0.01	0.08	0.01	0.09	0.04	0.01	0.05	531.36	0.00	0.08	7.23	0.00	0.00	7.57
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	20.9469697	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1) Accounts for all exhaust and evaporative processes  
 2) Off-site would only be cement trips

Haul Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	214	1.51	0.07	6.94	0.44	0.03	617.30	0.02	617.32	61.63	0.02	61.65	2725.41	0.00	0.43
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	26	0.14	0.07	6.94	0.44	0.03	617.30	0.02	617.32	61.63	0.02	61.65	2725.41	0.00	0.43
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0	0.14	0.07	6.69	0.42	0.03	617.30	0.02	617.31	61.63	0.02	61.65	2662.66	0.00	0.42
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0	0.14	0.07	6.69	0.42	0.03	617.30	0.02	617.31	61.63	0.02	61.65	2662.66	0.00	0.42
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0	0.14	0.07	6.69	0.42	0.03	617.30	0.02	617.31	61.63	0.02	61.65	2662.66	0.00	0.42
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0	0.14	0.07	6.40	0.40	0.02	617.30	0.02	617.31	61.63	0.02	61.65	2598.69	0.00	0.41
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0	0.14	0.07	6.69	0.42	0.03	617.30	0.02	617.31	61.63	0.02	61.65	2662.66	0.00	0.42
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.14	0.07	6.40	0.40	0.02	617.30	0.02	617.31	61.63	0.02	61.65	2598.69	0.00	0.41
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0	0.14	0.07	6.40	0.40	0.02	617.30	0.02	617.31	61.63	0.02	61.65	2598.69	0.00	0.41
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	10	1.09	0.07	6.94	0.44	0.03	617.30	0.02	617.32	61.63	0.02	61.65	2725.41	0.00	0.43
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0	0.14	0.07	6.94	0.44	0.03	617.30	0.02	617.32	61.63	0.02	61.65	2725.41	0.00	0.43
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0	0.14	0.07	6.94	0.44	0.03	617.30	0.02	617.32	61.63	0.02	61.65	2725.41	0.00	0.43
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0	1.09	0.07	6.94	0.44	0.03	617.30	0.02	617.32	61.63	0.02	61.65	2725.41	0.00	0.43
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0	0.14	0.07	6.94	0.44	0.03	617.30	0.02	617.32	61.63	0.02	61.65	2725.41	0.00	0.43
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0	0.14	0.07	6.94	0.44	0.03	617.30	0.02	617.32	61.63	0.02	61.65	2725.41	0.00	0.43
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.14	0.07	6.69	0.42	0.03	617.30	0.02	617.31	61.63	0.02	61.65	2662.66	0.00	0.42

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Haul Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>													
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	214	1.51	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	26	0.14	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0	0.14	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0	0.14	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0	0.14	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0	0.14	0.34	7.24	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	797.13	0.02	0.13
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0	0.14	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.14	0.34	7.24	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	797.13	0.02	0.13
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0	0.14	0.34	7.24	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	797.13	0.02	0.13
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	10	1.09	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0	0.14	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0	0.14	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0	1.09	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Install temporary utilities, Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0	0.14	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0	0.14	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.14	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Haul Onsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day) <sup>2</sup>											Total MT					
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	214	1.51	0.21	8.24	2.64	0.02	70.34	0.01	70.35	7.02	0.01	7.04	2331.83	0.01	0.37	47.60	0.00	0.01	49.84
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	26	0.14	0.02	0.46	0.29	0.00	0.80	0.00	0.80	0.08	0.00	0.08	69.69	0.00	0.01	4.74	0.00	0.00	4.97
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	10	1.09	0.01	0.32	0.12	0.00	2.37	0.00	2.37	0.24	0.00	0.24	83.70	0.00	0.01	1.14	0.00	0.00	1.19
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0	1.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Install temporary utilities, Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1) Accounts for all exhaust and evaporative processes  
 2) Includes dust control measure of watering exposed area

Haul Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Running Exhaust Emission Factor (g/mile)												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	214	5.546969697	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	26	27.946969697	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0	0	0.02	2.18	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1661.67	0.00	0.26
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0	0	0.02	2.18	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1661.67	0.00	0.26
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0	0	0.02	2.18	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1661.67	0.00	0.26
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0	0	0.02	2.07	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1637.28	0.00	0.26
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0	0	0.02	2.18	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1661.67	0.00	0.26
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0	0.02	2.07	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1637.28	0.00	0.26
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0	27.946969697	0.02	2.07	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1637.28	0.00	0.26
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	10	27.946969697	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0	0.946969697	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0	0.946969697	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0	0.946969697	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure Portal - Install temporary utilities, Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0	0.946969697	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0	27.946969697	0.02	2.28	0.10	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1684.22	0.00	0.27
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.946969697	0.02	2.18	0.09	0.02	0.41	0.03	0.44	0.11	0.03	0.14	1661.67	0.00	0.26

1) Accounts for all exhaust and evaporative processes  
 2) Soil import only. Soil export would be kept on-site.



Haul Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Non-Running Emission Factors (g/trip) <sup>1</sup>												
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	214	5.546969697	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	26	27.9469697	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0	0	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0	0	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0	0	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0	0	0.34	7.24	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	797.13	0.02	0.13
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0	0	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0	0.34	7.24	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	797.13	0.02	0.13
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0	27.9469697	0.34	7.24	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	797.13	0.02	0.13
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	10	27.9469697	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0	0.946969697	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0	0.946969697	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0	0.946969697	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Install temporary utilities, Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0	0.946969697	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0	27.9469697	0.34	6.99	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	828.59	0.02	0.13
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.946969697	0.34	7.23	4.94	0.01	0.00	0.00	0.00	0.00	0.00	0.00	812.76	0.02	0.13

1) Accounts for all exhaust and evaporative processes  
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Haul Offsite

Phase Name	Start Date	End Date	Total Days	Year	# of One-way Haul Trips/day (In/Out)	Trip Length (mi)	Emissions (lb/day)											Total MT					
							ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45	2023	214	5.546969697	0.22	9.26	2.59	0.05	0.59	0.07	0.66	0.29	0.07	0.36	4798.54	0.01	0.76	97.95	0.00	0.02	102.55
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150	2023	26	27.946969697	0.05	4.05	0.44	0.03	0.36	0.04	0.40	0.18	0.04	0.22	2745.50	0.00	0.43	186.80	0.00	0.03	195.58
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30	2024	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30	2024	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20	2024	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15	2025	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20	2024	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10	2025	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20	2025	0	27.946969697	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30	2023	10	27.946969697	0.02	1.56	0.17	0.01	0.14	0.02	0.16	0.07	0.02	0.08	1055.96	0.00	0.17	14.37	0.00	0.00	15.04
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30	2023	0	0.946969697	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10	2023	0	0.946969697	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45	2023	0	0.946969697	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Install temporary utilities, Water, power, sewage Handling, communications	7/10/23	8/18/23	30	2023	0	0.946969697	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30	2023	0	27.946969697	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30	2024	0	0.946969697	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1) Accounts for all exhaust and evaporative processes  
 2) Soil import only. Soil export would be kept on-site.

Architectural Coating Emissions

Phase Name	Coating Type	SF	Residential Interior EF	Residential Interior Area (SF)	Residential Exterior EF	Residential Exterior Area	Non-Residential Interior EF	Non-Residential Interior Area (SF)	Non-Residential Exterior EF	Non-Residential Exterior Area	Grout EF	Grout Area	Total Emissions
Tunnel Intake Structure - Excavate and support for approach channel and intake structure			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure - Construct Intake structure structural elements	Non-Residential	20,736	100	0	100	0	101	31104	101	10368	51	0.00	194.01
Tunnel Intake Structure - Install mechanical systems			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure - Construct Control Building			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure - Install fencing and security systems			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure - Install electrical and control systems			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure - Testing of control systems			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure - Re-vegetation and site demob			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support			100	0	100	0	100	0	100	0	50	0.00	0.00
Tunnel Intake Structure Portal - Remove TBM			100	0	100	0	100	0	100	0	50	0.00	0.00

Combined Phase Name5	Start Date5	End Date5	# of Workdays5	Emissions (lb/day)	
				ROG	
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45.00	0.00	
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150.00	1.29	
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30.00	0.00	
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30.00	0.00	
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20.00	0.00	
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15.00	0.00	
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20.00	0.00	
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10.00	0.00	
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20.00	0.00	
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30.00	0.00	
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30.00	0.00	
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10.00	0.00	
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45.00	0.00	
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30.00	0.00	
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30.00	0.00	
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30.00	0.00	

**Paving Off-Gassing Emissions**

Phase Name	Acres	Off-Gassing EF (lb/acre)	Total Emissions (lbs)
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	2.11	2.62	5.53
	0.00	2.62	0.00
	0.00	2.62	0.00

Combined Phase Name5	Start Date5	End Date5	# of Workdays5
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/23	12/1/23	45.00
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/23	6/28/24	150.00
Tunnel Intake Structure - Install mechanical systems	7/1/24	8/9/24	30.00
Tunnel Intake Structure - Construct Control Building	8/12/24	9/20/24	30.00
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/24	12/13/24	20.00
Tunnel Intake Structure - Install fencing and security systems	1/13/25	1/31/25	15.00
Tunnel Intake Structure - Install electrical and control systems	12/16/24	1/10/25	20.00
Tunnel Intake Structure - Testing of control systems	1/13/25	1/24/25	10.00
Tunnel Intake Structure - Re-vegetation and site demob	2/3/25	2/28/25	20.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/23	5/26/23	30.00
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/23	7/7/23	30.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/23	6/9/23	10.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/23	6/16/23	45.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/23	8/18/23	30.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/23	9/29/23	30.00
Tunnel Intake Structure Portal - Remove TBM	10/7/24	11/15/24	30.00

Emissions (lb/day)
ROG
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.18
0.00
0.00
0.00
0.00
0.00
0.00

**Mechanical or Explosive Dismemberment**

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

EF emission factor (lb/ton)  
 k particle size multiplier, AP-42 default for PM10: 0.35; PM2.5: 0.053  
 U mean wind speed, m/s to mph  
 M material moisture content (%), AP-42 Default: 2

Parameter	PM10	PM2.5	CalEEMod Wind Speed (m/s)	Changes based on Project Location
	Value	Value	3.2	CEC forecast zone 4
k (unitless)	0.35	0.053	<--confirm these parameters for location	
U (m/s to mph)	7.16	7.16	<--confirm these parameters for location	
M (%)	2	2	<--confirm these parameters for location	
<b>EF (lb/ton)</b>	<b>1.79E-03</b>	<b>2.70E-04</b>		

**Debris Loading**

$$EF_L = k \times EF_{L-TSP}$$

EF<sub>L</sub> emission factor (lb/ton)  
 k particle size multiplier, AP-42 default for PM10: 0.35; PM2.5: 0.053

Default EF<sub>L-TSP</sub> 0.058

lb/ton of debris	
PM10	PM2.5
0.0203	0.003074

**Total DEMO EF**

lb/ton of debris	
PM10	PM2.5
2.21E-02	3.34E-03

**Mechanical or Explosive Dismemberment**  
 Based on the MRI report, there is no AP-42 emission factor data available for this mechanical or explosive dismemberment. Thus, the emission factor for dismemberment and collapse of a structure is calculated using the following AP-42 equation for batch drop operations:

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

Where:  
 EF<sub>D</sub> = emission factor (lb PM/ton of debris)  
 EF<sub>D-PM10</sub> = 0.0011 lb PM<sub>10</sub>/ton of debris  
 EF<sub>D-PM2.5</sub> = 0.00017 lb PM<sub>2.5</sub>/ton of debris  
 k = particle size multiplier. The AP-42 default value for PM<sub>10</sub> is 0.35 and that for PM<sub>2.5</sub> is 0.053.  
 U = mean wind speed. The program selects the default mean wind speed based on the wind speed (m/s) provided on the project characteristics screen.  
 M = material moisture content. The program uses 2% as the default based on the MRI report.

The dust emissions are calculated by multiplying the above emission factors with the total weight of building waste using the following equation:

$$E_D = EF_D \times W$$

Where:  
 E<sub>D</sub> = emissions (lb of PM)  
 EF<sub>D</sub> = emission factor (lb of PM/ton of debris)  
 W = building waste (ton of debris)

<sup>10</sup>Midwest Research Institute. 1988. Gap Filling PM10 Emission Factors for Selected Open Area Dust Sources.

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**Debris Loading**  
 The dust emission factor of PM<sub>10</sub> and PM<sub>2.5</sub> in pounds per ton building waste is estimated based on the measured total suspended particulates (TSP) emission factor using the following equation:

$$EF_L = k \times EF_{L-TSP}$$

Where:  
 EF<sub>L</sub> = emission factor (lb/ton)  
 k = particle size multiplier. The AP-42 default value for PM<sub>10</sub> is 0.35 and that for PM<sub>2.5</sub> is 0.053.

The default value for EF<sub>L-TSP</sub> is 0.058 lb/ton, the average of the two TSP factor (i.e. 0.053 and 0.063 lb/ton) measured from two tests of the filling of trucks with crushed limestone using a front-end loader.

The dust emissions from debris loading are then calculated following the same methodology used for mechanical and or explosive dismemberment:

$$E_L = EF_L \times SF \times 0.046(\text{ton} / \text{ft}^2)$$

Where:  
 E<sub>L</sub> = emissions (lb)  
 EF<sub>L</sub> = emission factor (lb/ton)  
 SF = building square footage (ft<sup>2</sup>)

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Truck Loading Emissions

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

- EF emission factor (lb/ton)
- k particle size multiplier, AP-42 default for PM10: 0.35; PM2.5: 0.053
- U mean wind speed, m/s to mph
- M material moisture content (%), AP-42 Default: 12

Parameter	CalEEMod Wind Speed (m/s)		Changes based on Project Location
	PM10	PM2.5	3.2 CEC forecast zone 4
k (unitless)	0.35	0.053	<--confirm these parameters for location
U (m/s to mph)	7.16	7.16	<--confirm these parameters for location
M (%)	14	14	MJA, DRAFT - Preliminary Geotechnical Design Recommendations, February 2019.
EF (lb/ton)	1.17E-04	1.77E-05	

**Emissions** **E=EF x TP**

EF	Emission factor (lb/ton)
TP	Throughput (tons)
CY	95186 <--Enter in Project Value
tons/CY	1.2641662
TP	120330.92
# of days with truck loading	#REF! <--Enter in Project Value

13.2.4.2

EMISSION FACTORS

Table 13.2.4-1. TYPICAL SILT AND MOISTURE CONTENTS OF MATERIALS AT VARIOUS INDUSTRIES\*

Industry	No. Of Facilities	Material	Silt Content (%)			Moisture Content (%)		
			No. Of Samples	Range	Mean	No. Of Samples	Range	Mean
Iron and steel production	9	Pellet ore	13	1.3 - 13	4.3	11	0.64 - 4.0	2.2
		Lump ore	9	2.8 - 19	9.5	6	1.6 - 8.0	5.4
		Coal	12	2.0 - 7.7	4.6	11	2.8 - 11	4.8
		Slag	3	3.0 - 7.3	5.3	3	0.25 - 2.0	0.92
		Flue dust	3	2.7 - 23	13	1	—	7
		Coke breeze	2	4.4 - 5.4	4.9	2	6.4 - 9.2	7.8
		Blended ore	1	—	15	1	—	6.6
		Sinter	1	—	0.7	0	—	—
		Limestone	3	0.4 - 2.3	1.0	2	ND	0.2
Stone quarrying and processing	2	Crushed limestone	2	1.3 - 1.9	1.6	2	0.3 - 1.1	0.7
		Various limestone products	8	0.8 - 14	3.9	8	0.46 - 5.0	2.1
Taconite mining and processing	1	Pellets	9	2.2 - 5.4	3.4	7	0.05 - 2.0	0.9
		Tailings	2	ND	11	1	—	0.4
Western surface coal mining	4	Coal	15	3.4 - 16	6.2	7	2.8 - 20	6.9
		Overburden	15	3.8 - 15	7.5	0	—	—
		Exposed ground	3	5.1 - 21	15	3	0.8 - 6.4	3.4
Coal-fired power plant	1	Coal (as received)	60	0.6 - 4.8	2.2	59	2.7 - 7.4	4.5
Municipal solid waste landfills	4	Sand	1	—	2.6	1	—	7.4
		Slag	2	3.0 - 4.7	3.8	2	2.3 - 4.9	3.6
		Cover	5	5.0 - 16	9.0	5	8.9 - 16	12
		Clay/dirt mix	1	—	9.2	1	—	14
		Clay	2	4.5 - 7.4	6.0	2	8.9 - 11	10
		Fly ash	4	78 - 81	80	4	26 - 29	27
		Misc. fill materials	1	—	12	1	—	11

\* References 1-10. ND = no data.

1

**Truck Loading**

Processes such as truck dumping on the pile or loading out from the pile to a truck with a front-end loader also cause fugitive dust emissions. The program calculates these emissions using the methodology described in Section 13.2, Introduction to Fugitive Dust Sources, of USEPA AP-42. The emission factor that is based on the material moisture content and mean wind speed is calculated using the following formula:

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

Where:

EF = emission factor (lb/ton)

K = particle size multiplier. The AP-42 default value for PM<sub>10</sub> is 0.35 and that for PM<sub>2.5</sub> is 0.053

U = mean wind speed. The program selects wind speed based on the value listed on the Project Characteristics screen. It has been converted internally to miles per hour.

M = material moisture content (%). The moisture contents of different materials are listed in Table 13.2.4-1 of AP-42. The program uses the moisture content of cover (12%) as default.

The fugitive dust emissions are calculated by multiplying the emission factor with the throughput of loaded and unloaded material that is entered by the user.

$$E = EF \times TP$$

Where:

E = emissions (lb)

EF = emission factor (lb/ton)

TP = throughput of loaded and unloaded materials (ton)

CalEEMod assumes that 1.2641662 tons per cubic yard based on a bulk density of 1.5 grams per cubic centimeter. Typical soil densities range from about 1.25 to about 1.6 and 1.5 is the approximate density of a silty loam soil which is relatively common in most other parts of the state. The density reported above does not account for watering to suppress dust, it only accounts for natural moisture.

**Bulldozing Emissions**

$$EF_{TSP} = \frac{C_{TSP} \times S^{1.2}}{M^{1.3}}, \text{ and } EF_{PM_{2.5}} = EF_{TSP} \times F_{PM_{2.5}}$$

$$EF_{PM_{15}} = \frac{C_{PM_{15}} \times S^{1.5}}{M^{1.4}}, \text{ and } EF_{PM_{10}} = EF_{PM_{15}} \times F_{PM_{10}}$$

EF emission factor (lb/hr)  
C arbitrary coefficient use by AP-42  
M material moisture content (%)  
S material silt content (%)  
F scaling factor

C<sub>TSP</sub> (unitless) 5.7  
C<sub>PM15</sub> (unitless) 1  
M(%) 7.9  
s (%) 6.9  
F<sub>PM10</sub> (unitless) 0.75  
F<sub>PM2.5</sub> (unitless) 0.105

EF<sub>TSP</sub> 3.941  
EF<sub>PM15</sub> 1.004

**Emission Factors (lb/hr)**

EF<sub>PM10</sub> **0.753** Emission Factor Method Confirmed with comparison to CalEEMod  
EF<sub>PM2.5</sub> **0.414** Emission Factor Method Confirmed with comparison to CalEEMod

Emissions= EF x Hr  
# of hours per day 8  
# of Bulldozers 1

Source	lb/day	
	PM10	PM2.5
Bulldozing Emissions	6.022	3.310

**Bulldozing**

Similar to the grading equipment passes emission estimation, the bulldozing emission factors for PM<sub>10</sub> and PM<sub>2.5</sub> are scaled from those of PM<sub>15</sub> and TSP. Based on Section 11.9 of AP-42, the dust emission factor for bulldozing is calculated using the following equations:

$$EF_{TSP} = \frac{C_{TSP} \times S^{1.2}}{M^{1.3}}, \text{ and } EF_{PM_{2.5}} = EF_{TSP} \times F_{PM_{2.5}}$$

$$EF_{PM_{15}} = \frac{C_{PM_{15}} \times S^{1.5}}{M^{1.4}}, \text{ and } EF_{PM_{10}} = EF_{PM_{15}} \times F_{PM_{10}}$$

Where:  
EF = emission factor (lb/hr)  
C = arbitrary coefficient used by AP-42  
M = material moisture content (%)  
S = material silt content (%)  
F = scaling factor

C, M, s, and F vary depending on the bulldozed material. The following table summarizes the constants for overburden<sup>8</sup> presented in AP-42<sup>9</sup>.

Constant	Overburden
C <sub>TSP</sub>	5.7
C <sub>PM15</sub>	1.0
M	7.9%
s	6.9%
F <sub>PM10</sub>	0.75
F <sub>PM2.5</sub>	0.105

The program uses the constants associated with overburden as default for calculation of bulldozing dust emissions since overburden more closely models the bulldozed materials during the development construction. The dust emissions are calculated by multiplying the emission factor with the hours of operation for the dozers listed in the equipment list using the formula below:

$$E = EF \times Hr$$

Where:  
E = emissions (lb)  
EF = emission factor (lb/hr)  
Hr = hours of operation

<sup>8</sup> The earth that is between the topsoil and the coal seam (USEPA AP-42).  
<sup>9</sup> Tables 11.9-1 and 11.9-3 of USEPA AP-42



**Grading Emissions**

EFPM15

$$EF_{PM15} = 0.051 \times (S)^{2.0}, \text{ and } EF_{PM10} = EF_{PM15} \times F_{PM10}$$

$$EF_{TSP} = 0.04 \times (S)^{2.5}, \text{ and } EF_{PM2.5} = EF_{TSP} \times F_{PM2.5}$$

EF Emission Factor (lb/VMT)  
 S mean vehicle speed (mph), AP-42 Default: 7.1 mph  
 F<sub>PM2.5</sub> PM2.5 scaling factor, AP-42 default: 0.031  
 F<sub>PM10</sub> PM10 scaling factor, AP-42 default: 0.6

S 7.1  
 F<sub>PM2.5</sub> 0.031  
 F<sub>PM10</sub> 0.6

EF<sub>PM15</sub> 2.57  
 EF<sub>TSP</sub> 5.37

Emission factor (lb/VMT)

EF<sub>PM10</sub> 1.543  
 EF<sub>PM2.5</sub> 0.167

**Emissions= EF x VMT**

VMT:

A<sub>site</sub> acreage of grading site  
 W<sub>b</sub> Width of blade, default: 12 feet  
 Feet/acre conversion 43560

The grading dust emissions are calculated by multiplying vehicle miles traveled (VMT) for the grading equipment (i based on the dimensions of the grading area and the blade width.

$$E = EF \times VMT, \text{ and}$$

$$VMT = A_s / W_b \times 43,560(\text{sqft} / \text{acre}) / 5,280(\text{ft} / \text{mi})$$

Where:  
 E: emissions (lb)  
 EF: emission factor (lb/VMT)  
 VMT: vehicle miles traveled (mile)  
 A<sub>s</sub>: the acreage of the grading site (acre)  
 W<sub>b</sub>: Blade width of the grading equipment. The blade width is based on Caterpillar's 140 Motor Grader's blade width of 12 feet.

Note that the dimensions (e.g., length and width) of the grading area used in the calculation, only the total area to be graded. In order to pass the grading area, multiple passes with equipment may be required. The number of passes is based on the grading or site preparation phase according to the anticipated equipment. The number of passes given piece of equipment can pass over in an 8-hour workday. The work rates are given in the following table as determined by SLOAPCD estimator references.

Equipment Type	Acres
Crawler Tractors	
Graders	
Rubber Tired Dozers	
Scrapers	

MCWRA Interlake Tunnel and  
Spillway Modification Project

South Central Coast Air Basin: Mitigated AQ/GHG Analysis

feet/mile conversion 5280  
Acres per 8-hr day amount of acres graded per day, see calc below

Paremeters:	Value
A <sub>site</sub>	4.3
W <sub>b</sub>	12
Feet/acre conversion	43560
feet/mile conversion	5280
Acres per 8-hr day	1.5
VMT	1.03125

**Acres per 8-hr day**

Equipment Type	Acres/8-hr day	# of equipment	Equipment Hours per day	Scaling Factor	Acres per day
Crawler Tractors	0.5		8	8	0
Graders	0.5		8	8	0
Rubber Tired Dozers	0.5	3	8	8	1.5
Scrapers	1		8	8	0
					<b>1.5</b>

Source	lb/day	
	PM10	PM2.5
Grading Emissions	1.59E+00	1.72E-01

Calculation Method Confirmed with comparison to CalEEMod outputs

the emission factors with the total  
(e.g., grader). The VMT are estimated  
the width of the grading equipment.

(ile)

rogram uses a default blade width of 12  
.

grading site have no impact on the  
properly grade a piece of land multiple  
based on the equipment list and days in  
estimated maximum number of acres a  
per day. The equipment-specific grading  
CAQMD in consultation with building

Acres/8hr-day
0.5
0.5
0.5
1













Excavators	2012	121	175	0.03462	0.448	5.8897	3.17939	0.005	0.276	0.208	522.089	0.153
Excavators	2012	176	250	0.802641	0.338	5.32577	1.4262	0.005	0.189	0.155	522.498	0.153
Excavators	2012	251	500	0.038496	0.239	4.02734	1.4255	0.005	0.131	0.121	520.934	0.152
Excavators	2012	501	750	0.18146	0.281	4.3898	1.47962	0.005	0.145	0.134	517.267	0.153
Excavators	2013	16	25	0.95462	0.836	5.0526	4.80774	0.005	0.399	0.362	578.236	0.17
Excavators	2013	16	50	0.95462	0.836	5.0526	4.80774	0.005	0.399	0.362	578.236	0.17
Excavators	2013	51	120	0.03921	0.537	5.3703	3.66866	0.005	0.404	0.372	511.731	0.151
Excavators	2013	121	175	0.03921	0.421	5.08951	3.10696	0.005	0.253	0.231	510.466	0.153
Excavators	2013	176	250	0.810779	0.322	4.93765	1.40528	0.005	0.197	0.185	508.8753	0.153
Excavators	2013	251	500	0.038496	0.248	3.73509	1.38754	0.005	0.121	0.111	517.7809	0.152
Excavators	2013	501	750	0.03827	0.254	3.92901	1.36268	0.005	0.128	0.116	501.672	0.153
Excavators	2014	16	25	0.981904	0.825	4.96504	4.84434	0.005	0.38	0.35	575.2634	0.17
Excavators	2014	16	50	0.981904	0.825	4.96504	4.84434	0.005	0.38	0.35	575.2634	0.17
Excavators	2014	51	120	0.035055	0.513	5.11317	3.66133	0.005	0.382	0.352	511.3057	0.151
Excavators	2014	121	175	0.046489	0.39	4.63763	3.12428	0.005	0.229	0.211	518.9866	0.153
Excavators	2014	176	250	0.950137	0.294	4.97384	1.34557	0.005	0.139	0.128	517.3234	0.153
Excavators	2014	251	500	0.078896	0.233	3.35284	1.37271	0.005	0.108	0.099	515.2151	0.152
Excavators	2014	501	750	0.086899	0.239	3.90888	1.34765	0.005	0.114	0.105	501.9631	0.153
Excavators	2015	16	25	0.991068	0.833	4.91817	4.92488	0.005	0.375	0.345	569.5116	0.17
Excavators	2015	16	50	0.991068	0.833	4.91817	4.92488	0.005	0.375	0.345	569.5116	0.17
Excavators	2015	51	120	0.0346	0.507	5.0307	3.67943	0.005	0.373	0.344	506.1277	0.151
Excavators	2015	121	175	0.05597	0.284	4.4607	3.16762	0.005	0.221	0.205	511.6889	0.153
Excavators	2015	176	250	0.943545	0.288	4.8222	1.31148	0.005	0.133	0.122	512.0555	0.153
Excavators	2015	251	500	0.073643	0.232	3.21295	1.31662	0.005	0.104	0.096	509.8675	0.152
Excavators	2015	501	750	0.08882	0.242	3.47787	1.30372	0.005	0.113	0.104	508.6816	0.153
Excavators	2016	16	25	0.970026	0.815	4.82432	4.94188	0.005	0.359	0.33	563.8026	0.17
Excavators	2016	16	50	0.970026	0.815	4.82432	4.94188	0.005	0.359	0.33	563.8026	0.17
Excavators	2016	51	120	0.036021	0.476	4.7806	3.66066	0.005	0.344	0.317	500.9659	0.151
Excavators	2016	121	175	0.025494	0.328	4.88095	3.15771	0.005	0.205	0.185	506.465	0.153
Excavators	2016	176	250	0.912033	0.262	3.66786	1.27749	0.005	0.116	0.107	505.544	0.153
Excavators	2016	251	500	0.033752	0.213	2.81451	1.21244	0.005	0.091	0.081	504.2899	0.152
Excavators	2016	501	750	0.037898	0.242	3.37921	1.34881	0.005	0.11	0.101	503.6396	0.153
Excavators	2017	16	25	0.917471	0.771	4.97818	4.88904	0.005	0.332	0.305	554.9521	0.17
Excavators	2017	16	50	0.917471	0.771	4.97818	4.88904	0.005	0.332	0.305	554.9521	0.17
Excavators	2017	51	120	0.032542	0.44	4.2792	3.63939	0.005	0.31	0.285	493.429	0.151
Excavators	2017	121	175	0.037029	0.234	3.09907	1.55061	0.005	0.102	0.097	488.2322	0.153
Excavators	2017	176	250	0.958343	0.247	3.31872	1.24911	0.005	0.105	0.097	484.4364	0.153
Excavators	2017	251	500	0.027768	0.21	2.50715	1.2002	0.005	0.081	0.075	486.266	0.152
Excavators	2017	501	750	0.027821	0.21	2.71934	1.21283	0.005	0.081	0.075	484.5486	0.152
Excavators	2018	16	25	0.818091	0.687	4.95154	4.70022	0.005	0.284	0.261	545.3468	0.17
Excavators	2018	16	50	0.818091	0.687	4.95154	4.70022	0.005	0.284	0.261	545.3468	0.17
Excavators	2018	51	120	0.038555	0.368	3.76366	3.62424	0.005	0.25	0.23	486.956	0.151
Excavators	2018	121	175	0.034959	0.273	2.92961	3.00328	0.005	0.128	0.119	501.625	0.153
Excavators	2018	176	250	0.914029	0.202	2.90777	1.15209	0.005	0.079	0.073	490.2369	0.153
Excavators	2018	251	500	0.027823	0.175	2.55465	1.19515	0.005	0.062	0.056	489.2162	0.152
Excavators	2018	501	750	0.02476	0.189	2.26567	1.22359	0.005	0.076	0.07	487.6528	0.152
Excavators	2019	16	25	0.73855	0.637	4.03862	4.06988	0.005	0.25	0.23	536.9132	0.17
Excavators	2019	16	50	0.73855	0.637	4.03862	4.06988	0.005	0.25	0.23	536.9132	0.17
Excavators	2019	51	120	0.038098	0.325	3.38874	3.32421	0.005	0.211	0.194	478.2432	0.151
Excavators	2019	121	175	0.029021	0.246	2.5256	3.06163	0.005	0.122	0.112	480.4828	0.153
Excavators	2019	176	250	0.920917	0.186	2.24187	1.12871	0.005	0.068	0.063	481.2303	0.153
Excavators	2019	251	500	0.020988	0.162	1.77988	1.118	0.005	0.052	0.045	481.2361	0.152
Excavators	2019	501	750	0.029677	0.178	1.98661	1.17289	0.005	0.067	0.062	479.2876	0.152
Excavators	2020	16	25	0.709664	0.593	4.03131	4.00312	0.005	0.222	0.204	535.3675	0.17
Excavators	2020	16	50	0.709664	0.593	4.03131	4.00312	0.005	0.222	0.204	535.3675	0.17
Excavators	2020	51	120	0.036064	0.299	3.99964	3.50495	0.005	0.185	0.17	488.9546	0.151
Excavators	2020	121	175	0.027427	0.231	2.73931	3.0057	0.005	0.11	0.101	472.9216	0.153
Excavators	2020	176	250	0.911076	0.177	2.07378	1.11778	0.005	0.061	0.056	471.8828	0.153
Excavators	2020	251	500	0.028242	0.158	1.57199	1.1024	0.005	0.052	0.046	470.2956	0.152
Excavators	2020	501	750	0.020201	0.17	1.79718	1.14543	0.005	0.061	0.056	468.8796	0.152
Excavators	2021	16	25	0.689115	0.562	3.91866	4.46094	0.005	0.202	0.186	525.3774	0.17
Excavators	2021	16	50	0.689115	0.562	3.91866	4.46094	0.005	0.202	0.186	525.3774	0.17
Excavators	2021	51	120	0.037374	0.275	2.84891	3.49396	0.005	0.161	0.148	487.7996	0.151
Excavators	2021	121	175	0.027574	0.214	2.0353	3.08071	0.005	0.099	0.091	472.3866	0.153
Excavators	2021	176	250	0.937378	0.143	1.9572	1.10324	0.005	0.052	0.048	471.7911	0.153
Excavators	2021	251	500	0.020217	0.143	1.91574	1.08777	0.005	0.043	0.041	469.6164	0.152
Excavators	2021	501	750	0.018683	0.145	1.61856	1.14978	0.005	0.056	0.052	469.547	0.152
Excavators	2022	16	25	0.688779	0.478	3.70039	4.27341	0.005	0.18	0.147	525.4468	0.17
Excavators	2022	16	50	0.688779	0.478	3.70039	4.27341	0.005	0.18	0.147	525.4468	0.17
Excavators	2022	51	120	0.029959	0.232	2.04064	3.47329	0.005	0.138	0.127	487.6256	0.151
Excavators	2022	121	175	0.02247	0.181	1.4781	1.074	0.005	0.081	0.072	472.817	0.153
Excavators	2022	176	250	0.917666	0.148	1.38164	1.09157	0.005	0.044	0.04	472.0412	0.153
Excavators	2022	251	500	0.023263	0.128	1.03881	1.06236	0.005	0.052	0.045	469.7168	0.153
Excavators	2022	501	750	0.0178436	0.15	1.2865	1.144	0.005	0.047	0.041	469.2892	0.152
Excavators	2023	16	25	0.637374	0.391	3.9916	4.2338	0.005	0.139	0.128	525.4286	0.17
Excavators	2023	16	50	0.637374	0.391	3.9916	4.2338	0.005	0.139	0.128	525.4286	0.17
Excavators	2023	51	120	0.073823	0.31	2.8086	3.4367	0.005	0.116	0.107	487.373	0.151
Excavators	2023	121	175	0.023046	0.178	1.4624	1.07646	0.005	0.072	0.066	472.277	0.153
Excavators	2023	176	250	0.948964	0.142	1.20941	1.09895	0.005	0.039	0.036	472.7111	0.153
Excavators	2023	251	500	0.041511	0.122	0.89111	1.0608	0.005	0.041	0.038	469.8852	0.153
Excavators	2023	501	750	0.017247	0.144	1.15865	1.13399	0.005	0.043	0.04	468.6826	0.152
Excavators	2024	16	25	0.696824	0.458	3.59848	4.20529	0.005	0.12	0.11	525.939	0.17
Excavators	2024	16	50	0.696824	0.458	3.59848	4.20529	0.005	0.12	0.11	525.939	0.17
Excavators	2024	51	120	0.038444	0.217	2.4781	3.43322	0.005	0.102	0.094	487.3843	0.151
Excavators	2024	121	175	0.029272	0.17	1.6479	1.08136	0.005	0.06	0.054	474.279	0.153
Excavators	2024	176	250	0.948964	0.139	1.20881	1.09899	0.005	0.038	0.033	473.2113	0.153
Excavators	2024	251	500	0.041413	0.121	0.81219	1.03409	0.005	0.042	0.038	469.7168	0.153
Excavators	2024	501	750	0.019017	0.142	1.0467	1.13421	0.005	0.041	0.037	468.62	0.152
Excavators	2025	16	25	0.647994	0.403	3.42928	4.21941	0.005	0.107	0.099	525.7737	0.17
Excavators	2025	16	50	0.647994	0.403	3.42928	4.21941	0.005	0.107	0.099	525.7737	0.17
Excavators	2025</											



Year	Station	PM2.5	PM10	CO	NO2	SO2	O3	CH4	N2O	CO2e	
2015	101	175	0.00431	0.044	8.8746	3.9589	0.005	0.488	0.447	537.2383	0.106
2015	176	250	0.071304	0.396	5.72754	1.46077	0.005	0.188	0.171	517.1275	0.154
2015	251	500	0.088063	0.326	3.7122	1.79107	0.005	0.144	0.133	513.0975	0.151
2015	501	750	0.1484	0.414	1.951	1.41	0.005	0.148	0.14	568.289	0.037
2016	20	50	0.107089	1.085	6.1971	9.1023	0.005	0.864	0.795	528.2444	0.159
2016	111	175	0.106569	1.093	6.14481	8.9798	0.005	0.78	0.718	503.1814	0.152
2016	176	250	0.106567	0.81	8.24966	3.9124	0.005	0.463	0.426	516.1305	0.154
2016	251	500	0.07996	0.384	5.8628	1.9351	0.005	0.184	0.159	511.8091	0.154
2016	501	750	0.077767	0.34	4.6824	1.7174	0.005	0.144	0.133	506.564	0.154
2016	101	175	0.11959	0.303	3.154	1.387	0.005	0.112	0.112	568.299	0.035
2016	176	250	0.11987	0.207	4.421	1.9328	0.005	0.843	0.776	520.0247	0.159
2017	11	120	0.138767	1.164	9.2125	4.81041	0.005	0.759	0.698	495.9186	0.152
2017	111	175	0.1391	0.757	7.60263	1.8418	0.005	0.43	0.396	506.7438	0.159
2017	176	250	0.171391	0.396	5.12488	1.44925	0.005	0.18	0.166	503.8022	0.154
2017	251	500	0.077768	0.34	3.57078	1.70147	0.005	0.129	0.128	498.1096	0.153
2017	501	750	0.1127	0.372	1.815	1.371	0.005	0.1	0.1	568.299	0.031
2018	26	50	0.134571	1.209	6.17962	8.62611	0.005	0.79	0.726	511.9098	0.159
2018	111	175	0.1296	0.757	8.0564	4.09711	0.005	0.827	0.841	489.6079	0.152
2018	176	250	0.178789	0.361	6.04665	3.70957	0.005	0.371	0.342	497.3767	0.155
2018	251	500	0.078269	0.324	5.70981	1.41305	0.005	0.131	0.128	495.461	0.153
2018	501	750	0.108909	0.324	3.14465	1.54464	0.005	0.129	0.119	490.5758	0.151
2018	101	175	0.11378	0.323	1.541	1.286	0.005	0.09	0.09	568.299	0.031
2018	176	250	0.11378	2.616	9.44463	8.27912	0.005	0.737	0.678	503.7509	0.159
2018	251	500	0.128249	1.032	8.1552	4.6424	0.005	0.665	0.612	479.9011	0.152
2018	501	750	0.17464	0.609	6.9194	3.6588	0.005	0.327	0.31	489.6079	0.155
2019	176	250	0.042858	0.36	4.88575	1.39227	0.005	0.156	0.144	488.3288	0.154
2019	501	750	0.108909	0.323	1.37981	1.52649	0.005	0.128	0.114	487.6279	0.154
2019	101	175	0.11435	0.335	2.276	1.255	0.005	0.08	0.08	568.299	0.03
2019	176	250	0.209727	1.164	9.42549	4.13394	0.005	0.709	0.652	492.2615	0.159
2019	251	500	0.1161574	0.978	7.75113	4.56142	0.005	0.622	0.572	469.3171	0.152
2019	501	750	0.074427	0.367	5.35045	3.42102	0.005	0.309	0.284	479.0403	0.155
2019	101	175	0.11877	0.322	4.87787	1.94181	0.005	0.15	0.138	478.3017	0.154
2019	176	250	0.081818	0.322	3.30721	1.5256	0.005	0.121	0.111	471.9795	0.153
2019	251	500	0.12961	0.318	1.011	1.229	0.005	0.022	0.022	568.299	0.028
2019	501	750	0.216026	2.235	8.48468	7.62621	0.005	0.813	0.741	493.9312	0.159
2020	11	120	0.077144	0.602	4.40123	4.61235	0.005	0.57	0.524	499.021	0.152
2020	111	175	0.081327	0.305	4.89447	3.58886	0.005	0.27	0.248	474.5289	0.155
2020	176	250	0.086627	0.305	4.38124	1.58687	0.005	0.139	0.128	474.5289	0.153
2020	251	500	0.081324	0.322	3.01251	1.6664	0.005	0.117	0.109	471.8981	0.153
2020	501	750	0.12333	0.303	1.808	1.207	0.005	0.064	0.064	568.299	0.027
2020	101	175	0.216026	1.096	5.13388	4.4248	0.005	0.955	0.847	498.8289	0.159
2020	176	250	0.047815	0.396	4.32604	1.32966	0.005	0.493	0.451	489.6301	0.152
2020	251	500	0.040265	0.44	4.12485	3.40283	0.005	0.299	0.211	476.5654	0.152
2020	501	750	0.082329	0.307	3.8881	1.27327	0.005	0.124	0.114	474.239	0.151
2020	101	175	0.170423	0.311	2.1421	1.955	0.005	0.208	0.1	471.9273	0.153
2020	176	250	0.11747	0.289	1.606	1.187	0.005	0.057	0.057	568.299	0.026
2020	251	500	0.216026	1.947	5.14799	7.10994	0.005	0.949	0.856	498.6202	0.16
2020	501	750	0.086668	0.396	5.79026	4.22811	0.005	0.458	0.402	498.8289	0.159
2020	101	175	0.049241	0.39	3.47478	3.40266	0.005	0.195	0.18	474.4628	0.152
2020	176	250	0.049241	0.394	3.44023	3.40266	0.005	0.195	0.18	474.4628	0.152
2020	251	500	0.049241	0.394	3.44023	3.40266	0.005	0.195	0.18	474.4628	0.152
2020	501	750	0.049241	0.394	3.44023	3.40266	0.005	0.195	0.18	474.4628	0.152
2020	101	175	0.11215	0.276	1.425	1.17	0.005	0.051	0.051	568.3	0.024
2020	176	250	0.216026	1.85	5.078	7.05059	0.005	0.92	0.879	481.7913	0.16
2020	251	500	0.081329	0.483	5.43389	4.20033	0.005	0.408	0.375	489.8208	0.152
2020	501	750	0.081329	0.483	5.43389	4.20033	0.005	0.408	0.375	489.8208	0.152
2020	101	175	0.049241	0.394	3.44023	3.40266	0.005	0.195	0.18	474.4628	0.152
2020	176	250	0.049241	0.394	3.44023	3.40266	0.005	0.195	0.18	474.4628	0.152
2020	251	500	0.049241	0.394	3.44023	3.40266	0.005	0.195	0.18	474.4628	0.152
2020	501	750	0.049241	0.394	3.44023	3.40266	0.005	0.195	0.18	474.4628	0.152
2020	101	175	0.11747	0.289	1.606	1.187	0.005	0.057	0.057	568.299	0.026
2020	176	250	0.081329	0.483	5.43389	4.20033	0.005	0.408	0.375	489.8208	0.152
2020	251	500	0.081329	0.483	5.43389	4.20033	0.005	0.408	0.375	489.8208	0.152
2020	501	750	0.081329	0.483	5.43389	4.20033	0.005	0.408	0.375	489.8208	0.152
2020	101	175	0.11747	0.289	1.606	1.187	0.005	0.057	0.057	568.299	0.026
2020	176	250	0.081329	0.483	5.43389	4.20033	0.005	0.408	0.375	489.8208	0.152
2020	251	500	0.081329	0.483	5.43389	4.20033	0.005	0.408	0.375	489.8208	0.152
2020	501	750	0.081329	0.483	5.43389	4.20033	0.005	0.408	0.375	489.8208	0.152
2020	101	175	0.11747	0.289	1.606	1.187	0.005	0.057	0.057	568.299	0.026
2020	176	250	0.081329	0.483	5.43389	4.20033	0.005	0.408	0.375	489.8208	0.152
2020	251	500	0.081329	0.483	5.43389	4.20033	0.005	0.408	0.375	489.8208	0.152
2020	501	750	0.081329	0.483	5.43389	4.20033	0.005	0.408	0.375	489.8208	0.152
2020	101	175	0.11747	0.289	1.606	1.187	0.005	0.057	0.057	568.299	0.026
2020	176	250	0.081329	0.483	5.43389	4.20033	0.005	0.408	0.375	489.8208	0.152
2020	251	500	0.081329	0.483	5.43389	4.20033	0.005	0.408	0.375	489.8208	0.152
2020	501	750	0.081329	0.483	5.43389	4.20033	0.005	0.408	0.375	489.8208	0.152
2020	101	175	0.11747	0.289	1.606	1.187	0.005	0.057	0.057	568.299	0.026
2020	176	250	0.081329	0.483	5.43389	4.20033	0.005	0.408	0.375	489.8208	0.152
2020	251	500	0.081329	0.483	5.43389	4.20033	0.005	0.408	0.375	489.8208	0.152
2020	501	750	0.081329	0.483	5.43389	4.20033	0.005	0.408	0.375	489.8208	0.152
2020	101	175	0.11747	0.289	1.606	1.187	0.005	0.057	0.057	568.299	0.026
2020	176	250	0.081329	0.483	5.43389	4.20033	0.005	0.408	0.375	489.8208	0.152
2020	251	500	0.081329	0.483	5.43389	4.20033	0.005	0.408	0.375	489.8208	0.152
2020	501	750	0.081329	0.483	5.43389	4.20033	0.005	0.408	0.375	489.8208	0.152
2020	101	175	0.11747	0.289	1.606	1.187	0.005	0.057	0.057	568.299	0.026
2020	176	250	0.081329	0.483	5.43389	4.20033	0.005	0.408	0.375	489.8208	0.152
2020	251	500	0.081329	0.483	5.43389	4.20033	0.005	0.408	0.375	489.8208	0.152
2020	501	750	0.081329	0.483	5.43389	4.20033	0.005	0.408	0.375	489.8208	0.152
2020	101	175	0.11747	0.289	1.606	1.187	0.005	0.057	0.057	568.299	0.026
2020	176	250	0.081329	0.483	5.43389	4.20033	0.005	0.408	0.375	489.8208	0.152
2020	251	500	0.081329	0.483	5.43389	4.20033	0.005	0.408	0.375	489.8208	0.152
2020	501	750	0.081329	0.483	5.43389	4.20033	0.005	0.408	0.375	489.8208	0.152
2020	101	175	0.11747	0.289	1.606	1.187	0.005	0.057	0.057	568.299	0.026
2020	176	250	0.081329	0.483	5.43389	4.20033	0.005	0.408	0.375	489.8208	0.152
2020	251	500	0.081329	0.483	5.43389	4.20033	0.005	0.408	0.375	489.8208	

Other Highway Trucks	2016	121	175	0.132804	0.473	4.8707	3.4388	0.005	0.208	0.237	303.3303	0.152
Other Highway Trucks	2016	176	250	0.133047	0.446	4.8246	1.8237	0.005	0.208	0.393	502.4732	0.152
Other Highway Trucks	2016	251	500	0.133147	0.351	4.9279	1.8823	0.005	0.153	0.141	509.8604	0.154
Other Highway Trucks	2016	501	750	0.133186	0.438	4.8424	2.4346	0.005	0.187	0.172	508.9316	0.153
Other Highway Trucks	2016	751	1000	0.133279	0.393	4.9352	1.7079	0.005	0.175	0.161	505.7218	0.153
Other Highway Trucks	2017	121	175	0.133186	0.444	4.7369	1.8268	0.005	0.233	0.215	495.6184	0.153
Other Highway Trucks	2017	176	250	0.133284	0.417	4.8078	1.7528	0.005	0.189	0.174	494.7935	0.152
Other Highway Trucks	2017	251	500	0.133306	0.325	4.9344	1.7777	0.005	0.138	0.125	503.4388	0.154
Other Highway Trucks	2017	501	750	0.133324	0.384	4.7664	2.3644	0.005	0.17	0.152	503.8033	0.153
Other Highway Trucks	2017	751	1000	0.133367	0.362	5.0254	1.5455	0.005	0.159	0.146	497.1154	0.152
Other Highway Trucks	2018	121	175	0.133413	0.382	5.0473	1.8333	0.005	0.193	0.177	488.0639	0.152
Other Highway Trucks	2018	176	250	0.133448	0.341	5.0271	1.5429	0.005	0.142	0.133	487.6353	0.152
Other Highway Trucks	2018	251	500	0.133488	0.297	5.0895	1.5595	0.005	0.113	0.106	490.3269	0.154
Other Highway Trucks	2018	501	750	0.133546	0.348	5.0954	2.1763	0.005	0.143	0.132	492.1136	0.153
Other Highway Trucks	2018	751	1000	0.133598	0.297	4.8761	1.8734	0.005	0.126	0.116	487.7802	0.152
Other Highway Trucks	2019	121	175	0.133621	0.323	5.0463	1.9398	0.005	0.149	0.137	485.3623	0.152
Other Highway Trucks	2019	176	250	0.133632	0.287	5.0841	1.6679	0.005	0.119	0.109	488.1703	0.152
Other Highway Trucks	2019	251	500	0.133725	0.293	5.0821	1.4848	0.005	0.097	0.089	485.3812	0.154
Other Highway Trucks	2019	501	750	0.133807	0.237	5.2304	2.0429	0.005	0.129	0.118	483.2102	0.153
Other Highway Trucks	2019	751	1000	0.133844	0.295	5.0495	1.9361	0.005	0.124	0.114	483.3029	0.152
Other Highway Trucks	2020	121	175	0.133879	0.31	5.2769	1.3388	0.005	0.137	0.126	470.0967	0.152
Other Highway Trucks	2020	176	250	0.133903	0.275	5.2575	1.9328	0.005	0.088	0.09	470.1675	0.152
Other Highway Trucks	2020	251	500	0.133936	0.246	5.2467	1.4147	0.005	0.088	0.079	474.5387	0.153
Other Highway Trucks	2020	501	750	0.133965	0.312	5.0584	2.0263	0.005	0.12	0.111	472.7499	0.153
Other Highway Trucks	2020	751	1000	0.134005	0.302	4.7961	1.7181	0.005	0.129	0.115	468.8802	0.152
Other Highway Trucks	2021	121	175	0.133141	0.278	5.2426	1.3245	0.005	0.113	0.104	470.2888	0.152
Other Highway Trucks	2021	176	250	0.133261	0.248	5.0869	1.9439	0.005	0.082	0.074	470.3162	0.152
Other Highway Trucks	2021	251	500	0.133376	0.225	5.1937	1.3781	0.005	0.072	0.066	474.542	0.153
Other Highway Trucks	2021	501	750	0.133475	0.293	5.0679	1.9322	0.005	0.106	0.096	472.961	0.153
Other Highway Trucks	2021	751	1000	0.133502	0.258	5.1817	1.2514	0.005	0.099	0.091	471.0512	0.152
Other Highway Trucks	2022	121	175	0.133556	0.241	5.1029	1.2883	0.005	0.088	0.081	470.1813	0.152
Other Highway Trucks	2022	176	250	0.133589	0.212	5.1879	1.2782	0.005	0.064	0.059	468.6111	0.152
Other Highway Trucks	2022	251	500	0.133609	0.196	5.0879	1.2464	0.005	0.054	0.05	474.7136	0.154
Other Highway Trucks	2022	501	750	0.133627	0.263	5.0879	1.9631	0.005	0.088	0.081	471.8713	0.152
Other Highway Trucks	2022	751	1000	0.133731	0.234	5.0429	1.2141	0.005	0.088	0.079	472.3417	0.153
Other Highway Trucks	2023	121	175	0.133822	0.236	5.0877	1.3042	0.005	0.076	0.07	470.2717	0.153
Other Highway Trucks	2023	176	250	0.133823	0.207	5.1057	1.2723	0.005	0.059	0.054	468.4644	0.152
Other Highway Trucks	2023	251	500	0.133866	0.187	5.1242	1.2207	0.005	0.048	0.044	471.0468	0.154
Other Highway Trucks	2023	501	750	0.133927	0.231	5.1113	1.7333	0.005	0.074	0.07	473.7566	0.153
Other Highway Trucks	2023	751	1000	0.133944	0.224	5.1474	1.3248	0.005	0.074	0.068	472.8274	0.152
Other Highway Trucks	2024	121	175	0.134026	0.224	5.0948	1.3248	0.005	0.07	0.064	470.2638	0.152
Other Highway Trucks	2024	176	250	0.134026	0.202	5.1561	1.2955	0.005	0.054	0.05	468.1126	0.152
Other Highway Trucks	2024	251	500	0.134043	0.184	5.1515	1.2623	0.005	0.048	0.045	475.2203	0.153
Other Highway Trucks	2024	501	750	0.134071	0.239	5.0848	1.6486	0.005	0.073	0.071	473.8934	0.153
Other Highway Trucks	2024	751	1000	0.134082	0.209	5.0252	1.5994	0.005	0.054	0.05	473.0603	0.152
Other Highway Trucks	2025	121	175	0.134265	0.214	5.1354	1.3795	0.005	0.065	0.06	470.0035	0.152
Other Highway Trucks	2025	176	250	0.134268	0.185	5.1288	1.2128	0.005	0.043	0.04	469.1258	0.152
Other Highway Trucks	2025	251	500	0.134295	0.177	5.0873	1.2823	0.005	0.028	0.025	480.9607	0.154
Other Highway Trucks	2025	501	750	0.134309	0.235	5.1705	1.5787	0.005	0.068	0.061	471.114	0.154
Other Highway Trucks	2025	751	1000	0.134325	0.237	5.1823	1.4505	0.005	0.052	0.049	473.9683	0.152
Other Highway Trucks	2030	121	175	0.1339	0.229	5.163	1.425	0.005	0.025	0.025	568.299	0.152
Other Highway Trucks	2030	176	250	0.13392	0.217	5.1481	1.168	0.005	0.023	0.023	568.3	0.152
Other Highway Trucks	2030	251	500	0.1339	0.216	5.168	1.104	0.005	0.017	0.017	568.299	0.152
Other Highway Trucks	2030	501	750	0.1339	0.217	5.163	1.104	0.005	0.017	0.017	568.299	0.152
Other Highway Trucks	2030	751	1000	0.1339	0.216	5.161	1.027	0.005	0.017	0.017	568.3	0.152
Other Highway Trucks	2035	121	175	0.1339	0.211	5.138	1.425	0.005	0.016	0.016	568.299	0.152
Other Highway Trucks	2035	176	250	0.1339	0.208	5.153	1.167	0.005	0.016	0.016	568.299	0.152
Other Highway Trucks	2035	251	500	0.1339	0.208	5.153	1.105	0.005	0.013	0.013	568.299	0.152
Other Highway Trucks	2035	501	750	0.1339	0.208	5.153	1.105	0.005	0.013	0.013	568.299	0.152
Other Highway Trucks	2035	751	1000	0.1339	0.209	5.165	1.105	0.005	0.013	0.013	568.299	0.152
Other Highway Trucks	2040	121	175	0.1339	0.205	5.138	1.426	0.005	0.013	0.013	568.299	0.152
Other Highway Trucks	2040	176	250	0.1339	0.205	5.138	1.167	0.005	0.013	0.013	568.299	0.152
Other Highway Trucks	2040	251	500	0.1339	0.205	5.138	1.105	0.005	0.012	0.012	568.299	0.152
Other Highway Trucks	2040	501	750	0.1339	0.205	5.138	1.105	0.005	0.012	0.012	568.299	0.152
Other Construction Equipment	1990	6	15	1.148	1.804	1.999	1.499	0.005	0.975	0.975	568.3	0.152
Other Construction Equipment	1990	16	25	0.178	2.213	6.919	4.999	0.005	0.855	0.741	568.299	0.152
Other Construction Equipment	1990	26	50	0.181	4.751	2.947	0.871	0.005	1.287	1.287	568.299	0.152
Other Construction Equipment	1990	51	120	0.637	2.388	15.176	5.782	0.005	0.791	1.343	568.299	0.152
Other Construction Equipment	1990	121	175	0.826	1.948	10.112	1.181	0.005	1.088	1.088	568.299	0.152
Other Construction Equipment	1990	176	250	0.826	1.72	4.332	11.412	0.005	0.927	0.927	568.299	0.152
Other Construction Equipment	1990	251	500	0.826	1.475	8.242	4.49	0.005	0.878	0.878	568.299	0.152
Other Construction Equipment	2000	6	15	1.091	1.958	1.958	1.431	0.005	0.963	0.963	568.3	0.152
Other Construction Equipment	2000	16	25	0.3016	1.73	6.784	7.85	0.005	0.816	0.816	568.299	0.152
Other Construction Equipment	2000	26	50	0.817	1.618	1.507	4.283	0.005	0.788	0.788	568.3	0.152
Other Construction Equipment	2000	51	120	0.473	1.105	8.749	3.417	0.005	0.453	0.453	568.299	0.152
Other Construction Equipment	2000	121	175	0.812	0.82	0.809	1.87	0.005	0.321	0.321	568.299	0.152
Other Construction Equipment	2000	176	250	0.812	0.794	1.228	1.489	0.005	0.361	0.361	568.299	0.152
Other Construction Equipment	2000	251	500	0.812	0.919	1.412	2.642	0.005	0.347	0.347	568.3	0.152
Other Construction Equipment	2000	501	750	0.812	0.926	1.226	1.023	0.005	0.366	0.366	568.299	0.152
Other Construction Equipment	2005	6	15	1.148	1.897	1.967	1.494	0.005	0.775	0.775	568.299	0.152
Other Construction Equipment	2005	16	25	0.178	2.213	6.919	4.999	0.005	0.855	0.741	568.299	0.152
Other Construction Equipment	2005	26	50	0.181	4.751	2.947	0.871	0.005	1.287	1.287	568.299	0.152
Other Construction Equipment	2005	51	120	0.637	2.388	15.176						



Year	Month	Day	Hour	PM10	PM2.5	O3	CO	SO2	NO2	NOx	PM10	PM2.5	O3	CO	SO2	NO2	NOx
Other Material Handling	2020	01	130	0.18479	0.087	3.10396	3.10398	0.005	0.182	0.188	471.3884	0.153					
Other Material Handling	2020	121	175	0.139922	0.232	2.86451	3.17089	0.005	0.118	0.109	472.2193	0.153					
Other Material Handling	2020	176	250	0.146024	0.291	3.10889	3.11882	0.005	0.115	0.106	471.482	0.152					
Other Material Handling	2020	301	500	0.131817	0.202	3.20071	3.23486	0.005	0.12	0.114	470.2972	0.153					
Other Material Handling	2021	01	130	0.138473	0.2	3.16407	3.10498	0.005	0.078	0.072	472.0545	0.153					
Other Material Handling	2021	01	175	0.138009	0.108	4.86026	3.99946	0.005	0.306	0.304	513.7088	0.169					
Other Material Handling	2021	01	130	0.149959	0.294	2.9622	3.60203	0.005	0.166	0.152	473.5884	0.153					
Other Material Handling	2021	01	175	0.170064	0.249	2.24621	3.10613	0.005	0.114	0.105	471.2102	0.153					
Other Material Handling	2021	01	176	0.13061	0.239	3.18151	3.10611	0.005	0.059	0.048	471.482	0.153					
Other Material Handling	2021	01	500	0.132407	0.254	2.80166	3.44388	0.005	0.105	0.093	470.2972	0.152					
Other Material Handling	2021	001	999	0.082248	0.022	3.1177	3.07159	0.005	0.028	0.028	473.6884	0.153					
Other Material Handling	2022	26	50	1.131329	1.103	4.30248	5.98386	0.005	0.385	0.354	513.7088	0.169					
Other Material Handling	2022	11	130	0.194517	0.247	3.16673	3.16673	0.005	0.113	0.111	473.5884	0.153					
Other Material Handling	2022	111	175	0.138495	0.236	3.18933	3.17807	0.005	0.103	0.095	471.2193	0.153					
Other Material Handling	2022	176	250	0.177282	0.229	2.4254	3.28917	0.005	0.083	0.076	471.482	0.152					
Other Material Handling	2022	301	500	0.130447	0.226	2.86254	3.14952	0.005	0.083	0.077	470.2972	0.152					
Other Material Handling	2022	001	999	0.080526	0.076	2.37296	3.07804	0.005	0.02	0.024	472.0545	0.153					
Other Material Handling	2023	26	50	1.130064	1.051	4.84843	5.70277	0.005	0.34	0.313	513.7088	0.169					
Other Material Handling	2023	11	130	0.137461	0.225	2.29761	3.15155	0.005	0.104	0.095	471.5884	0.153					
Other Material Handling	2023	111	175	0.138131	0.217	3.17809	3.17806	0.005	0.096	0.088	471.2193	0.153					
Other Material Handling	2023	176	250	0.134201	0.207	2.03066	3.20917	0.005	0.089	0.084	471.482	0.152					
Other Material Handling	2023	301	500	0.138377	0.217	3.17023	3.14382	0.005	0.078	0.072	470.2972	0.152					
Other Material Handling	2023	001	999	0.084735	0.054	2.26751	3.09335	0.005	0.018	0.017	472.0545	0.153					
Other Material Handling	2024	26	50	1.121754	1.043	4.5789	5.6691	0.005	0.314	0.289	513.7088	0.169					
Other Material Handling	2024	11	130	0.137084	0.212	2.2162	3.10186	0.005	0.096	0.089	471.5884	0.153					
Other Material Handling	2024	111	175	0.134708	0.208	1.88864	3.18111	0.005	0.088	0.081	471.2193	0.153					
Other Material Handling	2024	176	250	0.130036	0.21	1.88939	3.12822	0.005	0.048	0.043	471.482	0.152					
Other Material Handling	2024	301	500	0.131116	0.212	1.75888	3.26223	0.005	0.072	0.066	470.2972	0.152					
Other Material Handling	2024	001	999	0.089054	0.058	2.27779	3.05428	0.005	0.028	0.027	472.0545	0.153					
Other Material Handling	2025	26	50	0.88573	0.744	4.23278	5.24797	0.005	0.239	0.219	513.7088	0.169					
Other Material Handling	2025	11	130	0.134784	0.203	2.05224	3.0662	0.005	0.081	0.074	473.5884	0.153					
Other Material Handling	2025	111	175	0.131523	0.189	1.96361	3.1879	0.005	0.072	0.067	472.2193	0.153					
Other Material Handling	2025	176	250	0.131767	0.2	1.77352	3.19728	0.005	0.06	0.055	471.482	0.152					
Other Material Handling	2025	301	500	0.132568	0.204	1.80131	3.20868	0.005	0.025	0.025	470.2972	0.153					
Other Material Handling	2025	001	999	0.077931	0.065	2.29775	3.0587	0.005	0.019	0.017	472.0545	0.153					
Other Material Handling	2026	26	50	1.142	1.058	4.447	5.237	0.005	0.348	0.319	568.299	0.027					
Other Material Handling	2026	11	130	1.17	0.804	3.762	3.784	0.006	0.041	0.041	568.299	0.027					
Other Material Handling	2026	111	175	1.287	0.22	0.34	3.44	0.006	0.028	0.028	568.299	0.029					
Other Material Handling	2026	176	250	1.139	0.206	0.151	1.138	0.006	0.028	0.028	568.299	0.029					
Other Material Handling	2026	301	500	1.142	0.205	0.305	1.083	0.005	0.018	0.018	568.299	0.028					
Other Material Handling	2026	001	999	1.1783	0.218	0.613	1.084	0.005	0.015	0.015	568.299	0.028					
Other Material Handling	2026	01	130	1.425	0.552	3.321	3.189	0.007	0.025	0.025	568.299	0.049					
Other Material Handling	2026	01	175	1.423	0.277	1.623	3.774	0.005	0.022	0.022	568.299	0.049					
Other Material Handling	2026	01	176	1.036	0.196	0.398	3.338	0.006	0.016	0.016	568.299	0.027					
Other Material Handling	2026	01	500	1.209	0.122	0.254	1.127	0.006	0.012	0.012	568.299	0.027					
Other Material Handling	2026	001	999	1.13	0.192	0.35	1.082	0.005	0.013	0.013	568.299	0.027					
Other Material Handling	2026	001	999	1.144	0.187	2.125	1.082	0.005	0.027	0.027	568.299	0.027					
Other Material Handling	2026	01	130	1.42	0.551	3.269	3.281	0.007	0.027	0.027	568.299	0.049					
Other Material Handling	2026	01	175	1.407	0.272	1.302	3.775	0.006	0.017	0.017	568.299	0.028					
Other Material Handling	2026	01	176	1.956	0.188	0.214	3.338	0.006	0.012	0.012	568.299	0.028					
Other Material Handling	2026	01	500	1.307	0.187	0.298	1.137	0.006	0.011	0.011	568.299	0.028					
Other Material Handling	2026	001	999	1.048	0.187	0.298	1.082	0.005	0.012	0.012	568.299	0.028					
Other Material Handling	2026	001	999	1.197	0.189	2.493	1.082	0.005	0.025	0.025	568.299	0.027					
Powers	1990	16	25	1.971	2.213	6.939	4.999	0.855	0.741	0.741	568.299	0.199					
Powers	1990	26	50	1.850	1.794	7.846	7.701	0.871	1.268	1.268	568.299	0.422					
Powers	1990	51	130	1.749	2.373	15.062	5.748	0.791	1.339	1.339	568.299	0.214					
Powers	1990	121	175	1.808	1.822	4.001	5.135	0.748	1.01	1.01	568.299	0.164					
Powers	1990	176	250	1.1235	1.822	14.503	1.139	0.718	1.01	1.01	568.299	0.164					
Powers	1990	301	500	1.42	1.62	11.753	11.305	0.623	0.864	0.864	568.299	0.164					
Powers	1990	001	999	1.517	2.044	6.391	4.889	0.606	0.569	0.569	568.299	0.184					
Powers	2000	26	50	1.8072	4.464	7.116	9.175	0.306	0.93	0.93	568.299	0.402					
Powers	2000	11	130	1.451	1.64	11.121	4.831	0.306	0.67	0.67	568.299	0.171					
Powers	2000	111	175	1.646	1.154	10.172	4.022	0.057	0.308	0.308	568.299	0.119					
Powers	2000	176	250	1.03	1.175	8.909	4.441	0.407	0.488	0.488	568.299	0.164					
Powers	2000	301	500	1.713	1.028	9.422	4.242	0.35	0.426	0.426	568.299	0.095					
Powers	2000	001	999	1.746	1.388	8.539	4.407	0.405	0.444	0.444	568.299	0.125					
Powers	2005	26	50	1.699	4.125	6.746	8.722	0.066	0.883	0.883	568.299	0.372					
Powers	2005	11	130	1.245	1.713	7.797	4.548	0.306	0.689	0.689	568.299	0.164					
Powers	2005	111	175	2.1287	1.147	8.921	3.731	0.057	0.5	0.5	568.299	0.103					
Powers	2005	176	250	2.087	0.828	8.391	2.461	0.057	0.382	0.382	568.299	0.083					
Powers	2005	301	500	2.422	0.828	7.81	4.281	0.30	0.339	0.339	568.299	0.117					
Powers	2005	001	999	2.144446	1.886	5.97127	6.22261	0.005	0.439	0.439	568.299	0.171					
Powers	2010	26	50	2.444446	1.886	5.97127	6.22261	0.005	0.439	0.439	568.299	0.171					
Powers	2010	11	130	0.192393	0.775	7.01944	3.82417	0.005	0.54	0.497	511.2006	0.152					
Powers	2010	111	175	0.191813	0.683	6.68681	3.10462	0.005	0.337	0.31	513.5113	0.153					
Powers	2010	176	250	0.136627	0.199	4.80181	1.01703	0.005	0.111	0.102	516.8527	0.153					
Powers	2010	301	500	0.140404	0.202	3.04844	1.1294	0.005	0.123	0.113	517.8758	0.153					
Powers	2010	001	999	2.137079	1.895	5.97418	6.28822	0.005	0.421	0.421	568.299	0.171					
Powers	2011	26	50	2.137079	1.895	5.97418	6.28822	0.005	0.421	0.421	568.299	0.171					
Powers	2011	11	130	0.182244	0.741	6.70463	1.7912	0.005	0.479	0.479	513.5113	0.153					







Refiners	2016	16	21	1.498776	1.259	5.2356	5.2356	0.005	0.409	0.423	563.9732	0.17
Refiners	2016	16	50	1.498776	1.259	5.2356	5.2356	0.005	0.409	0.423	563.9732	0.17
Refiners	2016	51	120	0.174261	0.628	5.80543	3.75517	0.005	0.428	0.391	568.1987	0.153
Refiners	2016	111	175	0.482006	0.338	4.18877	2.99134	0.005	0.187	0.188	505.9641	0.153
Refiners	2016	176	250	0.184643	0.308	4.39492	1.50671	0.005	0.15	0.138	507.6919	0.153
Refiners	2016	351	500	0.197483	0.234	4.66421	2.19647	0.005	0.173	0.159	513.4454	0.153
Refiners	2017	6	13	1.423332	1.188	5.09771	5.14727	0.005	0.436	0.401	555.0239	0.17
Refiners	2017	16	25	1.423332	1.188	5.09771	5.14727	0.005	0.436	0.401	555.0239	0.17
Refiners	2017	26	50	1.423332	1.188	5.09771	5.14727	0.005	0.436	0.401	555.0239	0.17
Refiners	2017	51	120	0.180209	0.58	5.4114	3.71315	0.005	0.392	0.364	500.1525	0.153
Refiners	2017	111	175	0.179474	0.314	3.17394	2.16029	0.005	0.18	0.166	497.9288	0.153
Refiners	2017	176	250	0.132834	0.274	3.32097	1.40849	0.005	0.129	0.119	499.7021	0.153
Refiners	2017	351	500	0.133236	0.237	3.18047	2.16847	0.005	0.15	0.138	505.8188	0.153
Refiners	2018	6	13	1.16666	1.064	4.8416	4.92335	0.005	0.387	0.356	546.2905	0.17
Refiners	2018	16	25	1.16666	1.064	4.8416	4.92335	0.005	0.387	0.356	546.2905	0.17
Refiners	2018	26	50	1.16666	1.064	4.8416	4.92335	0.005	0.387	0.356	546.2905	0.17
Refiners	2018	51	120	0.137467	0.481	4.65049	3.00981	0.005	0.32	0.294	492.2118	0.153
Refiners	2018	111	175	0.136822	0.266	3.18226	2.04905	0.005	0.147	0.135	490.1805	0.153
Refiners	2018	176	250	0.131419	0.211	2.79492	1.24341	0.005	0.094	0.086	487.6643	0.153
Refiners	2018	351	500	0.131314	0.246	3.09814	2.13145	0.005	0.118	0.11	497.9952	0.153
Refiners	2019	6	13	1.156666	0.972	4.64491	4.77841	0.005	0.349	0.321	537.546	0.17
Refiners	2019	16	25	1.156666	0.972	4.64491	4.77841	0.005	0.349	0.321	537.546	0.17
Refiners	2019	26	50	1.156666	0.972	4.64491	4.77841	0.005	0.349	0.321	537.546	0.17
Refiners	2019	51	120	0.132836	0.423	4.17949	3.57576	0.005	0.275	0.253	484.3362	0.153
Refiners	2019	111	175	0.127475	0.231	2.89941	2.19211	0.005	0.126	0.114	481.4611	0.153
Refiners	2019	176	250	0.127047	0.21	2.88327	1.24854	0.005	0.090	0.084	483.7769	0.153
Refiners	2020	6	13	1.102095	0.926	4.34246	4.72504	0.005	0.329	0.303	525.8798	0.17
Refiners	2020	16	25	1.102095	0.926	4.34246	4.72504	0.005	0.329	0.303	525.8798	0.17
Refiners	2020	26	50	1.102095	0.926	4.34246	4.72504	0.005	0.329	0.303	525.8798	0.17
Refiners	2020	51	120	0.146204	0.388	3.88131	3.15135	0.005	0.247	0.228	477.8599	0.153
Refiners	2020	111	175	0.146128	0.215	2.81521	2.19311	0.005	0.113	0.106	479.3254	0.153
Refiners	2020	176	250	0.146138	0.209	2.75091	1.25343	0.005	0.089	0.082	473.3669	0.153
Refiners	2020	351	500	0.146138	0.236	2.98023	2.11346	0.005	0.111	0.102	479.3254	0.153
Refiners	2021	6	13	1.108559	0.847	4.10297	4.59681	0.005	0.294	0.27	525.7908	0.17
Refiners	2021	16	25	1.108559	0.847	4.10297	4.59681	0.005	0.294	0.27	525.7908	0.17
Refiners	2021	26	50	1.108559	0.847	4.10297	4.59681	0.005	0.294	0.27	525.7908	0.17
Refiners	2021	51	120	0.14061	0.357	3.5889	3.07029	0.005	0.229	0.207	471.9799	0.153
Refiners	2021	111	175	0.139771	0.183	2.11691	1.8504	0.005	0.097	0.09	471.9799	0.153
Refiners	2021	176	250	0.139834	0.196	2.49331	1.23849	0.005	0.085	0.079	473.4704	0.153
Refiners	2021	351	500	0.139834	0.221	2.58991	1.94995	0.005	0.1	0.092	479.3254	0.153
Refiners	2022	6	13	0.878627	0.738	4.17773	4.40241	0.005	0.25	0.23	525.6191	0.17
Refiners	2022	16	25	0.878627	0.738	4.17773	4.40241	0.005	0.25	0.23	525.6191	0.17
Refiners	2022	26	50	0.878627	0.738	4.17773	4.40241	0.005	0.25	0.23	525.6191	0.17
Refiners	2022	51	120	0.139569	0.337	3.2286	3.40731	0.005	0.248	0.227	473.5261	0.153
Refiners	2022	111	175	0.139547	0.164	1.74048	2.91311	0.005	0.079	0.072	471.9475	0.153
Refiners	2022	176	250	0.139599	0.187	2.1116	1.22821	0.005	0.077	0.071	473.5255	0.153
Refiners	2022	351	500	0.139521	0.218	2.46341	1.95491	0.005	0.097	0.089	478.8617	0.153
Refiners	2023	6	13	0.786211	0.661	3.9121	4.25236	0.005	0.212	0.195	523.8616	0.17
Refiners	2023	16	25	0.786211	0.661	3.9121	4.25236	0.005	0.212	0.195	523.8616	0.17
Refiners	2023	26	50	0.786211	0.661	3.9121	4.25236	0.005	0.212	0.195	523.8616	0.17
Refiners	2023	51	120	0.141189	0.287	3.02023	3.15461	0.005	0.153	0.147	473.9363	0.153
Refiners	2023	111	175	0.141189	0.15	1.4833	2.90949	0.005	0.088	0.082	477.9311	0.153
Refiners	2023	176	250	0.141189	0.188	2.17272	1.23448	0.005	0.076	0.07	473.5264	0.153
Refiners	2023	351	500	0.141189	0.211	2.29021	1.96248	0.005	0.098	0.09	478.3024	0.153
Refiners	2024	6	13	0.784813	0.62	3.24449	4.20667	0.005	0.192	0.177	523.9565	0.17
Refiners	2024	16	25	0.784813	0.62	3.24449	4.20667	0.005	0.192	0.177	523.9565	0.17
Refiners	2024	26	50	0.784813	0.62	3.24449	4.20667	0.005	0.192	0.177	523.9565	0.17
Refiners	2024	51	120	0.139417	0.272	3.243	3.45058	0.005	0.15	0.138	474.9072	0.153
Refiners	2024	111	175	0.139435	0.141	1.34248	2.91426	0.005	0.061	0.056	472.8212	0.153
Refiners	2024	176	250	0.139435	0.179	1.97679	1.21417	0.005	0.07	0.064	473.5252	0.153
Refiners	2024	351	500	0.139435	0.21	2.16121	1.96121	0.005	0.09	0.082	477.9021	0.153
Refiners	2025	6	13	0.677074	0.569	3.88891	4.12543	0.005	0.147	0.134	524.1406	0.17
Refiners	2025	16	25	0.677074	0.569	3.88891	4.12543	0.005	0.147	0.134	524.1406	0.17
Refiners	2025	26	50	0.677074	0.569	3.88891	4.12543	0.005	0.147	0.134	524.1406	0.17
Refiners	2025	51	120	0.139887	0.255	2.91317	3.44432	0.005	0.135	0.125	473.8163	0.153
Refiners	2025	111	175	0.139791	0.127	1.10088	2.90809	0.005	0.049	0.046	471.9696	0.153
Refiners	2025	176	250	0.139784	0.173	1.7621	1.21477	0.005	0.06	0.054	473.8163	0.153
Refiners	2025	351	500	0.139787	0.212	2.19998	1.96754	0.005	0.09	0.083	477.9312	0.154
Refiners	2030	6	13	1.143	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.099
Refiners	2030	16	25	1.143	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.099
Refiners	2030	26	50	1.143	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.099
Refiners	2030	51	120	0.138	0.298	1.95	1.438	0.006	0.066	0.066	568.299	0.027
Refiners	2030	111	175	0.138	0.223	0.907	3.203	0.006	0.042	0.042	568.299	0.027
Refiners	2030	176	250	0.138	0.195	0.745	1.099	0.006	0.024	0.024	568.299	0.027
Refiners	2030	351	500	0.137	0.193	0.697	1.054	0.005	0.023	0.023	568.299	0.027
Refiners	2035	6	13	1.143	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.099
Refiners	2035	16	25	1.143	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.099
Refiners	2035	26	50	1.143	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.099
Refiners	2035	51	120	0.138	0.298	1.95	1.438	0.006	0.066	0.066	568.299	0.027
Refiners	2035	111	175	0.138	0.223	0.907	3.203	0.006	0.042	0.042	568.299	0.027
Refiners	2035	176	250	0.138	0.195	0.745	1.099	0.006	0.024	0.024	568.299	0.027
Refiners	2035	351	500	0.137	0.193	0.697	1.054	0.005	0.023	0.023	568.299	0.027
Refiners	2040	6	13	1.143	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.099
Refiners	2040	16	25	1.143	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.099
Refiners	2040	26	50	1.143	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.099
Refiners	2040	51	120	0.138	0.298	1.95	1.438	0.006	0.066	0.066	568.299	0.027
Refiners	2040	111	175	0.138	0.223	0.907	3.203	0.006	0.042	0.042	568.299	0.027
Refiners	2040	176	250	0.138	0.195	0.745	1.099	0.006	0.024	0.024	568.299	0.027
Refiners	2040	351	500	0.137	0.193	0.697	1.054	0.005	0.023	0.023	568.299	0.027
Rough Terrain Forklifts	1990	21	50	0.139569	0.337	3.2286	3.40731	0.005	0.248	0.227	473.5261	0.153
Rough Terrain Forklifts	1990	121	175	0.139599	0.187	2.1116	1.22821	0.005	0.077	0.071	473.5255	0.153
Rough Terrain Forklifts	1990	250	250	0.139521	0.218	2.46341	1.95491	0.005	0.097	0.089	478.8617	

Rubber Tired Dozers	2014	251	500	0.841888	0.797	8.0819	8.16471	0.005	0.376	0.346	524.4798	0.155
Rubber Tired Dozers	2014	502	750	0.850646	0.513	7.14705	2.76055	0.005	0.258	0.237	517.7903	0.153
Rubber Tired Dozers	2014	751	1000	0.91347	0.691	6.849	1.996	0.005	0.236	0.236	568.3	0.062
Rubber Tired Dozers	2015	175	175	1.47927	0.965	8.8425	4.23794	0.005	0.564	0.519	515.0569	0.153
Rubber Tired Dozers	2015	176	250	0.868859	0.728	7.3817	2.7204	0.005	0.394	0.362	514.7519	0.154
Rubber Tired Dozers	2015	501	500	0.842228	0.728	7.9978	4.10151	0.005	0.375	0.343	515.1473	0.155
Rubber Tired Dozers	2015	501	750	0.816759	0.518	7.15777	2.76062	0.005	0.259	0.238	512.5253	0.153
Rubber Tired Dozers	2015	751	1000	0.87895	0.661	6.556	1.901	0.005	0.222	0.222	568.299	0.069
Rubber Tired Dozers	2016	175	175	1.120231	0.768	8.81524	4.24951	0.005	0.565	0.52	507.7744	0.153
Rubber Tired Dozers	2016	176	250	0.815531	0.736	7.99508	2.72943	0.005	0.395	0.364	509.4615	0.154
Rubber Tired Dozers	2016	501	500	0.819446	0.688	7.91935	4.28229	0.005	0.392	0.35	513.5209	0.155
Rubber Tired Dozers	2016	501	750	0.822662	0.523	7.18821	2.7651	0.005	0.26	0.239	507.2001	0.153
Rubber Tired Dozers	2016	751	1000	0.845	0.611	6.377	1.733	0.005	0.268	0.268	568.3	0.057
Rubber Tired Dozers	2017	175	175	1.574188	0.903	9.19151	4.14895	0.005	0.525	0.483	499.4096	0.153
Rubber Tired Dozers	2017	176	250	0.848865	0.707	7.5026	2.60314	0.005	0.375	0.345	501.1475	0.154
Rubber Tired Dozers	2017	501	500	0.784555	0.662	7.81344	4.25269	0.005	0.341	0.311	505.8493	0.155
Rubber Tired Dozers	2017	501	750	0.825767	0.526	7.17226	2.76746	0.005	0.26	0.239	499.3665	0.153
Rubber Tired Dozers	2017	751	1000	0.7918	0.625	6.9121	1.766	0.005	0.305	0.29	509.289	0.064
Rubber Tired Dozers	2018	175	175	0.954751	0.802	8.02079	3.98965	0.005	0.46	0.424	491.4911	0.153
Rubber Tired Dozers	2018	176	250	0.780828	0.688	7.30072	2.51156	0.005	0.31	0.22	493.8317	0.154
Rubber Tired Dozers	2018	501	500	0.71175	0.598	6.50284	4.98205	0.005	0.3	0.276	498.1882	0.155
Rubber Tired Dozers	2018	501	750	0.650959	0.506	6.75652	2.75052	0.005	0.248	0.228	491.4735	0.153
Rubber Tired Dozers	2018	751	1000	0.8	0.574	5.764	2.413	0.005	0.183	0.183	568.299	0.051
Rubber Tired Dozers	2019	175	175	0.93012	0.759	7.32037	3.94854	0.005	0.433	0.398	485.5585	0.153
Rubber Tired Dozers	2019	176	250	0.74882	0.611	6.92921	2.64851	0.005	0.38	0.311	485.152	0.154
Rubber Tired Dozers	2019	501	500	0.680488	0.572	6.14335	4.74309	0.005	0.283	0.26	490.381	0.155
Rubber Tired Dozers	2019	501	750	0.641027	0.453	6.12348	2.59644	0.005	0.218	0.218	493.5264	0.153
Rubber Tired Dozers	2019	751	1000	0.7196	0.547	5.128	2.281	0.005	0.171	0.171	568.299	0.049
Rubber Tired Dozers	2020	175	175	0.864245	0.736	7.18232	3.87028	0.005	0.412	0.378	473.0216	0.153
Rubber Tired Dozers	2020	176	250	0.717248	0.619	6.01832	2.37394	0.005	0.318	0.293	474.7938	0.154
Rubber Tired Dozers	2020	501	500	0.646621	0.535	5.44289	4.41134	0.005	0.259	0.238	479.7509	0.157
Rubber Tired Dozers	2020	501	750	0.614245	0.456	6.12328	2.60208	0.005	0.218	0.201	473.0262	0.153
Rubber Tired Dozers	2020	751	1000	0.7811	0.527	5.306	2.264	0.005	0.16	0.16	568.299	0.047
Rubber Tired Dozers	2021	175	175	0.823527	0.691	6.79037	3.84814	0.005	0.386	0.352	479.8761	0.153
Rubber Tired Dozers	2021	176	250	0.714624	0.6	6.29617	2.31719	0.005	0.306	0.281	474.7964	0.154
Rubber Tired Dozers	2021	501	500	0.658277	0.493	6.1081	4.04107	0.005	0.232	0.214	479.8668	0.154
Rubber Tired Dozers	2021	501	750	0.543338	0.458	6.12254	2.60396	0.005	0.218	0.201	473.0499	0.153
Rubber Tired Dozers	2021	751	1000	0.748	0.497	4.995	2.057	0.005	0.15	0.15	568.299	0.044
Rubber Tired Dozers	2022	175	175	0.714122	0.6	5.80781	3.75194	0.005	0.31	0.1	479.8122	0.154
Rubber Tired Dozers	2022	176	250	0.517178	0.48	5.04664	2.05583	0.005	0.24	0.22	474.6166	0.154
Rubber Tired Dozers	2022	501	500	0.602023	0.475	4.80773	3.89489	0.005	0.22	0.2	479.2937	0.153
Rubber Tired Dozers	2022	501	750	0.473787	0.46	6.12248	2.06677	0.005	0.218	0.201	473.9355	0.153
Rubber Tired Dozers	2022	751	1000	0.7106	0.475	4.896	1.961	0.005	0.14	0.14	568.299	0.043
Rubber Tired Dozers	2023	175	175	0.700731	0.588	5.06638	3.7664	0.005	0.316	0.291	471.9009	0.153
Rubber Tired Dozers	2023	176	250	0.617651	0.493	4.90011	1.76265	0.005	0.168	0.168	474.5267	0.153
Rubber Tired Dozers	2023	501	500	0.513484	0.447	4.40835	3.68617	0.005	0.202	0.185	479.4678	0.155
Rubber Tired Dozers	2023	501	750	0.520999	0.423	5.13189	2.01211	0.005	0.196	0.18	473.0254	0.153
Rubber Tired Dozers	2023	751	1000	0.796	0.451	4.799	1.874	0.005	0.131	0.131	568.299	0.04
Rubber Tired Dozers	2024	175	175	0.613823	0.532	5.0144	3.69636	0.005	0.279	0.257	473.5147	0.153
Rubber Tired Dozers	2024	176	250	0.478202	0.399	4.9904	1.79625	0.005	0.184	0.17	474.5644	0.154
Rubber Tired Dozers	2024	501	500	0.490724	0.417	4.30945	3.47674	0.005	0.182	0.168	479.3918	0.155
Rubber Tired Dozers	2024	501	750	0.505446	0.425	5.13377	2.59604	0.005	0.19	0.18	473.0111	0.153
Rubber Tired Dozers	2024	751	1000	0.845	0.433	4.512	1.796	0.005	0.123	0.123	568.299	0.039
Rubber Tired Dozers	2025	175	175	0.648636	0.481	4.22889	3.61238	0.005	0.23	0.212	474.0259	0.153
Rubber Tired Dozers	2025	176	250	0.445052	0.372	4.80547	1.70232	0.005	0.153	0.153	475.4784	0.153
Rubber Tired Dozers	2025	501	500	0.483652	0.387	3.89927	2.69895	0.005	0.151	0.139	479.0915	0.153
Rubber Tired Dozers	2025	501	750	0.492625	0.428	5.13346	2.60666	0.005	0.184	0.17	473.0254	0.153
Rubber Tired Dozers	2025	751	1000	0.803	0.414	4.365	1.725	0.005	0.115	0.115	568.299	0.037
Rubber Tired Dozers	2026	175	175	0.503	0.388	3.244	1.496	0.005	0.113	0.113	568.299	0.035
Rubber Tired Dozers	2026	176	250	0.556	0.335	3.828	1.322	0.005	0.069	0.069	568.299	0.029
Rubber Tired Dozers	2026	501	500	0.516	0.322	3.458	1.401	0.005	0.064	0.064	568.299	0.029
Rubber Tired Dozers	2026	501	750	0.5261	0.321	4.084	1.401	0.005	0.064	0.064	568.299	0.029
Rubber Tired Dozers	2026	751	1000	0.503	0.338	3.876	1.465	0.005	0.062	0.062	568.299	0.029
Rubber Tired Dozers	2027	175	175	0.504	0.322	3.345	1.461	0.005	0.071	0.071	568.299	0.031
Rubber Tired Dozers	2027	176	250	0.526	0.296	3.203	1.262	0.005	0.046	0.046	568.299	0.025
Rubber Tired Dozers	2027	501	500	0.468	0.279	3.107	1.279	0.005	0.043	0.043	568.3	0.025
Rubber Tired Dozers	2027	501	750	0.456	0.279	3.126	1.279	0.005	0.043	0.043	568.299	0.025
Rubber Tired Dozers	2027	751	1000	0.506	0.287	3.204	1.312	0.005	0.06	0.06	568.299	0.025
Rubber Tired Dozers	2028	175	175	0.5	0.275	0.903	3.47	0.005	0.045	0.045	568.299	0.024
Rubber Tired Dozers	2028	176	250	0.516	0.263	0.81	3.225	0.005	0.031	0.031	568.299	0.022
Rubber Tired Dozers	2028	501	500	0.472	0.249	0.758	3.138	0.005	0.029	0.029	568.3	0.022
Rubber Tired Dozers	2028	501	750	0.519	0.25	0.767	3.138	0.005	0.029	0.029	568.3	0.022
Rubber Tired Dozers	2028	751	1000	0.454	0.254	2.91	1.218	0.005	0.045	0.045	568.3	0.025
Rubber Tired Loaders	1990	18	25	1.92	2.213	6.919	4.999	0.855	0.741	0.741	568.299	0.199
Rubber Tired Loaders	1990	26	50	21.889	4.848	1.964	8.905	0.871	1.279	1.279	568.299	0.199
Rubber Tired Loaders	1990	51	120	22.055	2.368	14.978	5.729	0.791	1.345	1.345	568.299	0.213
Rubber Tired Loaders	1990	121	175	10.1	1.791	14.294	6.084	0.758	0.995	0.995	568.299	0.161
Rubber Tired Loaders	1990	176	250	42.179	1.791	14.294	6.084	0.758	0.995	0.995	568.3	0.161
Rubber Tired Loaders	1990	501	500	19.295	1.583	13.545	11.282	0.642	0.811	0.811	568.3	0.161
Rubber Tired Loaders	1990	501	750	11.471	1.583	13.545	11.282	0.642	0.811	0.811	568.299	0.161
Rubber Tired Loaders	1990	751	1000	147.851	1.575	13.545	11.282	0.642	0.811	0.811	568.299	0.162
Rubber Tired Loaders	2000	18	25	1.105	1.908	6.126	4.438	0.605	0.555	0.555	568.299	0.173
Rubber Tired Loaders	2000	26	50	21.853	4.439	7.065	9.15	0.066	0.928	0.928	568.299	0.4
Rubber Tired Loaders	2000	51	120	17.155	1.842	10.433	4.632	0.56	0.896	0.896	568.299	0.164
Rubber Tired Loaders	2000	121	175	20.951	1.24	10.52	3.76	0.057	0.431	0.431	568.299	0.112
Rubber Tired Loaders	2000	176	250	24.776	1.052	9.216	3.019	0.057	0.431	0.431	568.299	0.112
Rubber Tired Loaders	2000	501	500	10.779	0.955	8.746	7.997	0.381	0.381	0.381	568.299	0.086
Rubber Tired Loaders	2000	501	750	11.296	0.955	8.746	7.997	0.381	0.381	0.381	568.299	0.086
Rubber Tired Loaders	2000	751	1000	85.549	0.938	8.162	3.809	0.005	0.333	0.333	568.299	0.076
Rubber Tired Loaders	2005	18	25	3.273	0.849	3.321	2.519	0.065	0.333	0.333	568.299	0.076
Rubber Tired Loaders	2005	26	50	18.4								

Rubber Tire Loaders	2011	176	250	61.14	0.911	6.414	1.179	0.006	0.010	0.010	568.299	0.017
Rubber Tire Loaders	2011	251	500	71.16	0.911	6.416	1.076	0.005	0.010	0.010	568.299	0.017
Rubber Tire Loaders	2015	101	750	14.460	0.191	6.421	1.076	0.005	0.010	0.010	568.299	0.017
Rubber Tire Loaders	2015	711	1000	16.204	0.191	6.424	1.081	0.005	0.010	0.010	568.299	0.017
Rubber Tire Loaders	2040	16	25	1.834	0.485	4.132	2.339	0.007	0.141	0.141	568.299	0.061
Rubber Tire Loaders	2040	16	50	1.804	0.545	4.128	1.120	0.007	0.024	0.024	568.299	0.049
Rubber Tire Loaders	2040	51	120	2.33	0.771	5.143	3.748	0.006	0.022	0.022	568.3	0.024
Rubber Tire Loaders	2040	121	175	1.172	0.188	6.365	1.314	0.006	0.016	0.016	568.299	0.017
Rubber Tire Loaders	2040	176	250	1.176	0.185	6.366	1.128	0.006	0.013	0.013	568.299	0.016
Rubber Tire Loaders	2040	251	500	6.953	0.185	6.338	1.076	0.005	0.013	0.013	568.3	0.016
Rubber Tire Loaders	2040	501	750	14.247	0.185	6.34	1.076	0.005	0.013	0.013	568.299	0.016
Rubber Tire Loaders	2040	751	1000	17.496	0.186	2.522	1.076	0.005	0.026	0.026	568.299	0.046
Scrapers	1990	11	120	1.335	2.413	11.183	8.006	0.791	1.373	1.373	568.299	0.217
Scrapers	1990	121	175	8.743	1.823	14.491	5.174	0.758	1.017	1.017	568.299	0.164
Scrapers	1990	176	250	12.209	1.823	14.491	5.174	0.758	1.017	1.017	568.299	0.164
Scrapers	1990	251	500	16.71	1.407	11.709	11.473	0.642	0.867	0.867	568.299	0.145
Scrapers	1990	501	750	20.902	1.607	11.709	11.473	1.018	0.883	0.883	568.299	0.145
Scrapers	1990	751	1000	24.906	1.975	11.173	4.906	0.916	0.949	0.949	568.299	0.178
Scrapers	2000	121	175	6.456	1.346	10.226	4.046	0.057	0.572	0.572	568.299	0.121
Scrapers	2000	176	250	6.023	1.163	9.944	3.423	0.057	0.410	0.410	568.299	0.106
Scrapers	2000	251	500	11.061	1.062	8.42	6.04	0.05	0.43	0.43	568.299	0.095
Scrapers	2000	501	750	15.108	1.062	8.42	6.04	0.052	0.43	0.43	568.299	0.095
Scrapers	2000	751	1000	15.36	1.763	9.807	4.038	0.04	0.901	0.901	568.299	0.159
Scrapers	2005	121	175	5.192	1.166	8.834	3.76	0.057	0.54	0.54	568.299	0.107
Scrapers	2005	176	250	6.251	0.921	8.8	2.623	0.057	0.377	0.377	568.299	0.081
Scrapers	2005	251	500	8.477	0.814	7.854	4.07	0.05	0.331	0.331	568.3	0.073
Scrapers	2005	501	750	14.794	0.822	7.99	4.051	0.052	0.310	0.310	568.299	0.073
Scrapers	2010	11	120	0.820186	0.406	7.09451	3.97834	0.005	0.507	0.466	517.9011	0.157
Scrapers	2010	121	175	0.807154	0.763	8.57674	3.81189	0.005	0.444	0.408	513.511	0.152
Scrapers	2010	176	250	0.919827	0.79	9.42837	3.25278	0.005	0.414	0.399	520.9381	0.152
Scrapers	2010	251	500	0.950241	0.74	6.75444	4.1939	0.005	0.272	0.25	525.1533	0.153
Scrapers	2010	501	750	0.944955	0.382	5.58444	3.18071	0.005	0.209	0.192	525.152	0.153
Scrapers	2011	11	120	0.813134	0.699	7.89271	4.00055	0.005	0.309	0.460	536.4011	0.157
Scrapers	2011	121	175	0.87072	0.762	8.51777	3.84157	0.005	0.444	0.405	531.6051	0.152
Scrapers	2011	176	250	0.933155	0.748	9.34756	3.22574	0.005	0.43	0.396	515.6705	0.152
Scrapers	2011	251	500	0.90447	0.406	6.64673	3.0671	0.005	0.288	0.246	523.8883	0.153
Scrapers	2011	501	750	0.40821	0.385	5.48614	3.14185	0.005	0.208	0.191	524.1241	0.153
Scrapers	2012	11	120	0.817024	0.712	7.11199	4.06603	0.005	0.529	0.477	515.1218	0.157
Scrapers	2012	121	175	0.815185	0.720	8.14845	3.84661	0.005	0.448	0.412	515.8158	0.152
Scrapers	2012	176	250	0.815111	0.736	9.31373	3.22929	0.005	0.43	0.396	518.3055	0.152
Scrapers	2012	251	500	0.89848	0.501	6.44209	4.16122	0.005	0.288	0.247	523.8884	0.152
Scrapers	2012	501	750	0.88841	0.391	5.49999	3.16428	0.005	0.209	0.191	522.7621	0.153
Scrapers	2013	11	120	0.80962	0.715	7.08001	4.06711	0.005	0.523	0.482	524.4444	0.155
Scrapers	2013	121	175	0.819558	0.713	8.18028	3.86136	0.005	0.438	0.403	527.0754	0.155
Scrapers	2013	176	250	0.823168	0.716	9.20313	3.16423	0.005	0.419	0.389	515.7365	0.152
Scrapers	2013	251	500	0.819637	0.406	6.51716	4.08663	0.005	0.264	0.242	520.0884	0.153
Scrapers	2013	501	750	0.842466	0.389	5.1939	3.08805	0.005	0.204	0.187	520.0201	0.153
Scrapers	2014	11	120	0.815559	0.719	7.0654	4.09663	0.005	0.526	0.484	526.9465	0.152
Scrapers	2014	121	175	0.81471	0.718	7.90713	3.80661	0.005	0.419	0.385	524.1709	0.155
Scrapers	2014	176	250	0.802867	0.742	8.48461	3.06111	0.005	0.401	0.371	517.8229	0.153
Scrapers	2014	251	500	0.807719	0.479	6.12199	3.88824	0.005	0.211	0.211	517.3038	0.153
Scrapers	2014	501	750	0.80954	0.389	5.21246	2.95654	0.005	0.18	0.174	517.8137	0.152
Scrapers	2015	11	120	0.80823	0.711	7.10509	4.1878	0.005	0.535	0.492	524.5601	0.157
Scrapers	2015	121	175	0.848601	0.714	7.9471	3.80805	0.005	0.415	0.382	518.8294	0.155
Scrapers	2015	176	250	0.848271	0.71	8.8811	3.00713	0.005	0.395	0.364	517.5609	0.152
Scrapers	2015	251	500	0.843967	0.472	6.88571	3.798	0.005	0.246	0.226	511.9471	0.153
Scrapers	2015	501	750	0.87961	0.36	4.83862	2.68407	0.005	0.183	0.166	518.2929	0.153
Scrapers	2016	11	120	0.839317	0.742	7.14111	4.17771	0.005	0.543	0.5	515.1668	0.157
Scrapers	2016	121	175	0.83244	0.688	7.1844	3.76042	0.005	0.397	0.365	513.4343	0.155
Scrapers	2016	176	250	0.814104	0.684	8.18964	2.8398	0.005	0.367	0.338	502.251	0.151
Scrapers	2016	251	500	0.818444	0.432	5.71749	3.06311	0.005	0.212	0.213	506.201	0.153
Scrapers	2016	501	750	0.80444	0.34	4.48423	2.48131	0.005	0.154	0.146	493.811	0.151
Scrapers	2017	11	120	0.808272	0.713	7.17946	4.20744	0.005	0.551	0.507	511.1123	0.157
Scrapers	2017	121	175	0.848829	0.629	6.47066	3.20471	0.005	0.309	0.311	513.3309	0.157
Scrapers	2017	176	250	0.74027	0.627	7.18867	2.64676	0.005	0.310	0.306	484.5211	0.152
Scrapers	2017	251	500	0.806877	0.425	5.19351	3.13039	0.005	0.214	0.197	488.4511	0.153
Scrapers	2017	501	750	0.818058	0.325	4.21648	2.29479	0.005	0.156	0.141	488.8029	0.153
Scrapers	2018	11	120	0.809819	0.74	7.0517	4.20429	0.005	0.516	0.499	502.888	0.153
Scrapers	2018	121	175	0.840866	0.539	5.64105	3.56847	0.005	0.303	0.279	497.3396	0.151
Scrapers	2018	176	250	0.842403	0.537	6.30394	2.40794	0.005	0.29	0.267	488.9938	0.152
Scrapers	2018	251	500	0.819118	0.369	4.50771	2.8211	0.005	0.146	0.146	477.114	0.151
Scrapers	2018	501	750	0.819618	0.294	3.74021	1.94491	0.005	0.135	0.124	490.1775	0.153
Scrapers	2019	11	120	0.840488	0.718	6.44131	4.19661	0.005	0.525	0.483	494.1	0.156
Scrapers	2019	121	175	0.809899	0.51	5.26136	3.15297	0.005	0.283	0.261	489.2546	0.155
Scrapers	2019	176	250	0.809624	0.501	5.81111	2.21121	0.005	0.237	0.238	479.8137	0.152
Scrapers	2019	251	500	0.84084	0.343	4.15546	2.95646	0.005	0.163	0.15	482.7119	0.153
Scrapers	2019	501	750	0.812944	0.277	3.41011	1.87901	0.005	0.123	0.113	482.983	0.153
Scrapers	2020	11	120	0.818444	0.761	6.4787	4.19746	0.005	0.51	0.460	483.245	0.156
Scrapers	2020	121	175	0.818451	0.478	4.88851	3.00114	0.005	0.262	0.241	471.6077	0.155
Scrapers	2020	176	250	0.810212	0.446	4.109	2.06409	0.005	0.135	0.124	490.1775	0.153
Scrapers	2020	251	500	0.803126	0.31	3.78254	2.40061	0.005	0.148	0.136	471.1711	0.153
Scrapers	2020	501	750	0.819911	0.262	3.12981	1.73182	0.005	0.113	0.104	471.7716	0.153
Scrapers	2021	11	120	0.817922	0.704	6.65882	4.21819	0.005	0.512	0.471	481.7128	0.156
Scrapers	2021	121	175	0.814014	0.432	4.34131	3.40399	0.005	0.212	0.213	478.024	0.153
Scrapers	2021	176	250	0.848401	0.34	4.87061	1.88114	0.005	0.146	0.146	474.1224	0.153
Scrapers	2021	251	500	0.816021	0.299	3.44481	2.24544	0.005	0.134	0.123	471.4616	0.153
Scrapers	2021	501	750	0.798025	0.25	2.88701	1.60772	0.005	0.107	0.107	471.3919	0.153
Scrapers	2022	11	120	0.809995	0.681	6.45148	4.20484	0.005	0.494	0.454	481.4481	0.156
Scrapers	2022	121	175	0.848184	0.39	4.83926	3.41621	0.005	0.156	0.156	479.811	0.155
Scrapers	2022	176	250	0.806119	0.341	3.46901	1.74285	0.005	0.116	0.117	469.2946	0.152
Scrapers	2022	251	500	0.81882	0.264	2.87906	2.01121	0.005	0.113	0.109	4	

Year	Month	Day	Hour	PM10	PM2.5	O3	CO	SO2	NO2	NOx	GHG	
2000	1	15	10	10.00	1.79	0.028	4.832	0.06	0.779	0.779	568.299	0.140
2000	1	25	10	13.92	1.925	0.031	3.709	0.065	0.463	0.463	568.299	0.135
2000	2	5	10	17.458	1.824	0.068	4.864	0.066	0.716	0.716	568.3	0.272
2000	2	15	10	13.984	1.839	0.031	3.988	0.06	0.712	0.712	568.299	0.135
2000	2	25	10	13.9544	1.8	0.03045	4.48486	0.065	0.435	0.435	568.3156	0.171
2000	3	5	10	13.9544	1.8	0.03045	4.48486	0.065	0.435	0.435	568.3156	0.171
2000	3	15	10	10.0432	0.424	0.19396	3.40788	0.065	0.344	0.317	525.6915	0.153
2000	3	25	10	10.0747	0.887	0.2163	4.2795	0.065	0.402	0.37	568.7281	0.171
2000	4	5	10	10.0747	0.887	0.2163	4.2795	0.065	0.402	0.37	568.7281	0.171
2000	4	15	10	0.00213	0.387	0.00341	3.38359	0.065	0.316	0.291	524.0915	0.153
2000	4	25	10	1.01132	0.867	0.12974	4.31356	0.065	0.388	0.357	583.2528	0.171
2000	5	5	10	0.043294	0.372	0.01747	3.38462	0.065	0.239	0.219	533.0347	0.153
2000	5	15	10	0.00862	0.763	0.04472	4.17576	0.065	0.337	0.31	580.0544	0.171
2000	5	25	10	0.00862	0.763	0.04472	4.17576	0.065	0.337	0.31	580.0544	0.171
2000	6	5	10	0.004958	0.34	0.04217	3.36317	0.065	0.271	0.24	515.6388	0.153
2000	6	15	10	0.00706	0.664	0.04075	4.01585	0.065	0.286	0.263	577.0717	0.171
2000	6	25	10	0.00706	0.664	0.04075	4.01585	0.065	0.286	0.263	577.0717	0.171
2000	7	5	10	0.008473	0.304	0.0313	3.33829	0.065	0.235	0.216	571.7621	0.153
2000	7	15	10	0.007051	0.638	0.04363	4.00435	0.065	0.265	0.246	571.0295	0.171
2000	7	25	10	0.007051	0.638	0.04363	4.00435	0.065	0.265	0.246	571.0295	0.171
2000	8	5	10	0.007135	0.599	0.042784	3.95661	0.065	0.241	0.221	565.2281	0.17
2000	8	15	10	0.007135	0.599	0.042784	3.95661	0.065	0.241	0.221	565.2281	0.17
2000	8	25	10	0.007064	0.568	0.041272	3.91067	0.065	0.217	0.2	556.7144	0.171
2000	9	5	10	0.007064	0.568	0.041272	3.91067	0.065	0.217	0.2	556.7144	0.171
2000	9	15	10	0.003772	0.255	0.23818	3.11863	0.065	0.177	0.162	496.3256	0.153
2000	9	25	10	0.007065	0.487	0.08962	3.78725	0.065	0.178	0.164	547.5175	0.17
2000	9	30	10	0.007065	0.487	0.08962	3.78725	0.065	0.178	0.164	547.5175	0.17
2000	10	5	10	0.00803	0.236	0.23624	3.26204	0.065	0.14	0.129	499.0915	0.153
2000	10	15	10	0.011282	0.486	0.17009	3.78957	0.065	0.156	0.145	539.2687	0.171
2000	10	25	10	0.011282	0.486	0.17009	3.78957	0.065	0.156	0.145	539.2687	0.171
2000	11	5	10	0.012771	0.439	0.09111	3.76397	0.065	0.146	0.133	537.7577	0.171
2000	11	15	10	0.012771	0.439	0.09111	3.76397	0.065	0.146	0.133	537.7577	0.171
2000	11	25	10	0.012771	0.439	0.09111	3.76397	0.065	0.146	0.133	537.7577	0.171
2000	12	5	10	0.012771	0.439	0.09111	3.76397	0.065	0.146	0.133	537.7577	0.171
2000	12	15	10	0.00855	0.409	0.15729	3.71521	0.065	0.126	0.116	527.6081	0.171
2000	12	25	10	0.00855	0.409	0.15729	3.71521	0.065	0.126	0.116	527.6081	0.171
2001	1	5	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	1	15	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	1	25	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	2	5	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	2	15	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	2	25	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	3	5	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	3	15	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	3	25	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	4	5	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	4	15	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	4	25	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	5	5	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	5	15	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	5	25	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	6	5	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	6	15	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	6	25	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	7	5	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	7	15	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	7	25	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	8	5	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	8	15	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	8	25	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	9	5	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	9	15	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	9	25	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	10	5	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	10	15	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	10	25	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	11	5	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	11	15	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	11	25	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	12	5	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	12	15	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2001	12	25	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2002	1	5	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2002	1	15	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2002	1	25	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2002	2	5	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2002	2	15	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2002	2	25	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2002	3	5	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2002	3	15	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2002	3	25	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2002	4	5	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2002	4	15	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2002	4	25	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2002	5	5	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2002	5	15	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2002	5	25	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2002	6	5	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2002	6	15	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2002	6	25	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2002	7	5	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2002	7	15	10	0.011817	0.378	0.23688	3.27687	0.065	0.096	0.089	471.9714	0.153
2												



Year	Month	Day	Hour	PM10	PM2.5	PM10-2.5	CO	NO2	NO	O3	SO2	PM10	PM2.5	PM10-2.5	CO	NO2	NO	O3	SO2
Franchers	2040	11	130	1.135	0.254	0.881	0.006	0.008	0.008	0.008	0.008	568.299	0.022	0.022	568.299	0.022	0.022	568.299	0.022
Franchers	2040	11	175	1.891	0.175	1.716	0.006	0.006	0.002	0.002	0.002	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2040	176	200	4.877	0.174	4.703	0.006	0.006	0.001	0.001	0.001	568.3	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2040	211	500	1.794	0.174	1.620	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	1990	6	15	14.49	0.174	14.316	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	1990	16	25	18.341	2.213	16.128	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	1990	26	50	17.289	4.335	12.954	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	1990	11	120	17.159	2.286	14.873	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	1990	121	175	11.364	1.748	9.616	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	1990	176	200	11.364	1.748	9.616	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	1990	251	500	11.775	1.553	10.222	0.006	0.006	0.002	0.002	0.002	568.299	0.014	0.014	568.299	0.014	0.014	568.299	0.014
Franchers	1990	301	750	23.177	1.513	21.664	0.006	0.006	0.004	0.004	0.004	568.299	0.014	0.014	568.299	0.014	0.014	568.299	0.014
Franchers	2000	6	15	1.824	1.325	0.499	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2000	26	50	15.813	0.968	14.845	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2000	26	50	14.945	4.216	10.729	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2000	51	120	10.939	1.893	9.046	0.006	0.006	0.002	0.002	0.002	568.299	0.017	0.017	568.299	0.017	0.017	568.299	0.017
Franchers	2000	111	175	10.939	1.893	9.046	0.006	0.006	0.002	0.002	0.002	568.299	0.017	0.017	568.299	0.017	0.017	568.299	0.017
Franchers	2000	176	200	16.445	1.151	15.294	0.006	0.006	0.002	0.002	0.002	568.299	0.013	0.013	568.299	0.013	0.013	568.299	0.013
Franchers	2000	251	500	16.478	1.043	15.435	0.006	0.006	0.002	0.002	0.002	568.299	0.013	0.013	568.299	0.013	0.013	568.299	0.013
Franchers	2000	301	750	15.198	1.042	14.156	0.006	0.006	0.002	0.002	0.002	568.299	0.014	0.014	568.299	0.014	0.014	568.299	0.014
Franchers	2005	6	15	1.502	0.742	0.760	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2005	16	25	7.041	0.849	6.192	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2005	26	50	32.497	3.921	28.576	0.006	0.006	0.004	0.004	0.004	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2005	11	120	21.751	1.698	20.053	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2005	121	175	40.799	1.126	39.673	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2005	176	200	14.143	0.912	13.231	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2005	251	500	11.494	0.812	10.682	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2005	301	750	21.568	0.823	20.745	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2010	6	15	1.11711	1.287	0.830	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2010	16	25	1.11711	1.287	0.830	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2010	26	50	1.09227	0.924	0.168	0.006	0.006	0.002	0.002	0.002	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2010	111	175	1.09227	0.924	0.168	0.006	0.006	0.002	0.002	0.002	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2010	176	200	0.70197	0.593	0.109	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2010	251	500	0.80761	0.721	0.086	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2010	301	750	0.18939	0.144	0.045	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2011	6	15	1.12012	1.277	0.843	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2011	16	25	1.12012	1.277	0.843	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2011	26	50	1.12012	1.277	0.843	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2011	111	175	1.09124	0.828	0.263	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2011	176	200	1.09124	0.828	0.263	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2011	251	500	0.70197	0.593	0.109	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2011	301	750	0.80761	0.721	0.086	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2012	6	15	1.154009	1.298	0.856	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2012	16	25	1.154009	1.298	0.856	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2012	26	50	1.154009	1.298	0.856	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2012	111	175	1.06236	0.885	0.177	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2012	176	200	1.06236	0.885	0.177	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2012	251	500	0.80256	0.757	0.045	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2012	301	750	0.80256	0.757	0.045	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2013	6	15	1.13809	1.292	0.846	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2013	16	25	1.13809	1.292	0.846	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2013	26	50	1.13809	1.292	0.846	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2013	111	175	1.05918	0.848	0.211	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2013	176	200	1.05918	0.848	0.211	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2013	251	500	0.71892	0.727	0.091	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2013	301	750	0.71892	0.727	0.091	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2014	6	15	1.08914	1.288	0.801	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2014	16	25	1.08914	1.288	0.801	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.299	0.015
Franchers	2014	26	50	1.08914	1.288	0.801	0.006	0.006	0.001	0.001	0.001	568.299	0.015	0.015	568.299	0.015	0.015	568.29	

Winters	2011	4	15	1.109	0.84	5.198	4.638	0.008	0.111	0.111	568.299	0.079
Winters	2015	16	25	4.078	0.894	4.89	2.666	0.007	0.27	0.27	568.299	0.08
Winters	2015	26	50	17.994	1.715	5.113	5.562	0.007	0.43	0.43	568.3	0.154
Winters	2015	11	120	12.137	0.772	5.072	3.738	0.006	0.418	0.418	568.299	0.069
Winters	2015	121	175	21.139	0.532	4.408	1.133	0.006	0.23	0.23	568.299	0.048
Winters	2015	176	250	36.976	0.323	3.8	1.178	0.006	0.168	0.168	568.299	0.031
Winters	2015	251	500	71.953	0.324	3.398	1.178	0.005	0.108	0.108	568.299	0.029
Winters	2016	6	15	1.03	0.809	5.021	2.621	0.008	0.289	0.289	568.299	0.079
Winters	2016	16	25	3.903	0.913	4.803	2.608	0.007	0.293	0.293	568.299	0.077
Winters	2016	26	50	16.155	1.54	4.936	5.395	0.007	0.389	0.389	568.299	0.138
Winters	2016	11	120	11.165	0.699	4.692	3.705	0.006	0.375	0.375	568.3	0.063
Winters	2016	121	175	19.285	0.486	3.973	1.128	0.006	0.206	0.206	568.299	0.043
Winters	2016	176	250	31.905	0.33	3.481	1.113	0.006	0.108	0.108	568.299	0.029
Winters	2016	251	500	60.713	0.306	3.032	1.134	0.005	0.097	0.097	568.299	0.027
Winters	2017	6	15	1.973	0.798	4.867	3.099	0.008	0.272	0.272	568.299	0.07
Winters	2017	16	25	3.785	0.83	4.725	2.564	0.007	0.243	0.243	568.299	0.074
Winters	2017	26	50	14.392	1.372	4.768	5.239	0.007	0.35	0.35	568.299	0.122
Winters	2017	11	120	11.908	0.843	4.328	3.675	0.006	0.312	0.312	568.299	0.066
Winters	2017	121	175	17.561	0.442	3.562	1.124	0.006	0.183	0.183	568.299	0.039
Winters	2017	176	250	34.942	0.31	3.105	1.131	0.006	0.098	0.098	568.299	0.028
Winters	2017	251	500	69.705	0.29	2.713	1.102	0.005	0.088	0.088	568.299	0.026
Winters	2018	6	15	1.923	0.765	4.762	3.58	0.008	0.256	0.256	568.3	0.069
Winters	2018	16	25	3.684	0.807	4.661	2.511	0.007	0.232	0.232	568.299	0.072
Winters	2018	26	50	12.698	1.21	4.607	5.092	0.007	0.311	0.311	568.299	0.109
Winters	2018	11	120	11.056	0.964	3.98	3.648	0.006	0.29	0.29	568.299	0.051
Winters	2018	121	175	15.966	0.402	3.176	1.123	0.006	0.162	0.162	568.299	0.036
Winters	2018	176	250	34.008	0.292	2.751	1.118	0.006	0.084	0.084	568.299	0.026
Winters	2018	251	500	68.804	0.277	2.43	1.08	0.005	0.08	0.08	568.299	0.025
Winters	2019	6	15	1.877	0.748	4.647	3.562	0.008	0.242	0.242	568.299	0.067
Winters	2019	16	25	3.592	0.787	4.596	2.501	0.007	0.222	0.222	568.299	0.071
Winters	2019	26	50	11.074	1.055	4.449	4.95	0.007	0.273	0.273	568.299	0.099
Winters	2019	11	120	11.032	0.921	3.648	3.623	0.006	0.25	0.25	568.299	0.045
Winters	2019	121	175	14.499	0.37	2.832	1.122	0.006	0.145	0.145	568.3	0.033
Winters	2019	176	250	31.264	0.278	2.432	1.104	0.006	0.075	0.075	568.299	0.024
Winters	2019	251	500	57.937	0.246	2.143	1.065	0.005	0.072	0.072	568.3	0.023
Winters	2020	6	15	1.795	0.715	4.542	3.548	0.008	0.227	0.227	568.299	0.066
Winters	2020	16	25	3.507	0.769	4.538	2.473	0.007	0.212	0.212	568.299	0.069
Winters	2020	26	50	10.83	1.037	4.26	4.84	0.007	0.238	0.238	568.299	0.084
Winters	2020	11	120	11.778	0.615	3.911	3.605	0.006	0.238	0.238	568.299	0.044
Winters	2020	121	175	13.663	0.344	2.523	1.122	0.006	0.127	0.127	568.299	0.031
Winters	2020	176	250	32.377	0.261	2.143	1.091	0.006	0.066	0.066	568.299	0.023
Winters	2020	251	500	57.094	0.252	1.91	1.055	0.005	0.064	0.064	568.299	0.022
Winters	2021	6	15	1.8	0.717	4.462	3.514	0.008	0.214	0.214	568.299	0.067
Winters	2021	16	25	3.411	0.752	4.487	2.446	0.007	0.201	0.201	568.299	0.067
Winters	2021	26	50	8.704	0.829	4.123	4.708	0.007	0.205	0.205	568.299	0.074
Winters	2021	11	120	8.572	0.611	3.042	3.579	0.006	0.184	0.184	568.299	0.037
Winters	2021	121	175	12.512	0.315	2.189	1.112	0.006	0.11	0.11	568.299	0.028
Winters	2021	176	250	31.711	0.241	1.836	1.061	0.006	0.067	0.067	568.299	0.021
Winters	2021	251	500	55.998	0.236	1.642	1.044	0.005	0.055	0.055	568.299	0.021
Winters	2022	6	15	1.774	0.707	4.408	3.518	0.008	0.203	0.203	568.3	0.063
Winters	2022	16	25	3.174	0.739	4.47	2.426	0.007	0.193	0.193	568.299	0.064
Winters	2022	26	50	7.959	0.758	4.007	4.645	0.007	0.175	0.175	568.299	0.064
Winters	2022	11	120	8.112	0.582	2.808	3.57	0.006	0.16	0.16	568.299	0.034
Winters	2022	121	175	11.714	0.295	1.935	1.113	0.006	0.097	0.097	568.3	0.028
Winters	2022	176	250	31.128	0.231	1.598	1.074	0.006	0.05	0.05	568.299	0.021
Winters	2022	251	500	51.267	0.225	1.454	1.038	0.005	0.049	0.049	568.3	0.021
Winters	2023	6	15	1.751	0.698	4.359	3.508	0.008	0.194	0.194	568.3	0.063
Winters	2023	16	25	3.122	0.728	4.447	2.407	0.007	0.186	0.186	568.299	0.063
Winters	2023	26	50	7.118	0.697	3.891	4.596	0.007	0.151	0.151	568.299	0.062
Winters	2023	11	120	7.173	0.57	2.999	3.564	0.006	0.139	0.139	568.299	0.032
Winters	2023	121	175	11.033	0.277	1.726	1.111	0.006	0.085	0.085	568.299	0.029
Winters	2023	176	250	30.906	0.22	1.404	1.071	0.006	0.044	0.044	568.299	0.023
Winters	2023	251	500	54.602	0.215	1.289	1.034	0.005	0.042	0.042	568.299	0.019
Winters	2024	6	15	1.711	0.69	4.316	3.499	0.008	0.188	0.188	568.299	0.062
Winters	2024	16	25	3.176	0.718	4.426	2.39	0.007	0.181	0.181	568.299	0.064
Winters	2024	26	50	6.78	0.648	3.762	4.557	0.007	0.13	0.13	568.299	0.054
Winters	2024	11	120	6.366	0.538	2.43	3.56	0.006	0.12	0.12	568.299	0.031
Winters	2024	121	175	10.389	0.211	1.541	1.118	0.006	0.074	0.074	568.299	0.023
Winters	2024	176	250	30.107	0.21	1.234	1.068	0.006	0.038	0.038	568.299	0.018
Winters	2024	251	500	51.957	0.206	1.135	1.032	0.005	0.037	0.037	568.299	0.018
Winters	2025	6	15	1.713	0.681	4.278	3.491	0.008	0.183	0.183	568.3	0.061
Winters	2025	16	25	3.137	0.709	4.407	2.376	0.007	0.177	0.177	568.299	0.064
Winters	2025	26	50	6.155	0.602	3.676	4.524	0.007	0.112	0.112	568.299	0.054
Winters	2025	11	120	5.055	0.518	2.283	3.557	0.006	0.102	0.102	568.299	0.028
Winters	2025	121	175	7.743	0.245	1.365	1.121	0.006	0.063	0.063	568.299	0.022
Winters	2025	176	250	24.621	0.199	1.075	1.065	0.006	0.032	0.032	568.299	0.018
Winters	2025	251	500	53.325	0.196	0.99	1.029	0.005	0.031	0.031	568.299	0.017
Winters	2030	6	15	1.665	0.661	4.164	3.47	0.008	0.166	0.166	568.299	0.059
Winters	2030	16	25	3.113	0.687	4.347	2.34	0.007	0.165	0.165	568.299	0.061
Winters	2030	26	50	4.719	0.449	3.273	4.807	0.007	0.045	0.045	568.299	0.04
Winters	2030	11	120	3.827	0.239	1.707	3.535	0.006	0.04	0.04	568.299	0.021
Winters	2030	121	175	7.011	0.176	0.628	1.121	0.006	0.027	0.027	568.299	0.013
Winters	2030	176	250	7.829	0.162	0.525	1.063	0.006	0.017	0.017	568.299	0.014
Winters	2030	251	500	30.907	0.161	0.495	1.027	0.005	0.017	0.017	568.299	0.014
Winters	2035	6	15	1.659	0.661	4.141	3.469	0.008	0.162	0.162	568.299	0.059
Winters	2035	16	25	3.126	0.685	4.332	2.339	0.007	0.162	0.162	568.299	0.061
Winters	2035	26	50	4.262	0.456	3.147	4.849	0.007	0.022	0.022	568.299	0.016
Winters	2035	11	120	3.418	0.214	1.509	3.528	0.006	0.019	0.019	568.299	0.019
Winters	2035	121	175	6.087	0.153	0.507	1.121	0.006	0.015	0.015	568.299	0.013
Winters	2035	176	250	7.189	0.149	0.343	1.063	0.006	0.012	0.012	568.299	0.013
Winters	2040	6	15	1.659	0.661	4.142	3.469	0.008	0.161	0.161	568.299	0.059
Winters	2040	16	25	3.126	0.685	4.332	2.339	0.007	0.161	0.161	568.299	0.061
Winters	2040	26	50	4.218	0.452	3.093	4.746	0.007	0.015	0.015	568.3	0.016
Winters	2040	11	120	3.322	0.208	1.447	3.524	0.006	0.014	0.014	568.299	0.018
Winters	2040	121	175	5.753	0.145	0.303	1.118	0.006	0.011	0.011	568.299	0.013
Winters	2040	176	250	6.911	0.143	0.287	1.062	0.006	0.01	0.01	568.3	0.012
Winters	2											

**Table 3.3 OFFROAD Default Horsepower and Load Factors**

<b>OFFROAD Equipment Type</b>	<b>Horsepower</b>	<b>Load Factor</b>
Aerial Lifts	63	0.31
Air Compressors	78	0.48
Bore/Drill Rigs	221	0.5
Cement and Mortar Mixers	9	0.56
Concrete/Industrial Saws	81	0.73
Cranes	231	0.29
Crawler Tractors	212	0.43
Crushing/Proc. Equipment	85	0.78
Dumpers/Tenders	16	0.38
Excavators	158	0.38
Forklifts	89	0.2
Generator Sets	84	0.74
Graders	187	0.41
Off-Highway Tractors	124	0.44
Off-Highway Trucks	402	0.38
Other Construction Equipment	172	0.42
Other General Industrial Equipment	88	0.34
Other Material Handling Equipment	168	0.4
Pavers	130	0.42
Paving Equipment	132	0.36
Plate Compactors	8	0.43
Pressure Washers	13	0.3
Pumps	84	0.74
Rollers	80	0.38
Rough Terrain Forklifts	100	0.4
Rubber Tired Dozers	247	0.4
Rubber Tired Loaders	203	0.36
Scrapers	367	0.48
Signal Boards	6	0.82
Skid Steer Loaders	65	0.37
Surfacing Equipment	263	0.3
Sweepers/Scrubbers	64	0.46



MCWRA Interlake Tunnel and  
Spillway Modification Project - No Spillway Alternative

South Central Coast Air Basin: Mitigated AQ/GHG Analysis

Tractors/Loaders/Backhoes	97	0.37
Trenchers	78	0.5
Welders	46	0.45

**Table G-13. Offroad Equipment Emission Factors by Engine Tier (grams per horsepower-hour)**

Tier	Low HP	High HP	CO	NOX	PM10	PM2.5	ROG	TOG
Tier 1	25	49	4.100	5.260	0.480	0.440	1.320	1.340
Tier 1	50	74	8.500	6.540	0.550	0.510	0.900	0.910
Tier 1	75	119	8.500	6.540	0.550	0.510	0.900	0.910
Tier 1	120	174	8.500	6.540	0.300	0.280	0.620	0.630
Tier 1	175	299	8.500	5.930	0.120	0.110	0.290	0.290
Tier 1	300	599	8.500	5.930	0.120	0.110	0.290	0.290
Tier 1	600	750	8.500	5.930	0.120	0.110	0.290	0.290
Tier 1	751	999	8.500	5.930	0.120	0.110	0.290	0.290
Tier 2	25	49	4.100	4.630	0.280	0.260	0.220	0.220
Tier 2	50	74	3.700	4.750	0.190	0.180	0.170	0.170
Tier 2	75	119	3.700	4.750	0.190	0.180	0.170	0.170
Tier 2	120	174	3.700	4.150	0.130	0.120	0.150	0.150
Tier 2	175	299	2.600	4.150	0.090	0.080	0.110	0.110
Tier 2	300	599	2.600	3.790	0.090	0.080	0.090	0.090
Tier 2	600	750	2.600	3.790	0.090	0.080	0.090	0.090
Tier 2	751	999	2.600	3.790	0.090	0.080	0.090	0.090
Tier 3	25	49	4.100	4.630	0.280	0.260	0.220	0.220
Tier 3	50	74	3.700	2.740	0.190	0.180	0.090	0.090
Tier 3	75	119	3.700	2.740	0.110	0.100	0.090	0.090
Tier 3	120	174	3.700	2.320	0.110	0.100	0.090	0.090
Tier 3	175	299	2.600	2.320	0.090	0.080	0.090	0.090
Tier 3	300	599	2.600	2.320	0.090	0.080	0.090	0.090
Tier 3	600	750	2.600	2.320	0.090	0.080	0.090	0.090
Tier 3	751	999	2.600	2.320	0.090	0.080	0.090	0.090
Tier 4 Final	25	49	4.100	2.750	0.010	0.010	0.090	0.090
Tier 4 Final	50	74	3.700	2.740	0.010	0.010	0.090	0.090
Tier 4 Final	75	119	3.700	0.260	0.010	0.010	0.050	0.050
Tier 4 Final	120	174	3.700	0.260	0.010	0.010	0.050	0.050
Tier 4 Final	175	299	2.600	0.260	0.010	0.010	0.050	0.050
Tier 4 Final	300	599	2.600	0.260	0.010	0.010	0.050	0.050
Tier 4 Final	600	750	2.600	0.260	0.010	0.010	0.050	0.050
Tier 4 Final	751	999	2.600	2.240	0.020	0.020	0.050	0.050
Tier 4 Interim	25	49	4.100	4.550	0.130	0.120	0.090	0.090
Tier 4 Interim	50	74	3.700	2.740	0.110	0.100	0.090	0.090
Tier 4 Interim	75	119	3.700	2.150	0.010	0.010	0.080	0.080
Tier 4 Interim	120	174	3.700	2.150	0.010	0.010	0.080	0.080
Tier 4 Interim	175	299	2.600	1.290	0.010	0.010	0.060	0.060
Tier 4 Interim	300	599	2.600	1.290	0.010	0.010	0.060	0.060
Tier 4 Interim	600	750	2.600	1.290	0.010	0.010	0.060	0.060
Tier 4 Interim	751	999	2.600	2.240	0.050	0.050	0.060	0.060

Source: California Air Resources Board (CARB). 2017. The Carl Moyer Program Guidelines. April. Available: [https://ww2.arb.ca.gov/sites/default/files/classic/msprog/moyer/guidelines/2017/2017\\_cmpgl.pdf](https://ww2.arb.ca.gov/sites/default/files/classic/msprog/moyer/guidelines/2017/2017_cmpgl.pdf). Accessed: December 2, 2021.

**Road Dust Emission Factors**

**Daily Paved Road Dust EF<sup>1</sup>**

$$E_{ext} = [ k (sL)^{0.91} \times (W)^{1.02} ]$$

- EF<sub>paved</sub> Annual or other long-term average emission factor in the same units as k
- k particle size multiplier for particle size range and units of interest
- sL road surface silt loading (g/m<sup>2</sup>)
- W average weight (tons) of all the vehicles raveling the road (2.4 tons)
- P Number of "wet" days with at least 0.254 (0.01 in) of precipitation during the averaging period
- N Number of days in the averaging period (e.g. 365 for annual, 91 for seasonal, 30 for monthly)

Parameters	PM10	PM2.5
k (g/VMT) <sup>2</sup>	0.997898	0.244939
sL (g/m <sup>2</sup> )	0.1	0.1
W (tons)	2.4	2.4
EF (g/mi)	3.00E-01	7.36E-02

- 1) CalEEMod User's Guide, Appendix A, p. 29
- 2) AP42: Chapter 13: Miscellaneous Sources, 13.2.1 Paved Roads, Table 13.2.1-1

**Daily Unpaved Road Dust EF<sup>1</sup>**

$$E.F._{dust,i} = \left( \frac{k(s/12)^1(S/30)^{0.5}}{(M/0.5)^{0.2}} - C \right)$$

- k particle size multiplier for particle size range and units of interest
- s surface material silt content (%)
- M surface material moisture content (%)
- S mean vehicle speed (mph)
- C emission factor for 1980s vehicle fleet exhaust, brakewear and tire wear

Parameters	PM10	PM2.5
k (g/VMT) <sup>2</sup>	816.462	81.6462
s <sup>3</sup>	9.3	9.3 SLOAPCD Recommendations for SLO Region (CalEEMod User Guide 4.4.4).
M	0.1	0.1 SLOAPCD Recommendations for SLO Region (CalEEMod User Guide 4.4.4).
S	15	15 SLOAPCD Recommendations for SLO Region 32.4 mph (CalEEMod User Guide 4.4.4).
C	0.213187	0.163292 *Mitigated to 15mph on-site.
EF (g/mi)	617.1158	61.56961

- 1) CalEEMod User's Guide, Appendix A, p. 29
- 2) AP42: Chapter 13: Miscellaneous Sources, 13.2.2 Unpaved Roads, Table 13.2.2-2
- 3) AP42: Chapter 13: Miscellaneous Sources, 13.2.2 Unpaved Roads, Table 13.2.2-1, "Construction sites"

Vendor

**Speed**

- 5
- 10
- 15
- 20
- 25
- 30
- 35
- 40

Haul

**Speed**

- 5
- 10
- 15
- 20
- 25
- 30
- 35
- 40

Worker

**Speed**

- 5
- 10
- 15
- 20
- 25
- 30
- 35
- 40

## **Carbon Loss Emissions**

MCWRA I/LT Carbon Loss Calculation

Project Feature	Permanent Disturbed Land (Acres)	Land Type <sup>1</sup>	Default CO <sub>2</sub> accumulation per acre (MT CO <sub>2</sub> /acre) <sup>2</sup>	Total MT CO <sub>2</sub>
<b>Tunnel Intake Structure</b>				
Access road	1.38	Grassland	4.31	5.95
Construction Staging, Stockpiles, etc.	0	Grassland	4.31	0.00
Project Facilities	1.77	Grassland	4.31	7.63
<b>Interlake Tunnel and Energy Dissipation Structure</b>				
Access Road and ATV Trail	3	Grassland	4.31	12.9
Construction Staging, Stockpiles, etc.	0	Grassland	4.31	0.0
Project Facilities	6.35	Grassland	4.31	27.4
<b>Spillway Modification</b>				
Construction Staging, Stockpiles, etc.	0	Grassland	4.31	0.0
Project Facilities	1.07	Grassland	4.31	4.6
<b>Total:</b>				<b>58.49</b>

Notes:

1. It was conservatively assumed that the vegetation type within the Project area would be Grasslands. Although some of the project may fall within the wetlands category, CCAR does not have a CO<sub>2</sub> accumulation rate for wetlands.
2. California Air Pollution Control Officers Association. 2021. Appendix A: Calculation Details for CalEEMod. May. Available: <http://www.aqmd.gov/docs/default-source/calceemoduser-guide-2021/appendix-a2020-4-0.pdf?sfvrsn=6>. Accessed: July 2021.

The mass of sequestered CO<sub>2</sub> per unit area [MT CO<sub>2</sub>/acre] is dependent on the specific land use type. The program uses default CO<sub>2</sub> sequestration values from CCAR for each land use that will be preserved or created:

Land Use	Sub-Category	Default CO <sub>2</sub> accumulation per acre (MT CO <sub>2</sub> /acre)
Forest Land	Scrub	14.3
	Trees	111
Cropland	--	6.20
Grassland	--	4.31
Wetlands	--	0

The default annual CO<sub>2</sub> is calculated by multiplying total biomass (MT dry matter/acre) from IPCC data by the carbon fraction in plant material (0.47), then using the ratio of molecular weights (44/12) to convert from MT of carbon (C) to MT of carbon dioxide (CO<sub>2</sub>).

Vegetation Type  
Vegetation types are defined by IPCC as follows:

- (i) Forest Land**  
This category includes all land with woody vegetation consistent with thresholds used to define Forest Land in the national greenhouse gas inventory. It also includes systems with a vegetation structure that currently fall below, but *in situ* could potentially reach the threshold values used by a country to define the Forest Land category.
- (ii) Cropland**  
This category includes cropped land, including rice fields, and agro-forestry systems where the vegetation structure falls below the thresholds used for the Forest Land category.
- (iii) Grassland**  
This category includes rangelands and pasture land that are not considered Cropland. It also includes systems with woody vegetation and other non-grass vegetation such as herbs and bushes that fall below the threshold values used in the Forest Land category. The category also includes all grassland from wild lands to recreational areas as well as agricultural and silvopastoral systems, consistent with national definitions.
- (iv) Wetlands**  
This category includes areas of peat extraction and land that is covered or saturated by water for all or part of the year (e.g., peatlands) and that does not fall into the Forest Land, Cropland, Grassland or Settlements categories. It includes reservoirs as a managed sub-division and natural rivers and lakes as unmanaged sub-divisions.

## **Proposed Project Operational Emissions**

Source: 1987-2012 Bernie Vicente's records  
 2013-2021 Viasyn, Inc.

**Nacimiento Hydroelectric Plant  
 Power Production for Monterey County Water Resources Agency**

YEAR	TOTAL (MWH)
1987	7,928
1988	6,206
1989	0
1990	0
1991	618
1992	6,364
1993	7,841
1994	7,228
1995	13,383
1996	17,494
1997	15,251
1998	16,602
1999	15,539
2000	15,982
2001	15,706
2002	12,064
2003	14,647
2004	6,703
2005	20,052
2006	15,893
2007	14,928
2008	14,453
2009	9,958
2010	12,353
2011	17,684
2012	9,151
2013	2,869
2014	300
2015	677
2016	1,108
2017	18,767
2018	8,107
2019	13,218
2020	11,676
2021	3,905

Total Years	Total MWh	All years Average
34	354,655	10,431.03

Scenario	% loss	Reduced avg historical energ.	Total avg loss MWh
Project Reduction (negative) in water release at Nacimiento	15%	8853.332602	1,577.70

**Question Number 6**  
**Subject** Reservoir releases  
**Issue/Parameter for Modelling to Address** Changes in releases from Nacimiento and San Antonio Reservoirs during dry, average, and wet years under different operational scenarios  
**Affected Resources/EIR Chapter(s)** •Surface Water Hydro  
 •Water Supply/ Water Rights  
 •Biology  
**Why Needed/Questions to Answer** •By how much will average reservoir releases change as a result of the Proposed Project?  
 •Would reduced releases from Nacimiento Reservoir adversely affect existing water rights holders?  
 •Would altered releases under the Proposed Project facilitate the movement and establishment downstream of white bass?  
**Reference to Scoping Comment** CDFW  
**Any particular format for results** Table or graph showing modeled changes in releases from each reservoir during dry, average, and wet years and under different operational scenarios

Average Annual Release by Category and Subcategory (in acre-feet per year), Baseline Scenario												
Water Year Type	Nacimiento				San Antonio				Combined			
	All	Wet	Normal	Dry	All	Wet	Normal	Dry	All	Wet	Normal	Dry
Average Annual Total Release	179,408	312,236	156,132	78,182	68,956	57,743	86,221	49,452	248,364	369,979	242,353	127,634
Flood Control Release	55,275	171,782	16,580	0	2,316	6,522	1,089	8	57,591	178,304	17,669	8
Environmental Release	36,157	27,595	42,848	33,165	6,762	4,413	8,617	5,906	42,919	32,008	51,465	39,072
Fish Passage Release	6,418	856	13,142	116	1,984	177	4,074	108	8,401	1,033	17,216	224
Fish and Wildlife Habitat Release	29,739	26,739	29,706	33,050	4,779	4,236	4,543	5,798	34,518	30,975	34,249	38,848
Conservation Release	80,288	106,027	86,796	40,473	54,498	40,711	69,655	41,648	134,787	146,738	156,451	82,122
SRDF Diversion from Cons. Rel. <sup>1</sup>	--	--	--	--	--	--	--	--	7,564	9,234	8,573	3,906
Conservation Release Lost Above SRDF <sup>2</sup>	--	--	--	--	--	--	--	--	127,223	137,505	147,878	78,215
Over-Release <sup>3</sup>	7,688	6,832	9,908	4,543	5,380	6,097	6,860	1,889	13,067	12,929	16,768	6,432

Average Annual Release by Category and Subcategory (in acre-feet per year), Tunnel-Only Scenario												
Water Year Type	Nacimiento				San Antonio				Combined			
	All	Wet	Normal	Dry	All	Wet	Normal	Dry	All	Wet	Normal	Dry
Average Annual Total Release	152,272	229,824	155,032	63,199	94,283	90,845	77,524	128,731	246,555	320,669	232,556	191,929
Difference from Baseline	-27,136	-82,412	-1,100	-14,984	25,326	33,102	-8,697	79,279	-1,809	-49,310	-9,797	64,296
Flood Control Release	27,030	89,195	5,040	0	18,888	49,420	11,149	0	45,918	138,615	16,189	0
Difference from Baseline	-28,245	-82,587	-11,540	0	16,572	42,897	10,060	-8	-11,673	-39,690	-1,480	-8
Environmental Release	31,282	25,407	38,448	24,510	8,095	3,688	12,114	5,501	39,378	29,095	50,562	30,011
Difference from Baseline	-4,875	-2,188	-4,400	-8,656	1,333	-725	3,497	-405	-3,542	-2,912	-903	-9,061
Fish Passage Release	6,140	764	12,598	123	4,030	161	8,360	283	10,169	925	20,958	406
Difference from Baseline	-278	-92	-544	7	2,046	-16	4,286	175	1,768	-108	3,742	182
Fish and Wildlife Habitat Release	25,143	24,643	25,850	24,387	4,065	3,527	3,754	5,218	29,208	28,170	29,605	29,605
Difference from Baseline	-4,596	-2,096	-3,856	-8,663	-713	-709	-789	-580	-5,310	-2,805	-4,644	-9,243
Conservation Release	87,912	108,105	104,829	35,022	62,030	35,301	50,553	112,027	149,942	143,406	155,382	147,049
Difference from Baseline	7,624	2,077	18,033	-5,451	7,531	-5,410	-19,102	70,379	15,155	-3,332	-1,069	64,928
SRDF Diversion from Cons. Rel. <sup>1</sup>	--	--	--	--	--	--	--	--	8,703	9,546	9,031	7,188
Difference from Baseline	--	--	--	--	--	--	--	--	1,139	312	459	3,282
Conservation Release Lost Above SRDF <sup>2</sup>	--	--	--	--	--	--	--	--	141,239	133,860	146,350	139,861
Difference from Baseline	--	--	--	--	--	--	--	--	14,016	-3,645	-1,528	61,646
Over-Release <sup>3</sup>	6,048	7,117	6,715	3,667	5,269	2,436	3,708	11,202	11,318	9,553	10,423	14,869
Difference from Baseline	-1,640	285	-3,193	-876	-110	-3,661	-3,152	9,313	-1,750	-3,376	-6,345	8,437

Average Annual Release by Category and Subcategory (in acre-feet per year), Tunnel Plus 7" Spillway Release Scenario												
Water Year Type	Nacimiento				San Antonio				Combined			
	All	Wet	Normal	Dry	All	Wet	Normal	Dry	All	Wet	Normal	Dry
Average Annual Total Release	152,404	227,706	155,905	64,407	93,293	89,791	74,928	130,756	245,697	317,497	230,833	195,163
Difference from Baseline	-27,004	-84,530	-228	-13,775	24,337	32,048	-11,293	81,304	-2,668	-52,483	-11,520	67,529
Difference from Tunnel-Only	131	-2,118	872	1,209	-990	-1,054	-2,596	2,025	-858	-3,172	-1,723	3,233
Flood Control Release	27,877	92,318	5,005	0	12,595	40,900	2,739	0	40,472	133,218	7,744	0
Difference from Baseline	-27,398	-79,464	-11,575	0	10,279	34,378	1,650	-8	-17,119	-45,087	-9,925	-8
Difference from Tunnel-Only	847	3,123	-35	0	-6,293	-8,520	-8,410	0	-5,446	-5,397	-8,445	0
Environmental Release	31,638	25,389	39,291	24,378	8,202	4,016	12,169	5,465	39,840	29,404	51,460	29,843
Difference from Baseline	-4,519	-2,206	-3,557	-8,787	1,440	-397	3,552	-442	-3,079	-2,603	-5	-9,229
Difference from Tunnel-Only	356	-19	842	-131	107	328	55	-37	463	309	898	-168
Fish Passage Release	6,454	778	13,259	125	3,860	190	7,976	289	10,314	968	21,235	415
Difference from Baseline	36	-77	117	9	1,876	13	3,902	181	1,912	-64	4,019	191
Difference from Tunnel-Only	314	14	661	3	-170	29	-383	6	144	44	278	9
Fish and Wildlife Habitat Release	25,185	24,610	26,032	24,253	4,342	3,825	4,193	5,175	29,527	28,436	30,225	29,428
Difference from Baseline	-4,555	-2,129	-3,674	-8,797	-437	-410	-350	-623	-4,991	-2,539	-4,024	-9,420
Difference from Tunnel-Only	42	-33	182	-134	277	298	438	-43	318	265	620	-177
Conservation Release	86,876	103,126	104,817	36,378	67,206	41,987	56,685	113,815	154,082	145,113	161,502	150,193
Difference from Baseline	6,588	-2,901	18,021	-4,095	12,708	1,276	-12,970	72,167	19,295	-1,625	5,051	68,072
Difference from Tunnel-Only	-1,036	-4,979	-11	1,356	5,176	6,686	6,132	1,788	4,140	1,708	6,121	3,144
SRDF Diversion from Cons. Rel. <sup>1</sup>	--	--	--	--	--	--	--	--	8,792	9,635	9,083	7,345
Difference from Baseline	--	--	--	--	--	--	--	--	1,228	401	511	3,438
Difference from Tunnel-Only	--	--	--	--	--	--	--	--	89	89	52	157
Conservation Release Lost Above SRDF <sup>2</sup>	--	--	--	--	--	--	--	--	145,290	135,478	152,419	142,849
Difference from Baseline	--	--	--	--	--	--	--	--	18,067	-2,026	4,540	64,633
Difference from Tunnel-Only	--	--	--	--	--	--	--	--	4,051	1,618	6,068	2,987
Over-Release <sup>3</sup>	6,012	6,874	6,792	3,651	5,290	2,888	3,335	11,476	11,302	9,761	10,127	15,127
Difference from Baseline	-1,675	41	-3,116	-893	-90	-3,209	-3,525	9,587	-1,765	-3,168	-6,641	8,695
Difference from Tunnel-Only	-36	-244	77	-16	20	452	-373	274	-15	208	-296	257



**Notes:**  
<sup>1</sup>SRDF Diversion is measured at the location of the diversion facility, and is not differentiated by reservoir. Numbers presented here do not include SRDF Diversion that is supplied by other sources, including natural flow and agricultural return flow.  
<sup>2</sup>The difference between the amount of Conservation Release and that portion diverted at SRDF is lost along the journey (required bypass flows are accounted for as part of the Fish Passage Releases). The model does not account for direct precipitation into and evaporation from the stream system, so this water must all be exchanged with the subsurface.  
<sup>3</sup>Over-Release represents water released from the reservoirs over and above any requirement in place. This release typically leaves the system and flows out to Monterey Bay.



Regional Operations Summary

Source	Daily Emissions (lb/day)											GHG Emission (MT/yr)			
	ROG	NOX	ROG + NOX	CO	SOX	Fugitive PM10	Exhaust PM10	Total PM10	Fugitive PM2.5	Exhaust PM2.5	Total PM2.5	CO2	CH4	N2O	CO2e
Mobile - Onsite/offsite	0.3	1.9	2.2	1.5	0.0	4.4	0.0	4.5	0.1	0.0	0.2	36.8	0.0	0.0	38.0
Offroad Equipment - Skid Steer Loader	0.1	0.8	0.9	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	1.4
Energy Usage - Intake Structure	-	-	-	-	-	-	-	-	-	-	-	0.1	0.0	0.0	0.2
Energy Loss - Hydroelectric Facility	-	-	-	-	-	-	-	-	-	-	-	1.9	0.0	0.0	3.0
Stationary Source - Emergency Generator (Control Building)	0.4	1.2	1.6	1.1	0.0	0.0	0.1	0.1	0.0	0.1	0.1	4.9	0.0	0.0	5.0
<b>Total</b>	<b>0.8</b>	<b>3.9</b>	<b>4.7</b>	<b>3.9</b>	<b>0.0</b>	<b>4.4</b>	<b>0.1</b>	<b>4.5</b>	<b>0.1</b>	<b>0.1</b>	<b>0.2</b>	<b>45.2</b>	<b>0.02</b>	<b>0.01</b>	<b>47.6</b>
SLOAPCD Regional Thresholds	-	-	25	550	-	25	-	-	-	1.25	-				
Exceeds Threshold?	No	No	No	No	No	No	No	No	No	No	No				

Notes:

1. Energy use would only be GHG emissions.
3. No Area Source Emissions are expected.
3. Emergency Generator info provided in 60% design plan. SLOAPCD Rule 431 - 50 hours per year prorated over 50 working days (1 hour per day).
5. All operational emissions are assumed to be in SLOAPCD jurisdiction.
6. Assumed 255 working days per year for the GHG (MT/yr) emissions.

**Routine O&M (Increase Relative to Existing)**

*Routine maintenance that would occur daily*

<u>Trip type (Normal Operations)</u>	<u>Trip type (Normal Operations)</u>	<u>Annual Quantity (Hours)</u>	<u>Additional per day</u>	<u>Trips per day</u>	<u>Miles per trip</u>	<u>Trips year</u>
Operations Manager	Operations Manager - Normal Operations	104	1	2	20	255
Operator 1	Operator 1 - Normal Operations	867	1	2	20	255
Operator Technician	Operator Technician - Normal Operations	867	1	2	20	255

**Annual O&M (Increase Relative to Existing)**

*Annual O&M would occur semi-annually, annually, or less frequently (please include any tunnel dewatering)*

<u>Trip type (Mainenance - 3 Weeks per Year)</u>	<u>Trip type (Mainenance - 3 Weeks per Year)</u>	<u>Annual Quantity (Hours)</u>	<u>Additional per day</u>	<u>Trips per day</u>	<u>Miles per trip</u>	<u>Trips year</u>
Electrical/Controls Technician	Electrical/Controls Technician -Mainenance - 3 Weeks per Year	120	1	2	20	15
Mechanical Technician	Mechanical Technician - Mainenance - 3 Weeks per Year	120	1	2	20	15
Laborer	Laborer - Mainenance - 3 Weeks per Year	240	2	4	20	15

<u>Trip type (Peak Debris - 4 Weeks per Year)</u>	<u>Trip type (Peak Debris - 4 Weeks per Year)</u>	<u>Annual Quantity (Hours)</u>	<u>Additional per day</u>	<u>Trips per day</u>	<u>Miles per trip</u>	<u>Trips year</u>
Operations Manager	Operations Manager - 4 Weeks per Year	67	1	2	20	20
Operator 1	Operator 1 - 4 Weeks per Year	672	1	2	20	20
Operator Technician	Operator Technician - 4 Weeks per Year	672	1	2	20	20

<u>Trip type (Non-Ops. Period - 1 Day a Week)</u>	<u>Trip type (Non-Ops. Period - 1 Day a Week)</u>	<u>Annual Quantity (Hours)</u>	<u>Additional per day</u>	<u>Trips per day</u>	<u>Miles per trip</u>	<u>Trips year</u>
Operations Manager	Operations Manager - 1 Day a Week	20	1	2	20	52
Operator 1	Operator 1 - 1 Day a Week	192	1	2	20	52
Operator Technician	Operator Technician - 1 Day a Week	192	1	2	20	52

<u>Equipment type</u>	<u>Trip type (Heavy Duty)</u>	<u>Annual Quantity (Hours)</u>	<u>Additional per day</u>	<u>Hours per day per equip</u>	<u>Miles Per trip</u>	<u>Trips year</u>	<u>Trips Per day</u>
Boom Truck	Boom Truck - 3 weeks per year	120	3 Weeks Per Year	8	20	15	2
Skid Steer	*modeled as Offroad equipment	120	3 Weeks Per Year	8	-	-	
Dump Truck	Dump Truck - 3 weeks per year+ 1 day per week	392	3 Weeks Per Year + 1 day a week	8	20	67	2
Work Truck (General)	*modeled above in daily.	12 (Months)	Annual Use	8	-	-	
Machanical/Facility Spare Parts							
Building Supplies							
Consumables							
Small Tools							

1kw 1.3410221 hp

**Emergency Generator Calculation**

Emergency Generator	Year of Operation	EF Year	Equipment Type	# of work days	# of Equipment	hours/day	HP	LF
Emergency Generator	2025	2025	Emergency General	50	1	1	237	0.8

1. SLOAPCD Rule 431 - maximum of 50 hours of testing per year. Assumed 1 hour per day for 50 days.

2. [Per the 60% design plans \(pg 77, pdf pg 338\), the generator would be 150kW \(237 bhp\) with a 0.8 power factor \(load factor\).](#)

Emergency Generator Calculation			Emission Factor (g/bhp-hr)												
	Year of Operation	EF Year	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Emergency Generator	2025	2025	1.02	2.85	2.60	0.00	0.00	0.15	0.15	0.00	0.15	0.15	521.63	0.07	0.00

1. SLOAPCD Rule 431 - maximum of 50 hours of testing per year. Assumed 1 hour per day for 50 days.

2. [Per the 60% design plans \(pg 77, pdf pg 338\), the generator would be 150kW \(237 bhp\) with a 0.8 power factor \(load factor\).](#)

Emergency Generator Calculation			Emissions (lb/day)													Total MT			
	Year of Operation	EF Year	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Emergency Generator	2025	2025	0.43	1.19	1.09	0.00	0.00	0.06	0.06	0.00	0.06	0.06	218.04	0.03	0.00	4.95	0.00	0.00	4.96

1. SLOAPCD Rule 431 - maximum of 50 hours of testing per year. Assumed 1 hour per day for 50 days.

2. [Per the 60% design plans \(pg 77, pdf pg 338\), the generator would be 150kW \(237 bhp\) with a 0.8 power factor \(load factor\).](#)

**Offroad Equipment**

<b>Yearly Operations</b>	<b>Operational year</b>	<b>EF Year</b>	<b>Equipment Type</b>	<b># of work days</b>	<b># of Equipment</b>	<b>hours/day</b>	<b>HP</b>	<b>LF</b>
Maintenance - 3 weeks per year	2025	2025	Skid Steer Loaders	15	1	8	65	0.37

Offroad Equipment			Emission Factor (g/bhp-hr)												
Yearly Operations	Operational year	EF Year	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
Maintenance - 3 weeks per year	2025	2025	0.14	1.87	3.25	0.01	0.00	0.06	0.06	0.00	0.05	0.05	472.63	0.15	0.00

Offroad Equipment			Emissions (lb/day)													Total MT			
Yearly Operations	Operational year	EF Year	ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4	N2O	CO2e
Maintenance - 3 weeks per year	2025	2025	0.06	0.79	1.38	0.00	0.00	0.02	0.02	0.00	0.02	0.02	200.48	0.06	0.00	1.36	0.00	0.00	1.38



Project Mobile Emissions - Offsite

Trip Type <sup>1,2</sup>	Vehicle Category	Annual Days of Operation	Year	Net Trips Per Day	Trip Length (mi) <sup>4</sup>	Running Exhaust Emission Factor (g/mi)												
						ROG	NOX	CO	SOX	Fugitive PM10	Exhaust PM10	Total PM10	Fugitive PM2.5	Exhaust PM2.5	Total PM2.5	CO2	CH4	N2O
Operations Manager - Normal Operations	LDT1/LDT2	255	2025	2	20	1.52E-01	1.39E+00	8.15E-01	7.63E-03	3.95E-01	3.16E-02	4.26E-01	9.58E-02	3.02E-02	1.26E-01	7.91E+02	9.66E-03	7.88E-02
Operator 1 - Normal Operations	LDT1/LDT2	255	2025	2	20	1.52E-01	1.39E+00	8.15E-01	7.63E-03	3.95E-01	3.16E-02	4.26E-01	9.58E-02	3.02E-02	1.26E-01	7.91E+02	9.66E-03	7.88E-02
Operator Technician - Normal Operations	LDT1/LDT2	255	2025	2	20	1.52E-01	1.39E+00	8.15E-01	7.63E-03	3.95E-01	3.16E-02	4.26E-01	9.58E-02	3.02E-02	1.26E-01	7.91E+02	9.66E-03	7.88E-02
Electrical/Controls Technician - Maintenance - 3 Weeks per Year	LDT1/LDT2	15	2025	2	20	1.52E-01	1.39E+00	8.15E-01	7.63E-03	3.95E-01	3.16E-02	4.26E-01	9.58E-02	3.02E-02	1.26E-01	7.91E+02	9.66E-03	7.88E-02
Mechanical Technician - Maintenance - 3 Weeks per Year	LDT1/LDT2	15	2025	2	20	1.52E-01	1.39E+00	8.15E-01	7.63E-03	3.95E-01	3.16E-02	4.26E-01	9.58E-02	3.02E-02	1.26E-01	7.91E+02	9.66E-03	7.88E-02
Laborer - Maintenance - 3 Weeks per Year	LDT1/LDT2	15	2025	4	20	1.52E-01	1.39E+00	8.15E-01	7.63E-03	3.95E-01	3.16E-02	4.26E-01	9.58E-02	3.02E-02	1.26E-01	7.91E+02	9.66E-03	7.88E-02
Operations Manager - 4 Weeks per Year	LDT1/LDT2	20	2025	2	20	1.52E-01	1.39E+00	8.15E-01	7.63E-03	3.95E-01	3.16E-02	4.26E-01	9.58E-02	3.02E-02	1.26E-01	7.91E+02	9.66E-03	7.88E-02
Operator 1 - 4 Weeks per Year	LDT1/LDT2	20	2025	2	20	1.52E-01	1.39E+00	8.15E-01	7.63E-03	3.95E-01	3.16E-02	4.26E-01	9.58E-02	3.02E-02	1.26E-01	7.91E+02	9.66E-03	7.88E-02
Operator Technician - 4 Weeks per Year	LDT1/LDT2	20	2025	2	20	1.52E-01	1.39E+00	8.15E-01	7.63E-03	3.95E-01	3.16E-02	4.26E-01	9.58E-02	3.02E-02	1.26E-01	7.91E+02	9.66E-03	7.88E-02
Operations Manager - 1 Day a Week	LDT1/LDT2	52	2025	2	20	1.52E-01	1.39E+00	8.15E-01	7.63E-03	3.95E-01	3.16E-02	4.26E-01	9.58E-02	3.02E-02	1.26E-01	7.91E+02	9.66E-03	7.88E-02
Operator 1 - 1 Day a Week	LDT1/LDT2	52	2025	2	20	1.52E-01	1.39E+00	8.15E-01	7.63E-03	3.95E-01	3.16E-02	4.26E-01	9.58E-02	3.02E-02	1.26E-01	7.91E+02	9.66E-03	7.88E-02
Operator Technician - 1 Day a Week	LDT1/LDT2	52	2025	2	20	1.52E-01	1.39E+00	8.15E-01	7.63E-03	3.95E-01	3.16E-02	4.26E-01	9.58E-02	3.02E-02	1.26E-01	7.91E+02	9.66E-03	7.88E-02
Boom Truck - 3 weeks per year	MHDT/HHDT	15	2025	2	20	9.36E-02	1.19E+00	4.66E-01	9.68E-03	3.79E-01	2.24E-02	4.02E-01	7.66E-02	2.14E-02	9.80E-02	1.01E+03	5.74E-03	1.28E-01
Dump Truck - 3 weeks per year+ 1 day per week	MHDT/HHDT	67	2025	2	20	9.36E-02	1.19E+00	4.66E-01	9.68E-03	3.79E-01	2.24E-02	4.02E-01	7.66E-02	2.14E-02	9.80E-02	1.01E+03	5.74E-03	1.28E-01

Notes:

1. Operations manager, operator, and technician trips were assumed to be 50 percent LDT1/ 50 percent LDT2.
2. Boom Truck and dump Truck were assumed to be 50 percent MHDT and 50 percent HHDT.

Project Mobile Emissions - Offsite

Trip Type <sup>1,2</sup>	Vehicle Category	Annual Days of Operation	Year	Net Trips Per Day	Trip Length (mi) <sup>4</sup>	Non-Running Emission Factors (g/trip)												
						ROG	NOX	CO	SOX	Fugitive PM10	Exhaust PM10	Total PM10	Fugitive PM2.5	Exhaust PM2.5	Total PM2.5	CO2	CH4	N2O
Operations Manager - Normal Operations	LDT1/LDT2	255	2025	2	20	2.92E-01	3.42E-01	1.16E+00	2.04E-04	0.00E+00	1.49E-03	1.49E-03	0.00E+00	1.42E-03	1.42E-03	2.10E+01	1.54E-02	1.92E-02
Operator 1 - Normal Operations	LDT1/LDT2	255	2025	2	20	2.92E-01	3.42E-01	1.16E+00	2.04E-04	0.00E+00	1.49E-03	1.49E-03	0.00E+00	1.42E-03	1.42E-03	2.10E+01	1.54E-02	1.92E-02
Operator Technician - Normal Operations	LDT1/LDT2	255	2025	2	20	2.92E-01	3.42E-01	1.16E+00	2.04E-04	0.00E+00	1.49E-03	1.49E-03	0.00E+00	1.42E-03	1.42E-03	2.10E+01	1.54E-02	1.92E-02
Electrical/Controls Technician - Maintenance - 3 Weeks per Year	LDT1/LDT2	15	2025	2	20	2.92E-01	3.42E-01	1.16E+00	2.04E-04	0.00E+00	1.49E-03	1.49E-03	0.00E+00	1.42E-03	1.42E-03	2.10E+01	1.54E-02	1.92E-02
Mechanical Technician - Maintenance - 3 Weeks per Year	LDT1/LDT2	15	2025	2	20	2.92E-01	3.42E-01	1.16E+00	2.04E-04	0.00E+00	1.49E-03	1.49E-03	0.00E+00	1.42E-03	1.42E-03	2.10E+01	1.54E-02	1.92E-02
Laborer - Maintenance - 3 Weeks per Year	LDT1/LDT2	15	2025	4	20	2.92E-01	3.42E-01	1.16E+00	2.04E-04	0.00E+00	1.49E-03	1.49E-03	0.00E+00	1.42E-03	1.42E-03	2.10E+01	1.54E-02	1.92E-02
Operations Manager - 4 Weeks per Year	LDT1/LDT2	20	2025	2	20	2.92E-01	3.42E-01	1.16E+00	2.04E-04	0.00E+00	1.49E-03	1.49E-03	0.00E+00	1.42E-03	1.42E-03	2.10E+01	1.54E-02	1.92E-02
Operator 1 - 4 Weeks per Year	LDT1/LDT2	20	2025	2	20	2.92E-01	3.42E-01	1.16E+00	2.04E-04	0.00E+00	1.49E-03	1.49E-03	0.00E+00	1.42E-03	1.42E-03	2.10E+01	1.54E-02	1.92E-02
Operator Technician - 4 Weeks per Year	LDT1/LDT2	20	2025	2	20	2.92E-01	3.42E-01	1.16E+00	2.04E-04	0.00E+00	1.49E-03	1.49E-03	0.00E+00	1.42E-03	1.42E-03	2.10E+01	1.54E-02	1.92E-02
Operations Manager - 1 Day a Week	LDT1/LDT2	52	2025	2	20	2.92E-01	3.42E-01	1.16E+00	2.04E-04	0.00E+00	1.49E-03	1.49E-03	0.00E+00	1.42E-03	1.42E-03	2.10E+01	1.54E-02	1.92E-02
Operator 1 - 1 Day a Week	LDT1/LDT2	52	2025	2	20	2.92E-01	3.42E-01	1.16E+00	2.04E-04	0.00E+00	1.49E-03	1.49E-03	0.00E+00	1.42E-03	1.42E-03	2.10E+01	1.54E-02	1.92E-02
Operator Technician - 1 Day a Week	LDT1/LDT2	52	2025	2	20	2.92E-01	3.42E-01	1.16E+00	2.04E-04	0.00E+00	1.49E-03	1.49E-03	0.00E+00	1.42E-03	1.42E-03	2.10E+01	1.54E-02	1.92E-02
Boom Truck - 3 weeks per year	MHDT/HHDT	15	2025	2	20	1.52E-01	1.36E+00	1.09E+00	9.03E-04	0.00E+00	1.88E-03	1.88E-03	0.00E+00	1.80E-03	1.80E-03	9.49E+01	9.36E-03	2.11E-02
Dump Truck - 3 weeks per year+ 1 day per week	MHDT/HHDT	67	2025	2	20	1.52E-01	1.36E+00	1.09E+00	9.03E-04	0.00E+00	1.88E-03	1.88E-03	0.00E+00	1.80E-03	1.80E-03	9.49E+01	9.36E-03	2.11E-02

Notes:

1. Operations manager, operator, and technician trips were assumed to be 50 percent LDT1/ 50 percent LDT2.
2. Boom Truck and dump Truck were assumed to be 50 percent MHDT and 50 percent HHDT.

Project Mobile Emissions - Offsite

Trip Type <sup>1,2</sup>	Vehicle Category	Annual Days of Operation	Year	Net Trips Per Day	Trip Length (mi) <sup>4</sup>	Emissions (lb/day)									Emissions (MT/day)				Emissions (MT/year)							
						ROG	NOX	CO	SOX	Fugitive PM10	Exhaust PM10	Total PM10	Fugitive PM2.5	Exhaust PM2.5	Total PM2.5	CO2	CH4	N2O	CO2	CH4	N2O	CO <sub>2</sub> e	CO2	CH4	N2O	CO <sub>2</sub> e
Operations Manager - Normal Operations	LDT1/LDT2	255	2025	2	20	0.01	0.12	0.08	0.00	0.03	0.00	0.04	0.01	0.00	0.01	69.85	0.00	0.01	0.03	0.00	0.00	0.03	8.08	0.00	0.00	8.32
Operator 1 - Normal Operations	LDT1/LDT2	255	2025	2	20	0.01	0.12	0.08	0.00	0.03	0.00	0.04	0.01	0.00	0.01	69.85	0.00	0.01	0.03	0.00	0.00	0.03	8.08	0.00	0.00	8.32
Operator Technician - Normal Operations	LDT1/LDT2	255	2025	2	20	0.01	0.12	0.08	0.00	0.03	0.00	0.04	0.01	0.00	0.01	69.85	0.00	0.01	0.03	0.00	0.00	0.03	8.08	0.00	0.00	8.32
Electrical/Controls Technician - Maintenance - 3 Weeks per Year	LDT1/LDT2	15	2025	2	20	0.01	0.12	0.08	0.00	0.03	0.00	0.04	0.01	0.00	0.01	69.85	0.00	0.01	0.03	0.00	0.00	0.03	0.48	0.00	0.00	0.49
Mechanical Technician - Maintenance - 3 Weeks per Year	LDT1/LDT2	15	2025	2	20	0.01	0.12	0.08	0.00	0.03	0.00	0.04	0.01	0.00	0.01	69.85	0.00	0.01	0.03	0.00	0.00	0.03	0.48	0.00	0.00	0.49
Laborer - Maintenance - 3 Weeks per Year	LDT1/LDT2	15	2025	4	20	0.03	0.25	0.15	0.00	0.07	0.01	0.08	0.02	0.01	0.02	139.70	0.00	0.01	0.06	0.00	0.00	0.07	0.95	0.00	0.00	0.98
Operations Manager - 4 Weeks per Year	LDT1/LDT2	20	2025	2	20	0.01	0.12	0.08	0.00	0.03	0.00	0.04	0.01	0.00	0.01	69.85	0.00	0.01	0.03	0.00	0.00	0.03	0.63	0.00	0.00	0.65
Operator 1 - 4 Weeks per Year	LDT1/LDT2	20	2025	2	20	0.01	0.12	0.08	0.00	0.03	0.00	0.04	0.01	0.00	0.01	69.85	0.00	0.01	0.03	0.00	0.00	0.03	0.63	0.00	0.00	0.65
Operator Technician - 4 Weeks per Year	LDT1/LDT2	20	2025	2	20	0.01	0.12	0.08	0.00	0.03	0.00	0.04	0.01	0.00	0.01	69.85	0.00	0.01	0.03	0.00	0.00	0.03	0.63	0.00	0.00	0.65
Operations Manager - 1 Day a Week	LDT1/LDT2	52	2025	2	20	0.01	0.12	0.08	0.00	0.03	0.00	0.04	0.01	0.00	0.01	69.85	0.00	0.01	0.03	0.00	0.00	0.03	1.65	0.00	0.00	1.70
Operator 1 - 1 Day a Week	LDT1/LDT2	52	2025	2	20	0.01	0.12	0.08	0.00	0.03	0.00	0.04	0.01	0.00	0.01	69.85	0.00	0.01	0.03	0.00	0.00	0.03	1.65	0.00	0.00	1.70
Operator Technician - 1 Day a Week	LDT1/LDT2	52	2025	2	20	0.01	0.12	0.08	0.00	0.03	0.00	0.04	0.01	0.00	0.01	69.85	0.00	0.01	0.03	0.00	0.00	0.03	1.65	0.00	0.00	1.70
Boom Truck - 3 weeks per year	MHDT/HHDT	15	2025	2	20	0.01	0.11	0.05	0.00	0.03	0.00	0.04	0.01	0.00	0.01	89.68	0.00	0.01	0.04	0.00	0.00	0.04	0.61	0.00	0.00	0.63
Dump Truck - 3 weeks per year+ 1 day per week	MHDT/HHDT	67	2025	2	20	0.01	0.11	0.05	0.00	0.03	0.00	0.04	0.01	0.00	0.01	89.68	0.00	0.01	0.04	0.00	0.00	0.04	2.73	0.00	0.00	2.83

Notes:

1. Operations manager, operator, and technician trips were assumed to be 50 percent LDT1/ 50 percent LDT2.
2. Boom Truck and dump Truck were assumed to be 50 percent MHDT and 50 percent HHDT.

Project Mobile Emissions - Onsite

Trip Type <sup>1,2</sup>	Vehicle Category	Days per year	Year	Net Trips Per Day	Trip Length (mi) <sup>4</sup>	Running Exhaust Emission Factor (g/mi)												
						ROG	NOX	CO	SOX	Fugitive PM10	Exhaust PM10	Total PM10	Fugitive PM2.5	Exhaust PM2.5	Total PM2.5	CO2	CH4	N2O
Operations Manager - Normal Operations	LDT1/LDT2	255	2025	2	0.25	2.20E-02	1.17E-01	1.15E+00	3.38E-03	2.36E+02	1.72E-03	2.36E+02	7.98E-02	1.58E-03	8.14E-02	3.42E+02	5.02E-03	8.85E-03
Operator 1 - Normal Operations	LDT1/LDT2	255	2025	2	0.25	2.20E-02	1.17E-01	1.15E+00	3.38E-03	2.36E+02	1.72E-03	2.36E+02	7.98E-02	1.58E-03	8.14E-02	3.42E+02	5.02E-03	8.85E-03
Operator Technician - Normal Operations	LDT1/LDT2	255	2025	2	0.25	2.20E-02	1.17E-01	1.15E+00	3.38E-03	2.36E+02	1.72E-03	2.36E+02	7.98E-02	1.58E-03	8.14E-02	3.42E+02	5.02E-03	8.85E-03
Electrical/Controls Technician - Maintenance - 3 Weeks per Year	LDT1/LDT2	15	2025	2	0.25	2.20E-02	1.17E-01	1.15E+00	3.38E-03	2.36E+02	1.72E-03	2.36E+02	7.98E-02	1.58E-03	8.14E-02	3.42E+02	5.02E-03	8.85E-03
Mechanical Technician - Maintenance - 3 Weeks per Year	LDT1/LDT2	15	2025	2	0.25	2.20E-02	1.17E-01	1.15E+00	3.38E-03	2.36E+02	1.72E-03	2.36E+02	7.98E-02	1.58E-03	8.14E-02	3.42E+02	5.02E-03	8.85E-03
Laborer - Maintenance - 3 Weeks per Year	LDT1/LDT2	15	2025	4	0.25	2.20E-02	1.17E-01	1.15E+00	3.38E-03	2.36E+02	1.72E-03	2.36E+02	7.98E-02	1.58E-03	8.14E-02	3.42E+02	5.02E-03	8.85E-03
Operations Manager - 4 Weeks per Year	LDT1/LDT2	20	2025	2	0.25	2.20E-02	1.17E-01	1.15E+00	3.38E-03	2.36E+02	1.72E-03	2.36E+02	7.98E-02	1.58E-03	8.14E-02	3.42E+02	5.02E-03	8.85E-03
Operator 1 - 4 Weeks per Year	LDT1/LDT2	20	2025	2	0.25	2.20E-02	1.17E-01	1.15E+00	3.38E-03	2.36E+02	1.72E-03	2.36E+02	7.98E-02	1.58E-03	8.14E-02	3.42E+02	5.02E-03	8.85E-03
Operator Technician - 4 Weeks per Year	LDT1/LDT2	20	2025	2	0.25	2.20E-02	1.17E-01	1.15E+00	3.38E-03	2.36E+02	1.72E-03	2.36E+02	7.98E-02	1.58E-03	8.14E-02	3.42E+02	5.02E-03	8.85E-03
Operations Manager - 1 Day a Week	LDT1/LDT2	52	2025	2	0.25	2.20E-02	1.17E-01	1.15E+00	3.38E-03	2.36E+02	1.72E-03	2.36E+02	7.98E-02	1.58E-03	8.14E-02	3.42E+02	5.02E-03	8.85E-03
Operator 1 - 1 Day a Week	LDT1/LDT2	52	2025	2	0.25	2.20E-02	1.17E-01	1.15E+00	3.38E-03	2.36E+02	1.72E-03	2.36E+02	7.98E-02	1.58E-03	8.14E-02	3.42E+02	5.02E-03	8.85E-03
Operator Technician - 1 Day a Week	LDT1/LDT2	52	2025	2	0.25	2.20E-02	1.17E-01	1.15E+00	3.38E-03	2.36E+02	1.72E-03	2.36E+02	7.98E-02	1.58E-03	8.14E-02	3.42E+02	5.02E-03	8.85E-03
Boom Truck - 3 weeks per year	MHDT/HHDT	15	2025	2	0.25	2.73E-02	1.54E+00	4.33E-01	1.32E-02	2.36E+02	1.88E-02	2.36E+02	7.45E-02	1.80E-02	9.25E-02	1.41E+03	3.92E-02	2.08E-01
Dump Truck - 3 weeks per year+ 1 day per week	MHDT/HHDT	67	2025	2	0.25	2.73E-02	1.54E+00	4.33E-01	1.32E-02	2.36E+02	1.88E-02	2.36E+02	7.45E-02	1.80E-02	9.25E-02	1.41E+03	3.92E-02	2.08E-01

Notes:

1. Operations manager, operator, and technician trips were assumed to be 50 percent LDT1/ 50 percent LDT2.
2. Boom Truck and dump Truck were assumed to be 50 percent MHDT and 50 percent HHDT.

Project Mobile Emissions - Onsite

Trip Type <sup>1,2</sup>	Vehicle Category	Days per year	Year	Net Trips Per Day	Trip Length (mi) <sup>4</sup>	Non-Running Emission Factors (g/trip)												
						ROG	NOX	CO	SOX	Fugitive PM10	Exhaust PM10	Total PM10	Fugitive PM2.5	Exhaust PM2.5	Total PM2.5	CO2	CH4	N2O
Operations Manager - Normal Operations	LDT1/LDT2	255	2025	2	0.25	1.82E+00	4.19E-01	5.47E+00	8.89E-04	0.00E+00	2.78E-03	2.78E-03	0.00E+00	2.55E-03	2.55E-03	8.99E+01	1.10E-01	4.09E-02
Operator 1 - Normal Operations	LDT1/LDT2	255	2025	2	0.25	1.82E+00	4.19E-01	5.47E+00	8.89E-04	0.00E+00	2.78E-03	2.78E-03	0.00E+00	2.55E-03	2.55E-03	8.99E+01	1.10E-01	4.09E-02
Operator Technician - Normal Operations	LDT1/LDT2	255	2025	2	0.25	1.82E+00	4.19E-01	5.47E+00	8.89E-04	0.00E+00	2.78E-03	2.78E-03	0.00E+00	2.55E-03	2.55E-03	8.99E+01	1.10E-01	4.09E-02
Electrical/Controls Technician - Maintenance - 3 Weeks per Year	LDT1/LDT2	15	2025	2	0.25	1.82E+00	4.19E-01	5.47E+00	8.89E-04	0.00E+00	2.78E-03	2.78E-03	0.00E+00	2.55E-03	2.55E-03	8.99E+01	1.10E-01	4.09E-02
Mechanical Technician - Maintenance - 3 Weeks per Year	LDT1/LDT2	15	2025	2	0.25	1.82E+00	4.19E-01	5.47E+00	8.89E-04	0.00E+00	2.78E-03	2.78E-03	0.00E+00	2.55E-03	2.55E-03	8.99E+01	1.10E-01	4.09E-02
Laborer - Maintenance - 3 Weeks per Year	LDT1/LDT2	15	2025	4	0.25	1.82E+00	4.19E-01	5.47E+00	8.89E-04	0.00E+00	2.78E-03	2.78E-03	0.00E+00	2.55E-03	2.55E-03	8.99E+01	1.10E-01	4.09E-02
Operations Manager - 4 Weeks per Year	LDT1/LDT2	20	2025	2	0.25	1.82E+00	4.19E-01	5.47E+00	8.89E-04	0.00E+00	2.78E-03	2.78E-03	0.00E+00	2.55E-03	2.55E-03	8.99E+01	1.10E-01	4.09E-02
Operator 1 - 4 Weeks per Year	LDT1/LDT2	20	2025	2	0.25	1.82E+00	4.19E-01	5.47E+00	8.89E-04	0.00E+00	2.78E-03	2.78E-03	0.00E+00	2.55E-03	2.55E-03	8.99E+01	1.10E-01	4.09E-02
Operator Technician - 4 Weeks per Year	LDT1/LDT2	20	2025	2	0.25	1.82E+00	4.19E-01	5.47E+00	8.89E-04	0.00E+00	2.78E-03	2.78E-03	0.00E+00	2.55E-03	2.55E-03	8.99E+01	1.10E-01	4.09E-02
Operations Manager - 1 Day a Week	LDT1/LDT2	52	2025	2	0.25	1.82E+00	4.19E-01	5.47E+00	8.89E-04	0.00E+00	2.78E-03	2.78E-03	0.00E+00	2.55E-03	2.55E-03	8.99E+01	1.10E-01	4.09E-02
Operator 1 - 1 Day a Week	LDT1/LDT2	52	2025	2	0.25	1.82E+00	4.19E-01	5.47E+00	8.89E-04	0.00E+00	2.78E-03	2.78E-03	0.00E+00	2.55E-03	2.55E-03	8.99E+01	1.10E-01	4.09E-02
Operator Technician - 1 Day a Week	LDT1/LDT2	52	2025	2	0.25	1.82E+00	4.19E-01	5.47E+00	8.89E-04	0.00E+00	2.78E-03	2.78E-03	0.00E+00	2.55E-03	2.55E-03	8.99E+01	1.10E-01	4.09E-02
Boom Truck - 3 weeks per year	MHDT/HHDT	15	2025	2	0.25	2.36E-01	4.76E+00	3.22E+00	4.47E-03	0.00E+00	2.33E-03	2.33E-03	0.00E+00	2.23E-03	2.23E-03	4.85E+02	4.74E-02	7.82E-02
Dump Truck - 3 weeks per year+ 1 day per week	MHDT/HHDT	67	2025	2	0.25	2.36E-01	4.76E+00	3.22E+00	4.47E-03	0.00E+00	2.33E-03	2.33E-03	0.00E+00	2.23E-03	2.23E-03	4.85E+02	4.74E-02	7.82E-02

Notes:

1. Operations manager, operator, and technician trips were assumed to be 50 percent LDT1/ 50 percent LDT2.
2. Boom Truck and dump Truck were assumed to be 50 percent MHDT and 50 percent HHDT.

Project Mobile Emissions - Onsite

Trip Type <sup>1,2</sup>	Vehicle Category	Days per year	Year	Net Trips Per Day	Trip Length (mi) <sup>4</sup>	Emissions (lb/day)									Emissions (MT/day)				Emissions (MT/year)							
						ROG	NOX	CO	SOX	Fugitive PM10	Exhaust PM10	Total PM10	Fugitive PM2.5	Exhaust PM2.5	Total PM2.5	CO2	CH4	N2O	CO2e	CO2	CH4	N2O	CO2e			
Operations Manager - Normal Operations	LDT1/LDT2	255	2025	2	0.25	0.01	0.00	0.03	0.00	0.26	0.00	0.26	0.00	0.00	0.00	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.10
Operator 1 - Normal Operations	LDT1/LDT2	255	2025	2	0.25	0.01	0.00	0.03	0.00	0.26	0.00	0.26	0.00	0.00	0.00	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.10
Operator Technician - Normal Operations	LDT1/LDT2	255	2025	2	0.25	0.01	0.00	0.03	0.00	0.26	0.00	0.26	0.00	0.00	0.00	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.10
Electrical/Controls Technician - Maintenance - 3 Weeks per Year	LDT1/LDT2	15	2025	2	0.25	0.01	0.00	0.03	0.00	0.26	0.00	0.26	0.00	0.00	0.00	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Mechanical Technician - Maintenance - 3 Weeks per Year	LDT1/LDT2	15	2025	2	0.25	0.01	0.00	0.03	0.00	0.26	0.00	0.26	0.00	0.00	0.00	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Laborer - Maintenance - 3 Weeks per Year	LDT1/LDT2	15	2025	4	0.25	0.02	0.00	0.05	0.00	0.52	0.00	0.52	0.00	0.00	0.00	1.55	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Operations Manager - 4 Weeks per Year	LDT1/LDT2	20	2025	2	0.25	0.01	0.00	0.03	0.00	0.26	0.00	0.26	0.00	0.00	0.00	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Operator 1 - 4 Weeks per Year	LDT1/LDT2	20	2025	2	0.25	0.01	0.00	0.03	0.00	0.26	0.00	0.26	0.00	0.00	0.00	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Operator Technician - 4 Weeks per Year	LDT1/LDT2	20	2025	2	0.25	0.01	0.00	0.03	0.00	0.26	0.00	0.26	0.00	0.00	0.00	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Operations Manager - 1 Day a Week	LDT1/LDT2	52	2025	2	0.25	0.01	0.00	0.03	0.00	0.26	0.00	0.26	0.00	0.00	0.00	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Operator 1 - 1 Day a Week	LDT1/LDT2	52	2025	2	0.25	0.01	0.00	0.03	0.00	0.26	0.00	0.26	0.00	0.00	0.00	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Operator Technician - 1 Day a Week	LDT1/LDT2	52	2025	2	0.25	0.01	0.00	0.03	0.00	0.26	0.00	0.26	0.00	0.00	0.00	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Boom Truck - 3 weeks per year	MHDT/HHDT	15	2025	2	0.25	0.00	0.02	0.01	0.00	0.26	0.00	0.26	0.00	0.00	0.00	3.70	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Dump Truck - 3 weeks per year+ 1 day per week	MHDT/HHDT	67	2025	2	0.25	0.00	0.02	0.01	0.00	0.26	0.00	0.26	0.00	0.00	0.00	3.70	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.12

Notes:

1. Operations manager, operator, and technician trips were assumed to be 50 percent LDT1/ 50 percent LDT2.
2. Boom Truck and dump Truck were assumed to be 50 percent MHDT and 50 percent HHDT.

1 kilowatt 0.001 MW  
 Days per year 365.00

**Project Energy Consumption**

Phase	Kilowatt Hours per year	Megawatt Hours per year	lbs of CO2 per day				Yearly MT			
			CO2	CH4	N2O	CO2e	CO2	CH4	N2O	CO2e
Intake Structure Energy Usage	102,682	103	0.75	0.01	0.00	1.20	0.12	0.00	0.00	0.20
Hydroelectric Facility Loss	1,577,696.81	1,577.70	11.58	0.11	0.01	18.38	1.92	0.02	0.00	3.04

Notes: PG&E 2019 CO2 (lbs per MWh) delivered rate 2.68  
 CH4 (lbs per MWh) 2025 0.03  
 N2O (lbs per MWh) 2025 0.00

Source:

1. [https://www.pgecorp.com/corp\\_responsibility/reports/2021/assets/PGE\\_CRSR\\_2021.pdf](https://www.pgecorp.com/corp_responsibility/reports/2021/assets/PGE_CRSR_2021.pdf)





Appendix G

## Energy Data Assumptions and Calculations

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# **Proposed Project – Construction Energy Consumption**

**MCWRA ILT - Monterey County Fuel Consumption Summary**

Source Category	Fuel Consumption (gal)	
	Diesel	Gasoline
Offroad Equipment	331,675	--
Haul Trucks	27,753	--
Vendor Trucks	39,846	--
Workers	--	38,965
<b>Total Fuel Consumption</b>	<b>399,274</b>	<b>38,965</b>

**Construction Duration (years):** 1.78  
**Average Annual Diesel (gal):** 224,900  
**Average Annual Gasoline (gal):** 21,948

**County Fuel Consumption (2019) <sup>1</sup>**

County:

Monterey

Source	Fuel Type	Gallons (Retail + Non-Retail)	Percent of Project Compared to County
Workers	Gas	174,000,000	0.01%
Off-Road/Haul & Vendor Trucks	Diesel	54,166,667	0.42%

**Electric-Powered Construction Equipment**

**Total Electricity Consumption (kWh):** 9,703,076.54  
**Total Electricity Consumption (GWh):** 9.70  
**2019 Monterey County Usage (GWh)<sup>2</sup>:** 1772.56  
**Project Percent of Electricity Sales (%):** 0.55%

Notes:

- California Energy Commission, California Annual Retail Fuel Outlet Report Results (CEC-A15), 2010-2019  
<https://www.energy.ca.gov/sites/default/files/2020-10/2010-2019%20CEC-A15%20Results%20and%20Analysis.xlsx>  
 Accessed April 2021. Diesel is adjusted to account for retail (48%) and non-retail (52%) diesel sales
- California Energy Commission. 2021. Electricity Consumption by County (non-residential) for Monterey County (2019).  
<http://www.ecdms.energy.ca.gov/elecbycounty.aspx>

Off-Road Equipment

Fuel Consumption: Equipment ≤ 100HP		Value
Brake Specific Fuel Consumption Factor (lb/hp-hr) <sup>3</sup>		0.408
Fuel Density (lb/gal) <sup>3</sup>		7.11
Consumption Factor (gal/hp-hr)		0.0574
Total HP-HR <100		36,576
<b>Total Diesel Fuel (gal)</b>		<b>2,099</b>

Fuel Consumption: Equipment > 100HP		Value
Brake Specific Fuel Consumption Factor (lb/hp-hr) <sup>3</sup>		0.367
Fuel Density (lb/gal) <sup>3</sup>		7.11
Consumption Factor (gal/hp-hr)		0.0516
Total HP-HR >100		6,384,078
<b>Total Diesel Fuel (gal)</b>		<b>329,576</b>

Total diesel gallons (off-road equipment): 331,675

Phase Name	Equipment	# of Equipment	Hours/Day	HP	Load Factor	Days	Total HP-HR	
Energy Dissipation - Site Clearing and Grading	Rubber Tired Dozers	1	10	145	0.4	20	11,600.00	
Energy Dissipation - Site Clearing and Grading	Off-Highway Trucks	1	10	214	0.38	20	16,264.00	
Energy Dissipation - Site Clearing and Grading	Tractors/Loaders/Backhoes	1	10	246	0.37	20	18,204.00	
Energy Dissipation - Construct energy dissipation structure	Bore/Drill Rigs	1	10	40	0.5	60	12,000.00	
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	Tractors/Loaders/Backhoes	1	10	513	0.37	20	37,962.00	
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	Tractors/Loaders/Backhoes	1	10	246	0.37	20	18,204.00	
Energy Dissipation - Construct ATV Trail to south portal	Rollers	1	10	25	0.38	30	2,850.00	
Energy Dissipation - Construct ATV Trail to south portal	Tractors/Loaders/Backhoes	2	10	246	0.37	30	54,612.00	
Spillway Modification - Dam stability Investigation of San Antonio Dam	Bore/Drill Rigs	1	10	40	0.5	30	6,000.00	
Spillway Modification - Improve Access Road	Rubber Tired Dozers	1	10	145	0.4	15	8,700.00	
Spillway Modification - Improve Access Road	Off-Highway Trucks	1	10	214	0.38	15	12,198.00	
Spillway Modification - Improve Access Road	Rollers	1	10	25	0.38	15	1,425.00	
Spillway Modification - Improve Access Road	Tractors/Loaders/Backhoes	1	10	246	0.37	15	13,653.00	
Spillway Modification - Site clearing/grading of staging areas	Rubber Tired Dozers	1	10	145	0.4	20	11,600.00	
Spillway Modification - Site clearing/grading of staging areas	Off-Highway Trucks	1	10	214	0.38	20	16,264.00	
Spillway Modification - Site clearing/grading of staging areas	Tractors/Loaders/Backhoes	1	10	246	0.37	20	18,204.00	
Spillway Modification - Removal of existing spillway crest and existing concrete structures	Tractors/Loaders/Backhoes	3	10	513	0.37	60	341,658.00	
Spillway Modification - Removal of existing spillway crest and existing concrete structures	Off-Highway Trucks	3	10	214	0.38	60	146,376.00	
Spillway Modification - Removal of existing spillway crest and existing concrete structures	Tractors/Loaders/Backhoes	3	10	246	0.37	60	163,836.00	
Spillway Modification - Excavation to grade for new spillway walls and structure	Tractors/Loaders/Backhoes	3	10	513	0.37	60	341,658.00	
Spillway Modification - Excavation to grade for new spillway walls and structure	Off-Highway Trucks	3	10	214	0.38	60	146,376.00	
Spillway Modification - Excavation to grade for new spillway walls and structure	Tractors/Loaders/Backhoes	3	10	246	0.37	60	163,836.00	
Spillway Modification - Installation/upgrade of subsurface drainage systems	Tractors/Loaders/Backhoes	1	10	246	0.37	20	18,204.00	
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	Tractors/Loaders/Backhoes	3	10	225	0.37	120	299,700.00	
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	Tractors/Loaders/Backhoes	3	10	246	0.37	120	327,672.00	
Spillway modification - Improvements to spillway chute and connection to new spillway structure	Tractors/Loaders/Backhoes	3	10	225	0.37	80	199,800.00	
Spillway modification - Improvements to spillway chute and connection to new spillway structure	Tractors/Loaders/Backhoes	3	10	246	0.37	80	218,448.00	
Energy Dissipation Structure Tunnel Portal - Improve access road	Rubber Tired Dozers	1	10	145	0.4	15	8,700.00	
Energy Dissipation Structure Tunnel Portal - Improve access road	Off-Highway Trucks	1	10	214	0.38	15	12,198.00	
Energy Dissipation Structure Tunnel Portal - Improve access road	Rollers	1	10	25	0.38	15	1,425.00	
Energy Dissipation Structure Tunnel Portal - Improve access road	Tractors/Loaders/Backhoes	1	10	246	0.37	15	13,653.00	
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Rubber Tired Dozers	1	10	145	0.4	15	8,700.00	
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Off-Highway Trucks	1	10	214	0.38	15	12,198.00	
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	Tractors/Loaders/Backhoes	1	10	246	0.37	15	13,653.00	
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Rubber Tired Dozers	1	10	145	0.4	30	17,400.00	
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Off-Highway Trucks	1	10	214	0.38	30	24,396.00	
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	Tractors/Loaders/Backhoes	1	10	246	0.37	30	27,306.00	
Energy Dissipation Structure Tunnel Portal - install temporary utilities; water, power, sewage handling, communications	Tractors/Loaders/Backhoes	2	10	513	0.37	30	113,886.00	
Energy Dissipation Structure Tunnel Portal - install temporary utilities; water, power, sewage handling, communications	Other Construction Equipment	2	10	220	0.42	30	55,440.00	
Energy Dissipation Structure Tunnel Portal - install temporary utilities; water, power, sewage handling, communications	Off-Highway Trucks	2	10	214	0.38	30	48,792.00	
Energy Dissipation Structure Tunnel Portal - install temporary utilities; water, power, sewage handling, communications	Tractors/Loaders/Backhoes	2	10	246	0.37	30	54,612.00	
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Tractors/Loaders/Backhoes	1	8	513	0.37	20	30,366.00	
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Other Construction Equipment	1	8	220	0.42	20	14,784.00	
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Rubber Tired Dozers	1	8	145	0.4	20	9,280.00	
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Excavators	1	8	100	0.38	20	6,080.00	
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Off-Highway Trucks	2	8	214	0.38	20	26,024.00	
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	Tractors/Loaders/Backhoes	2	8	246	0.37	20	29,126.40	
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Cranes	1	10	130	0.29	30	11,310.00	
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Cranes	1	10	152	0.29	30	13,224.00	
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Welders	1	10	100	0.45	30	13,500.00	
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	Tractors/Loaders/Backhoes	1	10	246	0.37	30	27,306.00	
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and transport to site	Tractors/Loaders/Backhoes	1	8	246	0.37	200	145,632.00	
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Cranes	1	20	1325	0.29	30	230,550.00	
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Cranes	1	20	265	0.29	30	46,110.00	
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Cranes	1	20	152	0.29	30	26,448.00	
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Welders	1	20	100	0.45	30	27,000.00	
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	Tractors/Loaders/Backhoes	1	20	246	0.37	30	54,612.00	
Tunneling - Drive 100' of tunnel at 20 fpd	Cranes	1	20	1325	0.29	5	38,425.00	
Tunneling - Drive 100' of tunnel at 20 fpd	Cranes	1	20	265	0.29	5	7,685.00	
Tunneling - Drive 100' of tunnel at 20 fpd	Cranes	1	20	152	0.29	5	4,408.00	
Tunneling - Drive 100' of tunnel at 20 fpd	Welders	1	20	100	0.45	5	4,500.00	
Tunneling - Drive 100' of tunnel at 20 fpd	Tractors/Loaders/Backhoes	1	20	246	0.37	5	9,102.00	
Tunneling - Tunnel excavation and support @ 60' per day	Other Material Handling Equipment	4	24	0	0.4	180	0.00	
Tunneling - Tunnel excavation and support @ 60' per day	Other Material Handling Equipment	1	24	250	0.4	180	432,000.00	
Tunneling - Tunnel excavation and support @ 60' per day	Cranes	1	24	152	0.29	180	190,425.60	
Tunneling - Tunnel excavation and support @ 60' per day	Other Material Handling Equipment	2	24	120	0.4	180	414,720.00	
Tunneling - Tunnel excavation and support @ 60' per day	Off-Highway Trucks	2	8	214	0.38	180	234,201.60	
Tunneling - Tunnel excavation and support @ 60' per day	Other Material Handling Equipment	18	24	0	0.4	180	0.00	
Tunneling - Tunnel excavation and support @ 60' per day	Tractors/Loaders/Backhoes	1	24	246	0.37	180	393,206.40	
Tunneling - TBM trailing gear and plant removal	Cranes	1	20	265	0.29	30	46,110.00	
Tunneling - TBM trailing gear and plant removal	Skid Steer Loaders	1	24	40	0.37	30	10,656.00	
Tunneling - TBM trailing gear and plant removal	Other Material Handling Equipment	1	24	600	0.4	30	172,800.00	
Tunneling - TBM trailing gear and plant removal	Cranes	1	24	130	0.29	30	27,144.00	
Tunneling - TBM trailing gear and plant removal	Other Material Handling Equipment	1	24	120	0.4	30	34,560.00	
Tunneling - TBM trailing gear and plant removal	Other Material Handling Equipment	1	24	180	0.4	30	51,840.00	
Tunneling - TBM trailing gear and plant removal	Welders	1	24	100	0.45	30	32,400.00	
Tunneling - TBM trailing gear and plant removal	Tractors/Loaders/Backhoes	3	24	246	0.37	30	196,603.20	
Tunneling - Tunnel punch list/clearing	Skid Steer Loaders	1	10	40	0.37	15	2,220.00	
Tunneling - Tunnel punch list/clearing	Tractors/Loaders/Backhoes	1	10	246	0.37	15	13,653.00	
Tunneling - Muck disposal on site/grading	Rubber Tired Dozers	1	10	145	0.4	180	104,400.00	
Tunneling - Muck disposal on site/grading	Off-Highway Trucks	1	10	214	0.38	180	146,376.00	
Tunneling - Muck disposal on site/grading	Tractors/Loaders/Backhoes	1	10	246	0.37	180	163,836.00	
Tunneling - Demobilization tunnel plant	Tractors/Loaders/Backhoes	1	8	246	0.37	30	21,844.80	
							<b>Total equip. &gt;100HP</b>	<b>6,384,078.00</b>
							<b>Total equip. &lt;100HP</b>	<b>36,576.00</b>

Notes:

- 1. CARB, 2017 Off-road Diesel Emission Factors
- [https://ww3.arb.ca.gov/mse/ordiesel/ordas\\_ef\\_fc\\_2017\\_v7.xlsx](https://ww3.arb.ca.gov/mse/ordiesel/ordas_ef_fc_2017_v7.xlsx)

**Electricity Consumption from Electric-Powered Equipment**

Phase	Start Date	Equipment Name	Category	Year	Days	Hours per day	Number	Fuel Type	Horsepower	Kilowatts	Kilowatt Hours (day)	Kilowatt Hours (total)
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust	12/11/2023	Compressor, Stationary 1200cfm	Air Compressors	2023.00	30.00	20.00	1.00	Electric	350.00	260.99	5219.90	156596.97
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust	12/11/2023	EPBM and Backup 14'9"	Bore/Drill Rigs	2023.00	30.00	20.00	1.00	Electric	1800.00	1342.26	26845.20	805355.86
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	Compressor, Stationary 1200cfm	Air compressors	2024.00	5.00	20.00	1.00	Electric	350.00	260.99	5219.90	26099.50
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	EPBM and Backup 14'9"	Bore/Drill Rigs	2024.00	5.00	20.00	1.00	Electric	1800.00	1342.26	26845.20	134225.98
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Compressor, Stationary 1200cfm	Air compressors	2024.00	180.00	24.00	1.00	Electric	350.00	260.99	6263.88	1127498.20
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	EPBM and Backup 14'9"	Bore/Drill Rigs	2024.00	180.00	24.00	1.00	Electric	1800.00	1342.26	32214.23	5798562.19
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Pump, trash 200gpm/100ft head	Other General Industrial Equipment	2024.00	180.00	24.00	1.00	Electric	10.00	7.46	178.97	32214.23
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Ventilation Fan 100hp	Other General Industrial Equipment	2024.00	180.00	24.00	2.00	Electric	100.00	74.57	3579.36	644284.69
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Ventilation Fan 40hp	Other General Industrial Equipment	2024.00	180.00	24.00	1.00	Electric	40.00	29.83	715.87	128856.94
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Water Treatment Plant	Other General Industrial Equipment	2024.00	180.00	24.00	1.00	Electric	200.00	149.14	3579.36	644284.69
Tunneling - TBM trailing gear and plant removal	10/7/2024	Compressor, Stationary 1200cfm	Air Compressors	2024.00	15.00	24.00	1.00	Electric	350.00	260.99	6263.88	93958.18
Tunneling - TBM trailing gear and plant removal	10/7/2024	Pump, subm. 140gpm/20ft head	Other Construction Equipment	2024.00	15.00	24.00	2.00	Electric	2.00	1.49	71.59	1073.81
Tunneling - TBM trailing gear and plant removal	10/7/2024	Pump, trash 200gpm/100ft head	Other Construction Equipment	2024.00	15.00	24.00	1.00	Electric	10.00	7.46	178.97	2684.52
Tunneling - TBM trailing gear and plant removal	10/7/2024	Ventilation Fan 100hp	Other Construction Equipment	2024.00	15.00	24.00	2.00	Electric	100.00	74.57	3579.36	53690.39
Tunneling - TBM trailing gear and plant removal	10/7/2024	Water Treatment Plant	Other Construction Equipment	2024.00	15.00	24.00	1.00	Electric	200.00	149.14	3579.36	53690.39
<b>Total</b>											<b>9703076.54</b>	

Notes:

1. Assumed a direct relationship of 1 hp = 0.7457 kw

Haul Trucks - Monterey County

Onroad Travel Consumption	Value
EMFAC2021 Diesel Fuel Consumption Factor (gal/mi): <sup>1</sup>	0.1718
Total VMT (mi):	160,246
<b>Total diesel gallons</b>	<b>27,538</b>
Idling Consumption	Value
Idling Fuel Consumption Factor (gal/hr): <sup>2</sup>	0.6400
Total Idle-Hours per Year:	933
<b>Total diesel gallons</b>	<b>215</b>

**Total diesel gallons: 27,753**

Phase	Days/year	Truck Trips per Day (In/Out)	Trip Length (onsite +offsite) [miles]	Vehicle Category	VMT	Idle Hours
Energy Dissipation - Site Clearing and Grading	20	94	1.45	HHDT	2,726	157
Energy Dissipation - Construct energy dissipation structure	60	0	1.45	HHDT	0	0
Energy Dissipation - Construct connection between tunnel and En	20	4	28.45	HHDT	2,276	7
Energy Dissipation - Re-vegetation and site demob	30	16	21.45	HHDT	10,296	40
Energy Dissipation - Construct ATV Trail to south portal	30	0	1.45	HHDT	0	0
Spillway modification - Dam stability investigation of San Antonio I	30	0	0.34	HHDT	0	0
Spillway modification - Improve access road	15	0	0.34	HHDT	0	0
Spillway modification - Site clearing/grading of staging areas	20	0	0.34	HHDT	0	0
Spillway modification - Installation of erosion control/silt fencing	10	0	0.34	HHDT	0	0
Spillway modification - Removal of existing spillway crest and exist	60	2	0.34	HHDT	41	10
Spillway modification - Excavation to grade for new spillway walls	60	140	1.07	HHDT	9,001	700
Spillway modification - Installation/upgrade of subsurface drainag	20	0	0.34	HHDT	0	0
Spillway modification - Construction of new spillway structure, wa	120	20	21.07	HHDT	50,572	200
Spillway modification - Improvements to spillway chute and conne	80	76	1.07	HHDT	6,515	507
Spillway modification - Site cleanup and demobilization	20	4	28.07	HHDT	2,246	7
Energy Dissipation Structure Tunnel Portal - Improve access road	15	54	22.18	HHDT	17,966	68
Energy Dissipation Structure Tunnel Portal - site clearing and grubl	15	0	1.45	HHDT	0	0
Energy Dissipation Structure Tunnel Portal - Install erosion/sedime	15	0	1.45	HHDT	0	0
Energy Dissipation Structure Tunnel Portal - Site grading, staging, l	30	0	1.45	HHDT	0	0
Energy Dissipation Structure Tunnel Portal - Install temporary utili	30	0	1.45	HHDT	0	0
Energy Dissipation Structure Tunnel Portal - Portal excavation and	20	0	1.45	HHDT	0	0
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equip	30	4	28.45	HHDT	3,414	10
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tun	200	4	28.45	HHDT	22,760	67
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equi	30	0	1.45	HHDT	0	0
Tunneling - Drive 100' of tunnel at 20 fpd	5	0	1.45	HHDT	0	0
Tunneling - Tunnel excavation and support @ 60' per day	180	6	28.45	HHDT	30,726	90
Tunneling - TBM trailing gear and plant removal	30	0	1.45	HHDT	0	0
Tunneling - Tunnel punch list/clearing	15	0	1.45	HHDT	0	0
Tunneling - Muck disposal on site/grading	180	0	1.45	HHDT	0	0
Tunneling - Demobilization tunnel plant	30	2	28.45	HHDT	1,707	5
				<b>Total VMT:</b>	<b>160,246</b>	
				<b>Total Idle-Hours:</b>		<b>933</b>

1. CARB, EMFAC2021 (Monterey County; HHDT/MHDT; Annual; CY 2023; Aggregate MY; Aggregate Speed,DSL)  
 2. Department of Energy, Fact #861, 2015 Idle Fuel Consumption for Selected Gasoline and Diesel Vehicles, February 23, 2015.  
<https://www.energy.gov/eere/vehicles/fact-861-february-23-2015-idle-fuel-consumption-selected-gasoline-and-diesel-vehicles>

Vendor Trucks - Monterey County Portion of Project

Onroad Travel Consumption	Value
EMFAC2021 Diesel Fuel Consumption Factor (gal/mi): <sup>1</sup>	0.1535
Total VMT (mi):	258,891
<b>Total diesel gallons</b>	<b>39,729</b>
Idling Consumption	Value
Idling Fuel Consumption Factor (gal/hr): <sup>2</sup>	0.6400
Total Idle-Hours per Year:	507
<b>Total diesel gallons</b>	<b>117</b>

**Total diesel gallons: 39,846**

Phase	Days/year	Vendor Truck Trips per Day (In/Out)	Trip Length [miles]	Vehicle Category	VMT	Idle Hours
Energy Dissipation - Site Clearing and Grading	20	2	21.45	HHDT/MHDT	858	3
Energy Dissipation - Construct energy dissipation structure	60	6	21.45	HHDT/MHDT	7,722	30
Energy Dissipation - Construct connection between tunnel and En	20	8	21.45	HHDT/MHDT	3,432	13
Energy Dissipation - Re-vegetation and site demob	30	2	21.45	HHDT/MHDT	1,287	5
Energy Dissipation - Construct ATV Trail to south portal	30	10	21.45	HHDT/MHDT	6,435	25
Spillway modification - Dam stability investigation of San Antonio I	30	8	21.07	HHDT/MHDT	5,057	20
Spillway modification - Improve access road	15	2	21.07	HHDT/MHDT	632	3
Spillway modification - Site clearing/grading of staging areas	20	2	21.07	HHDT/MHDT	843	3
Spillway modification - Installation of erosion control/silt fencing	10	10	21.07	HHDT/MHDT	2,107	8
Spillway modification - Removal of existing spillway crest and exist	60	8	21.07	HHDT/MHDT	10,114	40
Spillway modification - Excavation to grade for new spillway walls	60	8	21.07	HHDT/MHDT	10,114	40
Spillway modification - Installation/upgrade of subsurface drainag	20	8	21.07	HHDT/MHDT	3,371	13
Spillway modification - Construction of new spillway structure, wa	120	24	21.07	HHDT/MHDT	60,686	240
Spillway modification - Improvements to spillway chute and conne	80	8	21.07	HHDT/MHDT	13,486	53
Spillway modification - Site cleanup and demobilization	20	4	21.07	HHDT/MHDT	1,686	7
Energy Dissipation Structure Tunnel Portal - Improve access road	15	2	21.45	HHDT/MHDT	644	3
Energy Dissipation Structure Tunnel Portal - site clearing and grubl	15	2	21.45	HHDT/MHDT	644	3
Energy Dissipation Structure Tunnel Portal - Install erosion/sedime	15	2	21.45	HHDT/MHDT	644	3
Energy Dissipation Structure Tunnel Portal - Site grading, staging, l	30	2	21.45	HHDT/MHDT	1,287	5
Energy Dissipation Structure Tunnel Portal - Install temporary utili	30	8	21.45	HHDT/MHDT	5,148	20
Energy Dissipation Structure Tunnel Portal - Portal excavation and	20	8	21.45	HHDT/MHDT	3,432	13
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equip	30	8	21.45	HHDT/MHDT	5,148	20
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tun	200	8	21.45	HHDT/MHDT	34,320	133
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equi	30	0	21.45	HHDT/MHDT	0	0
Tunneling - Drive 100' of tunnel at 20 fpd	5	0	21.45	HHDT/MHDT	0	0
Tunneling - Tunnel excavation and support @ 60' per day	180	10	21.45	HHDT/MHDT	38,610	150
Tunneling - TBM trailing gear and plant removal	30	0	21.45	HHDT/MHDT	0	0
Tunneling - Tunnel punch list/clearing	15	8	21.45	HHDT/MHDT	2,574	10
Tunneling - Muck disposal on site/grading	180	10	21.45	HHDT/MHDT	38,610	150
Tunneling - Demobilization tunnel plant	30	0	21.45	HHDT/MHDT	0	0
<b>Total VMT:</b>					<b>258,891</b>	
<b>Total Idle-Hours:</b>						<b>507</b>

1. CARB, EMFAC2021 (Monterey County; HHDT/MHDT; Annual; CY 2023; Aggregate MY; Aggregate Speed,DSL)  
 2. Department of Energy, Fact #861, 2015 Idle Fuel Consumption for Selected Gasoline and Diesel Vehicles, February 23, 2015.  
<https://www.energy.gov/eere/vehicles/fact-861-february-23-2015-idle-fuel-consumption-selected-gasoline-and-diesel-vehicles>



Workers

Onroad Travel Consumption	Value
EMFAC2021 Gasoline Fuel Consumption Factor (gal/mi): <sup>1</sup>	0.0377
Total VMT (mi):	1,034,363
<b>Total gasoline gallons</b>	<b>38,965</b>

Phase	Days/year	Vehicle Trips per day (In/Out)	Trip Length (onsite +offsite) [miles]	Vehicle Category	VMT
Energy Dissipation - Site Clearing and Grading	20	10	21.45	LD Fleet Mix	4,290
Energy Dissipation - Construct energy dissipation structure	60	6	21.45	LD Fleet Mix	7,722
Energy Dissipation - Construct connection between tunnel and Energy	20	6	21.45	LD Fleet Mix	2,574
Energy Dissipation - Re-vegetation and site demob	30	8	21.45	LD Fleet Mix	5,148
Energy Dissipation - Construct ATV Trail to south portal	30	10	21.45	LD Fleet Mix	6,435
Spillway modification - Dam stability investigation of San Antonio Dam	30	8	21.07	LD Fleet Mix	5,057
Spillway modification - Improve access road	15	8	21.07	LD Fleet Mix	2,529
Spillway modification - Site clearing/grading of staging areas	20	10	21.07	LD Fleet Mix	4,214
Spillway modification - Installation of erosion control/silt fencing	10	6	21.07	LD Fleet Mix	1,264
Spillway modification - Removal of existing spillway crest and existing i	60	24	21.07	LD Fleet Mix	30,343
Spillway modification - Excavation to grade for new spillway walls and	60	24	21.07	LD Fleet Mix	30,343
Spillway modification - Installation/upgrade of subsurface drainage sy:	20	8	21.07	LD Fleet Mix	3,371
Spillway modification - Construction of new spillway structure, walls ai	120	20	21.07	LD Fleet Mix	50,572
Spillway modification - Improvements to spillway chute and connectio	80	20	21.07	LD Fleet Mix	33,715
Spillway modification - Site cleanup and demobilization	20	8	21.07	LD Fleet Mix	3,371
Energy Dissipation Structure Tunnel Portal - Improve access road	15	10	21.45	LD Fleet Mix	3,218
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	15	8	21.45	LD Fleet Mix	2,574
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment c	15	8	21.45	LD Fleet Mix	2,574
Energy Dissipation Structure Tunnel Portal - Site grading, staging, layd	30	10	21.45	LD Fleet Mix	6,435
Energy Dissipation Structure Tunnel Portal - Install temporary utilities;	30	6	21.45	LD Fleet Mix	3,861
Energy Dissipation Structure Tunnel Portal - Portal excavation and sup	20	8	21.45	LD Fleet Mix	3,432
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipmer	30	8	21.45	LD Fleet Mix	5,148
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel	200	0	21.45	LD Fleet Mix	0
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipme	30	10	21.45	LD Fleet Mix	6,435
Tunneling - Drive 100' of tunnel at 20 fpd	5	146	21.45	LD Fleet Mix	15,659
Tunneling - Tunnel excavation and support @ 60' per day	180	114	21.45	LD Fleet Mix	440,154
Tunneling - TBM trailing gear and plant removal	30	56	21.45	LD Fleet Mix	36,036
Tunneling - Tunnel punch list/clearing	15	0	21.45	LD Fleet Mix	0
Tunneling - Muck disposal on site/grading	180	78	21.45	LD Fleet Mix	301,158
Tunneling - Demobilization tunnel plant	30	26	21.45	LD Fleet Mix	16,731
				<b>Total VMT:</b>	<b>1,034,363</b>

1. CARB, EMFAC2021 (Monterey County; LDA/LDT1/LDT2; Annual; CY 2023; Aggregate MY; Aggregate Speed,GSL)  
 2. Department of Energy, Fact #861, 2015 Idle Fuel Consumption for Selected Gasoline and Diesel Vehicles, February 23, 2015.  
<https://www.energy.gov/eere/vehicles/fact-861-february-23-2015-idle-fuel-consumption-selected-gasoline-and-diesel-vehicles>

**Idling Fuel Consumption Factors**

Column1	Column2	Column3	Column4	Column5
VEHICLE TYPE	FUEL TYPE	ENGINE SIZE (LITER)	GROSS VEHICLE WEIGHT (GVW) (LBS)	IDLING FUEL USE (GAL/HR WITH NO LOAD)
Compact Sedan	Gas	2	-	0.16
Large Sedan	Gas	4.6	-	0.39
Compact Sedan	Diesel	2	-	0.17
Medium Heavy Truck	Gas	7-May	19,700-26,000	0.84
Delivery Truck	Diesel	-	19,500	0.84
Tow Truck	Diesel	-	26,000	0.59
Medium Heavy Truck	Diesel	10-Jun	23,000-33,000	0.44
Transit Bus	Diesel	-	30,000	0.97
Combination Truck	Diesel	-	32,000	0.49
Bucket Truck	Diesel	-	37,000	0.9
Tractor-Semitrailer	Diesel	-	80,000	0.64

Department of Energy, Fact #861, 2015 Idle Fuel Consumption for Selected Gasoline and Diesel Vehicles, February 23, 2015.

<https://www.energy.gov/eere/vehicles/fact-861-february-23-2015-idle-fuel-consumption-selected-gasoline-and-diesel-vehicles>

This tool provides a quick estimation of the fuel use and emissions for your equipment in a specific year. The results may slightly differ from those from the official inventory model.

**Instructions:**

Enter the horsepower, model year, and other details about your equipment in the Input box. Make sure to update the **load factor** for your equipment using the lookup table. The **Output** box gives a quick estimation of the fuel use, NOx, PM, and THC emission for your equipment.

Input	Input Engine Here
Horsepower (hp)	70
Model year	2011
Calendar year	2015
Activity (annual hours)	250
Accumulated hours on equipment (estimate using annual-hours*age if you only know the age of the equipment)	1000
Load factor (check the lookup table)	0.2

Results	
Fuel Used (gallon)	201
NOx Emissions (kg)	9.8
PM Emissions (kg)	0.5
THC Emissions (kg)	0.4
CO2 Emissions (kg)	2050.9

NOx Emission Factor (including deterioration and fuel correction factor): gram/bhp-hr	2.79
PM Emission Factor (including deterioration and fuel correction factor): gram/bhp-hr	0.15
THC Emission Factor (including deterioration and fuel correction factor): gram/ bhp-hr	0.11

Intermediate steps	
HPbin	75
NOx_EFO	2.90
NOx_DR	3.8E-05
NOx_FCF	0.950
PM_EFO	0.16
PM_DR	1.2E-05
PM_FCF	0.90
THC_EFO	0.10
THC_DR	2.5E-05
THC_FCF	0.90
NOx_EF (g/hp-hr)	2.79
PM_EF (g/hp-hr)	0.15
THC_EF (g/hp-hr)	0.11
CO2_EF (kg/gallon-diesel)*	10.21
BSFC (lb/hp-hr)	0.408
Unit conversion (lb/gallon)	7.109

\*Reference: [www.epa.gov/sites/production/files/2015-07/documents/emission-factors\\_2014.pdf](http://www.epa.gov/sites/production/files/2015-07/documents/emission-factors_2014.pdf)

Loac Factor Lookup Table			
Equipment Category	Equipment Type	Details	Load Factor
Agriculture equipment	Agricultural tractors		0.48
	Combine harvesters		0.44
	Forage & silage harvesters		0.44
	Cotton pickers		0.44
	Nut harvester		0.44
	Other harvesters		0.44
	Balers (self propelled)		0.50
	Bale wagons (self propelled)		0.50
	Swathers/windrowers/hay conditioners		0.48
	Hay Squeeze/Stack retriever		0.42
	Sprayers/Spray rigs		0.42
	Construction equipment		0.40
	Other non-mobile		0.48
	Forklifts		0.40
	Atvs		0.40
Others		0.40	
Portable equipment	All portable equipment		0.31
Cargo Handling Equipment	Construction equipment		0.55
	Container handling equipment		0.59
	Forklift		0.30
	Other general industrial equipment		0.51
	Rtg crane		0.20
Yard tractor		0.39	
Transport Refrigeration Units (TRU)	TRU on trailers	25 HP and over, MY2012 and Older	0.46
	TRU on trailers	25 HP and over, MY2013 and Newer	0.38
	TRU on trailers	23 HP and Over, below 25 HP, All years	0.46
	TRU on trucks	Below 23 HP, All Model years	0.56
	TRU on railcars	25 HP and over, MY2012 and Older	0.33
	TRU on railcars	25 HP and over, MY2013 and Newer	0.27
	TRU on railcars	Below 25 HP, All Model years	0.33
	TRU with generators	25 HP and over, MY2012 and Older	0.46
	TRU with generators	25 HP and Over, MY2013 and Newer	0.38
TRU with generators	23 HP and Over, below 25 HP, All Model Years	0.46	
Ground Support Equipment	Passenger Stand		0.40
	A/C Tug Narrow Body		0.54
	A/C Tug Wide Body		0.54
	Baggage Tug		0.37
	Belt Loader		0.34
	Bobtail		0.37
	Cargo Loader		0.34
	Cargo Tractor		0.36
	Forklift (GSE)		0.20
	Lift (GSE)		0.34
Other GSE		0.34	
Construction and Industrial Equipment	Cranes		0.29
	Crawler Tractors		0.43
	Excavators		0.38
	Graders		0.41
	Off-Highway Tractors		0.44
	Off-Highway Trucks		0.38
	Other Construction Equipment		0.42
	Pavers		0.42
	Paving Equipment		0.36
	Rollers		0.38
	Rough Terrain Forklifts		0.40
	Rubber Tired Dozers		0.40
	Rubber Tired Loaders		0.36
	Scrapers		0.48
	Skid Steer Loaders		0.37
	Surfacing Equipment		0.30
	Tractors/Loaders/Backhoes		0.37
	Trenchers		0.50
	Aerial Lifts		0.31
	Forklifts		0.20
Other General Industrial Equipment		0.34	
Other Material Handling Equipment		0.40	
Sweepers/Scrubbers		0.46	
Oil and Drill Rigs	Drill Rig (Mobile)		0.50
	Workover Rig (Mobile)		0.50
	Bore/Drill Rigs		0.50

PhaseName	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024		20
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024		60
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024		20
Energy Dissipation - Re-vegetation and site demob	12/16/2024	1/24/2025		30
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023		30
Spillway modification - Dam stability investigation of San Antonio Dam	4/17/2023	5/26/2023		30
Spillway modification - Improve access road	8/21/2023	9/8/2023		15
Spillway modification - Site clearing/grading of staging areas	9/11/2023	10/6/2023		20
Spillway modification - Installation of erosion control/silt fencing	9/11/2023	9/22/2023		10
Spillway modification - Removal of existing spillway crest and existing concrete structures	11/6/2023	1/26/2024		60
Spillway modification - Excavation to grade for new spillway walls and structure	1/29/2024	4/19/2024		60
Spillway modification - Installation/upgrade of subsurface drainage systems	3/25/2024	4/19/2024		20
Spillway modification - Construction of new spillway structure, walls and labyrinth controls structure	4/22/2024	10/4/2024		120
Spillway modification - Improvements to spillway chute and connection to new spillway structure	6/17/2024	10/4/2024		80
Spillway modification - Site cleanup and demobilization	10/7/2024	11/1/2024		20
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023		15
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023		15
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/2023	8/18/2023		15
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023		30
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communicat	10/2/2023	11/10/2023		30
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023		20
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023		30
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024		200
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024		30
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024		5
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024		180
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024		30
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023		15
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024		180
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024		30

**Retail Gasoline Sales by County**

(Millions of Gallons)

County	2010		2011		2012 <sup>a</sup>		2013 <sup>a</sup>		2014 <sup>a</sup>		2015 <sup>a</sup>		2016 <sup>a</sup>		2017 <sup>#</sup>		2018 <sup>#</sup>		2019 <sup>#</sup>	
	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals
Alameda	456	551	476	548	480	568	473	603	341	491	432	542	518	582	521	583	495	569	505	591
Amador	12	15	12	14	12	14	10	12	11	15	10	13	12	14	13	15	14	17	16	18
Butte	66	81	70	81	66	78	64	81	59	85	62	78	74	83	78	87	75	86	62	78
Calaveras	11	14	12	14	10	12	10	13	10	14	11	14	13	15	14	15	13	15	14	15
Colusa	13	17	9	11	8	10	10	13	7	10	7	9	10	11	11	12	11	13	11	13
Contra Costa	332	403	344	395	354	419	331	422	272	392	303	380	384	431	385	430	346	397	374	427
Del Norte	6	8	6	7	6	7	4	5	5	7	5	6	6	7	6	7	6	7	4	6
El Dorado	55	68	57	67	64	75	56	72	36	52	65	81	72	81	73	82	66	76	64	74
Fresno	285	342	290	335	288	341	269	344	209	300	264	331	318	358	328	367	320	368	306	376
Glenn	12	14	12	14	11	12	11	14	11	16	13	16	15	17	17	18	15	17	14	18
Humboldt	44	54	46	54	45	53	51	64	31	44	47	59	54	61	49	55	51	58	42	53
Imperial	56	69	51	60	46	54	46	58	58	83	63	79	77	86	74	83	78	89	73	86
Inyo	16	19	16	18	13	16	12	16	12	17	14	18	16	18	16	18	16	18	14	17
Kern	293	362	309	359	301	356	287	367	267	384	299	375	362	407	349	390	345	396	340	392
Kings	42	51	41	48	40	47	38	49	31	45	41	51	50	57	54	60	52	60	67	76
Lake	20	25	18	22	17	20	19	24	17	25	19	23	19	21	19	21	20	23	18	24
Lassen	6	7	6	7	5	6	5	6	6	8	7	9	7	8	5	6	4	5	5	7
Los Angeles	3,005	3,658	3,069	3,554	2,916	3,451	2,700	3,445	2,606	3,749	2,762	3,465	3,184	3,577	3,272	3,659	3,169	3,638	3,189	3,559
Madera	47	57	54	61	44	53	43	54	31	45	35	44	52	59	56	62	49	57	44	62
Marin	78	94	91	103	91	107	83	106	52	75	83	105	91	102	90	101	71	82	86	96
Mariposa	6	7	6	7	5	6	4	5	6	5	5	6	7	8	5	6	6	7	7	8
Mendocino	33	41	34	40	36	43	33	42	28	40	32	40	37	42	34	38	35	40	27	44
Merced	86	106	81	95	78	92	74	94	58	83	84	105	101	114	105	117	115	132	100	119
Mono	6	7	5	6	2	2	6	8	6	8	6	7	7	8	5	5	6	7	7	8
Monterey	124	152	134	155	124	147	139	177	87	126	147	184	157	177	155	174	157	181	148	174
Napa	42	52	42	47	49	58	41	52	27	39	50	63	50	57	47	53	53	61	54	57
Nevada	34	42	30	35	29	34	19	25	19	27	31	40	36	40	35	39	33	38	29	39
Orange	1,162	1,406	1,162	1,338	1,145	1,355	1,044	1,332	1,018	1,465	1,092	1,370	1,224	1,375	1,236	1,382	1,222	1,402	1,198	1,325
Placer	154	190	162	189	162	192	131	167	118	170	167	209	181	204	182	203	179	206	177	198
Plumas	6	7	7	8	6	7	3	4	5	8	5	6	5	6	5	6	5	6	5	6
Riverside	781	952	792	916	756	895	725	925	702	1,010	828	1,039	921	1,035	941	1,052	916	1,052	921	1,046
Sacramento	467	566	482	553	473	560	446	568	308	442	465	584	534	600	535	599	511	586	536	600
San Benito	15	18	14	16	17	20	5	7	10	14	12	15	15	17	18	20	15	17	12	21
San Bernardino	747	902	761	871	742	878	697	889	659	948	725	909	899	1,010	888	993	862	990	851	977
San Diego	1,094	1,320	1,122	1,291	1,079	1,277	972	1,241	1,352	1,277	1,123	1,408	1,221	1,372	1,231	1,377	1,208	1,387	1,197	1,325
San Francisco	112	138	129	151	126	149	126	161	71	102	107	134	119	134	120	134	105	120	107	118
San Joaquin	248	303	260	301	253	299	254	312	217	312	287	360	303	340	310	347	293	336	289	352
San Luis Obispo	121	147	123	144	105	124	109	140	101	145	117	147	127	142	127	142	131	150	125	138
San Mateo	232	275	272	310	258	306	244	311	159	229	243	304	289	325	291	326	264	304	293	322
Santa Barbara	141	174	140	164	140	166	135	172	124	178	148	186	161	181	152	170	167	191	166	177
Santa Clara	514	621	600	691	589	697	546	696	460	661	580	727	638	717	613	685	560	643	614	713
Santa Cruz	84	103	91	106	89	105	79	101	53	77	77	96	85	95	84	94	78	90	72	90
Shasta	72	88	73	85	77	91	65	83	55	79	76	95	73	82	83	92	76	87	72	82
Siskiyou	20	25	17	19	19	23	9	12	10	14	21	27	24	27	26	29	25	28	26	27
Solano	158	190	191	218	180	213	158	202	116	167	160	201	187	210	194	217	188	216	182	216
Sonoma	157	189	155	178	160	189	146	208	163	210	160	201	186	209	186	208	167	192	169	204
Stanislaus	191	230	184	212	173	205	144	183	159	229	201	252	217	244	227	253	212	244	196	245
Sutter	30	37	31	37	34	40	33	42	17	24	30	38	35	39	35	39	35	40	27	38
Tehama	27	33	24	28	23	27	19	24	18	26	24	30	25	29	26	29	27	31	28	30
Trinity	3	4	3	4	1	2	3	4	3	4	3	4	4	5	4	5	4	4	2	4
Tulare	109	132	121	139	120	142	91	116	107	155	114	143	136	152	149	167	147	168	144	174
Tuolumne	14	17	13	16	15	18	12	15	14	21	18	23	21	23	22	25	22	25	21	23
Ventura	285	345	290	335	262	310	246	314	249	358	256	321	294	330	302	338	298	342	297	329
Yolo	82	100	76	87	74	87	75	96	63	90	82	103	98	110	101	113	96	110	97	114
Yuba	24	29	26	30	22	26	23	30	14	20	24	30	32	36	30	34	40	46	27	32
Other Counties <sup>*</sup>	2	3	2	2	1	2	1	1	1	2	2	2	2	2	2	2	1	1	2	2
<b>Total</b>	<b>12,238</b>	<b>14,860</b>	<b>12,644</b>	<b>14,596</b>	<b>12,241</b>	<b>14,486</b>	<b>11,396</b>	<b>14,540</b>	<b>10,220</b>	<b>14,701</b>	<b>12,044</b>	<b>15,108</b>	<b>13,785</b>	<b>15,491</b>	<b>13,936</b>	<b>15,584</b>	<b>13,475</b>	<b>15,471</b>	<b>13,473</b>	<b>15,365</b>

<sup>a</sup> 2012 to 2019 data are not directly comparable to other years since an improved methodology is used, but is within 5 percent compared to the previous methodology.

<sup>\*</sup> Other Counties include Alpine, Modoc and Sierra.

Source: <https://www.energy.ca.gov/media/3874>

**Retail Diesel Sales by County**

(Millions of Gallons)

County	2010		2011		2012#		2013#		2014#		2015#		2016#		2017#		2018#		2019#	
	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals
Alameda	29	32	26	28	30	36	27	34	19	27	38	49	47	54	51	58	56	62	48	55
Amador	2	2	2	2	2	2	1	2	1	2	1	2	2	2	2	2	2	3	3	3
Butte	9	10	9	10	7	9	8	10	8	10	9	11	11	13	11	13	12	13	12	15
Calaveras	2	2	2	2	2	2	1	2	1	2	2	2	3	3	3	3	2	3	3	3
Colusa	3	3	2	3	4	5	4	5	2	4	3	4	4	4	2	3	4	4	7	7
Contra Costa	15	18	19	21	17	20	17	21	12	17	19	24	23	26	24	28	31	34	24	27
Del Norte	1	2	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	1	2
El Dorado	6	8	6	7	6	7	5	6	4	6	7	9	8	9	8	10	8	9	8	10
Fresno	30	33	35	38	33	40	23	29	18	25	39	50	40	46	40	45	46	51	39	49
Glenn	5	5	4	4	4	5	4	5	4	5	5	6	12	14	16	19	16	17	18	19
Humboldt	10	12	10	12	10	12	11	14	4	5	10	13	13	14	8	9	7	8	6	7
Imperial	9	10	8	9	7	8	8	10	8	11	9	11	14	16	11	12	20	22	21	25
Inyo	3	4	3	4	2	2	3	4	3	3	3	4	3	4	3	4	3	3	3	4
Kern	111	117	125	129	133	158	118	148	124	171	125	160	131	149	107	121	97	108	96	105
Kings	7	7	7	8	7	9	5	6	4	6	7	9	5	6	7	7	8	9	8	9
Lake	3	3	3	3	2	2	2	3	2	3	3	3	1	1	3	3	3	4	3	4
Lassen	1	1	1	2	1	1	1	1	1	2	3	3	4	4	1	1	1	1	1	2
Los Angeles	212	235	221	239	205	245	190	239	194	267	257	328	273	309	267	301	228	253	246	276
Madera	23	24	23	24	24	28	18	23	22	31	26	33	28	31	29	33	28	31	23	24
Marin	3	4	2	3	3	3	2	3	2	2	2	3	4	4	4	4	3	3	4	4
Mariposa	1	1	1	1	1	1	-	1	2	2	1	1	1	1	1	1	1	1	1	1
Mendocino	6	7	7	8	7	9	6	6	4	5	6	7	9	10	6	6	5	6	5	8
Merced	44	45	37	38	46	55	49	62	49	68	54	69	59	66	38	42	35	39	28	36
Mono	1	1	1	1	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Monterey	21	23	24	26	25	30	22	27	13	18	23	29	24	28	24	27	24	26	23	26
Napa	2	2	2	2	6	7	2	3	2	3	6	8	6	7	6	7	6	7	6	7
Nevada	5	5	5	5	4	4	1	2	4	6	7	8	8	9	8	9	7	8	5	8
Orange	38	47	36	42	38	46	33	42	37	51	46	59	52	59	54	61	49	55	51	56
Placer	13	16	13	15	12	15	9	12	10	13	13	16	15	17	15	17	16	17	16	17
Plumas	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1
Riverside	84	93	87	94	89	107	86	109	100	138	119	152	128	145	131	148	119	132	108	122
Sacramento	33	37	32	35	27	32	18	21	21	29	28	36	38	42	42	48	41	45	37	41
San Bernardino	141	149	136	142	158	189	164	206	152	210	198	253	223	252	235	265	176	195	165	178
San Diego	69	80	64	72	62	74	58	73	67	93	87	111	93	105	92	103	92	103	94	110
San Francisco	3	3	3	3	3	4	4	5	1	2	5	6	6	6	5	6	5	5	5	5
San Joaquin	73	75	85	87	84	99	90	113	86	119	102	131	116	131	111	126	105	117	101	113
San Luis Obispo	12	14	16	18	11	13	9	12	17	17	19	24	20	23	19	21	20	22	20	22
San Mateo	10	12	8	10	8	10	8	10	4	6	15	19	13	14	15	17	16	17	18	19
Santa Barbara	13	14	16	17	10	13	12	15	13	18	20	26	22	25	17	19	21	24	18	19
Santa Clara	23	26	26	28	27	32	28	35	25	35	36	47	30	34	32	36	43	48	33	42
Santa Cruz	4	5	5	6	4	5	4	6	2	3	5	6	5	6	6	6	6	7	4	6
Shasta	20	23	19	21	16	19	18	22	13	18	21	27	21	24	22	25	21	24	14	16
Siskiyou	5	6	11	11	16	20	15	19	11	16	20	26	19	22	18	21	16	17	16	17
Solano	14	17	18	20	14	16	14	17	8	11	14	18	17	19	22	24	23	25	24	27
Sonoma	14	16	18	19	13	16	14	18	17	17	15	20	20	23	20	23	20	22	28	32
Stanislaus	33	36	27	29	25	30	15	19	20	27	26	33	20	22	30	34	32	36	33	35
Sutter	4	5	2	3	3	4	4	5	2	3	4	5	6	6	3	4	4	5	5	6
Tehama	31	32	38	39	35	42	37	47	25	35	37	48	35	39	34	38	18	20	17	18
Tulare	23	25	33	35	27	32	31	39	31	43	34	43	37	42	37	41	31	34	42	45
Tuolumne	2	2	2	2	1	2	2	2	2	2	2	3	2	3	3	3	3	3	3	3
Ventura	20	23	32	34	23	27	23	29	25	34	27	34	29	32	32	36	30	33	33	35
Yolo	33	34	26	27	27	33	30	37	29	40	27	35	32	37	27	30	25	28	24	26
Yuba	4	4	4	5	3	4	3	4	2	3	2	3	4	5	8	9	11	12	4	5
Other Counties*	1	2	2	2	1	2	1	1	1	2	2	2	3	3	3	3	2	2	2	3
<b>Total</b>	<b>1,285</b>	<b>1,414</b>	<b>1,346</b>	<b>1,447</b>	<b>1,327</b>	<b>1,589</b>	<b>1,261</b>	<b>1,587</b>	<b>1,226</b>	<b>1,691</b>	<b>1,592</b>	<b>2,033</b>	<b>1,742</b>	<b>1,971</b>	<b>1,717</b>	<b>1,937</b>	<b>1,602</b>	<b>1,777</b>	<b>1,559</b>	<b>1,756</b>

\* 2012-2019 data are not directly comparable to other years since an improved methodology is used, but is within 5 percent compared to the previous methodology.

\* Other Counties include Alpine, Modoc, San Benito, Sierra and Trinity.

Note: Non-Retail diesel sales, which comprise approximately 52.8% of all diesel sales, are not reported in this chart.

Source: <https://www.energy.ca.gov/media/3874>

Region	Monterey
Model Year	Aggregate
Speed	Aggregate
Fuel	Gasoline
Calendar Year	2023

Row Labels	Sum of Total VMT	Sum of Fuel Consumption
LDA	5235880.258	180.2302193
LDT1	499564.2123	20.8967432
LDT2	2580927.985	112.157506
<b>Grand Total</b>	<b>8316372.455</b>	<b>313.2844684</b>

Vehicle Categor	VMT (mi/day)	Fuel Consumption			Distribution of Trips	gal/mi
		(1000gal/day)	gal/mi	mi/gal		
LDA	5235880.258	180.2302193	0.034422143	29.05106746	63%	0.037670808
LDT1	499564.2123	20.8967432	0.041829944	23.90631916	6%	
LDT2	2580927.985	112.157506	0.043456271	23.01163853	31%	

Source: EMFAC2021, Annual, EMFAC2007 Categories

Region	Monterey
Model Year	Aggregate
Speed	Aggregate
Fuel	Diesel
Calendar Year	2023

Row Labels	Sum of Total VMT	Sum of Fuel Consumption
HHDT	294720.5643	50.64656726
MHDT	149216.1873	17.4797698
<b>Grand Total</b>	<b>443936.7516</b>	<b>68.12633706</b>

Vehicle Categor	VMT (mi/day)	Fuel Consumption			Distribution of Trips
		(1000gal/day)	gal/mi	mi/gal	
HHDT	294720.5643	50.64656726	0.171846058	5.819161697	66%
MHDT	149216.1873	17.4797698	0.117143925	8.536507575	34%

Source: EMFAC2021, Annual, EMFAC2007 Categories



gal/mi
0.153459557

**MCWRA ILT - SLO County Fuel Consumption Summary**

Source Category	Fuel Consumption (gal)	
	Diesel	Gasoline
Offroad Equipment	74,418	--
Haul Trucks	6,802	--
Vendor Trucks	18,023	--
Workers	--	4,172
<b>Total Fuel Consumption</b>	<b>99,243</b>	<b>4,172</b>

**Construction Duration (years):** 1.87  
**Average Annual Diesel (gal):** 53,036  
**Average Annual Gasoline (gal):** 2,229

**County Fuel Consumption (2019) <sup>1</sup>**

**County:**

San Luis Obispo

Source	Fuel Type	Gallons (Retail + Non-Retail)	Percent of Project Compared to County
Workers	Gas	138,000,000	0.002%
Off-Road/Haul & Vendor Trucks	Diesel	45,833,333	0.12%

**Electric-Powered Construction Equipment**

**Total Electricity Consumption (kWh):** 1,288,569.38  
**Total Electricity Consumption (GWh):** 1.29  
**2019 SLO County Usage (GWh)<sup>2</sup>:** 1060.09  
**Project Percent of Electricity Sales (%):** 0.12%

Notes:

- California Energy Commission, California Annual Retail Fuel Outlet Report Results (CEC-A15), 2010-2019  
<https://www.energy.ca.gov/sites/default/files/2020-10/2010-2019%20CEC-A15%20Results%20and%20Analysis.xlsx>  
 Accessed April 2021. Diesel is adjusted to account for retail (48%) and non-retail (52%) diesel sales
- California Energy Commission. 2021. Electricity Consumption by County (non-residential) for SLO County (2019).  
<http://www.ecdms.energy.ca.gov/elecbycounty.aspx>

Off-Road Equipment - SLO County

Fuel Consumption: Equipment ≤ 100HP	Value
Brake Specific Fuel Consumption Factor (lb/hp-hr) <sup>1</sup>	0.408
Fuel Density (lb/gal) <sup>1</sup>	7.11
Consumption Factor (gal/hp-hr)	0.0574
Total HP-HR <100	20,975
<b>Total Diesel Fuel (gal)</b>	<b>1,204</b>

Fuel Consumption: Equipment > 100HP	Value
Brake Specific Fuel Consumption Factor (lb/hp-hr) <sup>1</sup>	0.367
Fuel Density (lb/gal) <sup>1</sup>	7.11
Consumption Factor (gal/hp-hr)	0.0516
Total HP-HR >100	1,418,193
<b>Total Diesel Fuel (gal)</b>	<b>73,214</b>

**Total diesel gallons (off-road equipment): 74,418**

Phase Name	Equipment	# of Equipment	Hours/Day	HP	Load Factor	Days	Total HP-HR
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Rubber Tired Dozers	1	10	145	0.4	45	26,100.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Off-Highway Trucks	1	10	214	0.38	30	24,396.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Tractors/Loaders/Backhoes	1	10	246	0.37	45	40,959.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Bore/Drill Rigs	1	10	40	0.5	45	9,000.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Tractors/Loaders/Backhoes	1	10	513	0.37	45	85,414.50
Tunnel Intake Structure - Construct Control Building	Tractors/Loaders/Backhoes	1	10	246	0.37	30	27,306.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	Rollers	1	10	25	0.38	30	2,850.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Tractors/Loaders/Backhoes	2	10	246	0.37	10	18,204.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Bore/Drill Rigs	1	10	40	0.5	10	2,000.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Rubber Tired Dozers	1	10	145	0.4	10	5,800.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Off-Highway Trucks	1	10	214	0.38	45	36,594.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Rollers	1	10	25	0.38	45	4,275.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Tractors/Loaders/Backhoes	1	10	246	0.37	45	40,959.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Rubber Tired Dozers	1	10	145	0.4	45	26,100.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Off-Highway Trucks	1	10	214	0.38	30	24,396.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Tractors/Loaders/Backhoes	1	10	246	0.37	30	27,306.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Tractors/Loaders/Backhoes	3	10	513	0.37	30	170,829.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Off-Highway Trucks	3	10	214	0.38	30	73,188.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	Tractors/Loaders/Backhoes	3	10	246	0.37	30	81,918.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	Tractors/Loaders/Backhoes	3	10	513	0.37	30	170,829.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	Off-Highway Trucks	3	10	214	0.38	30	73,188.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	Tractors/Loaders/Backhoes	3	10	246	0.37	30	81,918.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	Tractors/Loaders/Backhoes	1	10	246	0.37	30	27,306.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	Tractors/Loaders/Backhoes	3	10	225	0.37	30	74,925.00
Tunnel Intake Structure Portal - Remove TBM	Tractors/Loaders/Backhoes	3	10	246	0.37	30	81,918.00
Tunnel Intake Structure Portal - Remove TBM	Tractors/Loaders/Backhoes	3	10	225	0.37	30	74,925.00
Tunnel Intake Structure Portal - Remove TBM	Tractors/Loaders/Backhoes	3	10	246	0.37	30	81,918.00
Tunnel Intake Structure Portal - Remove TBM	Rubber Tired Dozers	1	10	145	0.4	30	17,400.00
Tunnel Intake Structure Portal - Remove TBM	Off-Highway Trucks	1	10	214	0.38	30	24,396.00
Tunnel Intake Structure Portal - Remove TBM	Rollers	1	10	25	0.38	30	2,850.00
						<b>Total equip. &gt;100HP</b>	<b>1,418,192.50</b>
						<b>Total equip. &lt;100HP</b>	<b>20,975.00</b>

Notes:

- CARB, 2017 Off-road Diesel Emission Factors  
[https://ww3.arb.ca.gov/msei/ordiesel/ordas\\_ef\\_fcf\\_2017\\_v7.xlsx](https://ww3.arb.ca.gov/msei/ordiesel/ordas_ef_fcf_2017_v7.xlsx)

**SLO County -Electricity Consumption from Electric-Powered Equipment**

Phase	Start Date	equipment Name	Category	Year	Days	Hours per day	Number	Fuel Type	Horsepower	Kilowatts	Kilowatt Hours (day)	Kilowatt Hours (total)
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	Compressor, Stationary 1200cfm	Air compressors	2024.00	30.00	24.00	1.00	Electric	350.00	260.99	6263.88	187916.37
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	EPBM and Backup 14'9"	Air compressors	2024.00	30.00	24.00	1.00	Electric	1800.00	1342.26	32214.23	966427.03
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	Pump, trash 200gpm/100ft head	Air compressors	2024.00	30.00	24.00	1.00	Electric	10.00	7.46	178.97	5369.04
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	Ventilation Fan 40hp	Air compressors	2024.00	30.00	24.00	1.00	Electric	40.00	29.83	715.87	21476.16
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	Water Treatment Plant	Air compressors	2024.00	30.00	24.00	1.00	Electric	200.00	149.14	3579.36	107380.78
<b>1,288,569.38</b>												

Notes:

1. Assumed a direct relationship of 1 hp = 0.7457 kw

MCWRA Interlake Tunnel and Spillway Modification Project

Haul Trucks - SLO County

Onroad Travel Consumption		Value
EMFAC2021 Diesel Fuel Consumption Factor (gal/mi): <sup>1</sup>		0.1756
Total VMT (mi):		38,671
<b>Total diesel gallons</b>		<b>6,789</b>
Idling Consumption		Value
Idling Fuel Consumption Factor (gal/hr): <sup>2</sup>		0.6400
Total Idle-Hours per Year:		57
<b>Total diesel gallons</b>		<b>13</b>

**Total diesel gallons: 6,802**

Phase	Days/year	Truck Trips per Day (In/Out)	Trip Length (onsite +offsite) [miles]	Vehicle Category	VMT	Idle Hours
Tunnel Intake Structure - Excavate and support for approach chann	45	26	28.09	HHDT	32,864	98
Tunnel Intake Structure - Construct Intake structure structural elem	150	0	0.14	HHDT	0	0
Tunnel Intake Structure - Install mechanical systems	30	0	0.14	HHDT	0	0
Tunnel Intake Structure - Construct Control Building	30	0	0.14	HHDT	0	0
Tunnel Intake Structure - Install pipe connection from tunnel to intz	20	0	0.14	HHDT	0	0
Tunnel Intake Structure - Install fencing and security systems	15	0	0.14	HHDT	0	0
Tunnel Intake Structure - Install electrical and control systems	20	0	0.14	HHDT	0	0
Tunnel Intake Structure - Testing of control systems	10	0	28.09	HHDT	0	0
Tunnel Intake Structure - Re-vegetation and site demob	20	10	29.04	HHDT	5,807	17
Tunnel Intake Structure Portal - Upgrade access road from Nacimer	30	0	1.09	HHDT	0	0
Tunnel Intake Structure Portal - Install erosion/sediment control an	30	0	1.09	HHDT	0	0
Tunnel Intake Structure Portal - Grade and improve staging/laydow	10	0	2.04	HHDT	0	0
Tunnel Intake Structure Portal - Install buried power/fiber optic line	45	0	1.09	HHDT	0	0
Tunnel Intake Structure Portal - Install temporary utilities. Water, p	30	0	28.09	HHDT	0	0
Tunnel Intake Structure Portal - TBM reception portal excavation ar	30	0	1.09	HHDT	0	0
Tunnel Intake Structure Portal - Remove TBM	30	0	0.00	HHDT	0	0
<b>Total VMT:</b>					<b>38,671</b>	
<b>Total Idle-Hours:</b>						<b>57</b>

1. CARB, EMFAC2021 (SLO County; HHDT/MHDT; Annual; CY 2023; Aggregate MY; Aggregate Speed,DSL)  
 2. Department of Energy, Fact #861, 2015 Idle Fuel Consumption for Selected Gasoline and Diesel Vehicles, February 23, 2015.  
<https://www.energy.gov/eere/vehicles/fact-861-february-23-2015-idle-fuel-consumption-selected-gasoline-and-diesel-vehicles>

**Vendor Trucks - SLO County Portion of Project**

<b>Onroad Travel Consumption</b>		<b>Value</b>
EMFAC2021 Diesel Fuel Consumption Factor (gal/mi): <sup>1</sup>		0.1539
Total VMT (mi):		116,757
<b>Total diesel gallons</b>		<b>17,970</b>
<b>Idling Consumption</b>		<b>Value</b>
Idling Fuel Consumption Factor (gal/hr): <sup>2</sup>		0.6400
Total Idle-Hours per Year:		230
<b>Total diesel gallons</b>		<b>53</b>

**Total diesel gallons: 18,023**

<b>Phase</b>	<b>Days/year</b>	<b>Vendor Truck Trips per Day (In/Out)</b>	<b>Trip Length (onsite +offsite) [miles]</b>	<b>Vehicle Category</b>	<b>VMT</b>	<b>Idle Hours</b>
Tunnel Intake Structure - Excavate and support for approach chann	45	36	21.09	HHDT/MHDT	34,164	135
Tunnel Intake Structure - Construct Intake structure structural elem	150	8	21.09	HHDT/MHDT	25,307	100
Tunnel Intake Structure - Install mechanical systems	30	8	21.09	HHDT/MHDT	5,061	20
Tunnel Intake Structure - Construct Control Building	30	8	21.09	HHDT/MHDT	5,061	20
Tunnel Intake Structure - Install pipe connection from tunnel to intz	20	8	21.09	HHDT/MHDT	3,374	13
Tunnel Intake Structure - Install fencing and security systems	15	8	21.09	HHDT/MHDT	2,531	10
Tunnel Intake Structure - Install electrical and control systems	20	0	21.09	HHDT/MHDT	0	0
Tunnel Intake Structure - Testing of control systems	10	10	21.09	HHDT/MHDT	2,109	8
Tunnel Intake Structure - Re-vegetation and site demob	20	22	22.04	HHDT/MHDT	9,549	36
Tunnel Intake Structure Portal - Upgrade access road from Nacimer	30	8	21.09	HHDT/MHDT	5,061	20
Tunnel Intake Structure Portal - Install erosion/sediment control an	30	10	21.09	HHDT/MHDT	6,327	25
Tunnel Intake Structure Portal - Grade and improve staging/laydow	10	8	22.04	HHDT/MHDT	1,763	7
Tunnel Intake Structure Portal - Install buried power/fiber optic line	45	12	21.09	HHDT/MHDT	11,388	45
Tunnel Intake Structure Portal - Install temporary utilities. Water, p	30	8	21.09	HHDT/MHDT	5,061	20
Tunnel Intake Structure Portal - TBM reception portal excavation ar	30	0	21.09	HHDT/MHDT	0	0
Tunnel Intake Structure Portal - Remove TBM	30	0	0.00	HHDT/MHDT	0	0
<b>Total VMT:</b>					<b>116,757</b>	
<b>Total Idle-Hours:</b>						<b>230</b>

1. CARB, EMFAC2021 ( SLO County; HHDT/MHDT; Annual; CY 2023; Aggregate MY; Aggregate Speed,DSL)  
 2. Department of Energy, Fact #861, 2015 Idle Fuel Consumption for Selected Gasoline and Diesel Vehicles, February 23, 2015.  
<https://www.energy.gov/eere/vehicles/fact-861-february-23-2015-idle-fuel-consumption-selected-gasoline-and-diesel-vehicles>

**Workers - SLO County**

Onroad Travel Consumption	Value
EMFAC2021 Gasoline Fuel Consumption Factor (gal/mi): <sup>1</sup>	0.0380
Total VMT (mi):	109,660
<b>Total gasoline gallons</b>	<b>4,172</b>

Phase	Days/year	Vehicle Trips per day (In/Out)	Trip Length (onsite +offsite) [miles]	Vehicle Category	VMT
Tunnel Intake Structure - Excavate and support for approach channel an	45	18	21.09	LD Fleet Mix	17,082
Tunnel Intake Structure - Construct Intake structure structural elements	150	4	21.09	LD Fleet Mix	12,653
Tunnel Intake Structure - Install mechanical systems	30	6	21.09	LD Fleet Mix	3,796
Tunnel Intake Structure - Construct Control Building	30	8	21.09	LD Fleet Mix	5,061
Tunnel Intake Structure - Install pipe connection from tunnel to intake a	20	6	21.09	LD Fleet Mix	2,531
Tunnel Intake Structure - Install fencing and security systems	15	6	21.09	LD Fleet Mix	1,898
Tunnel Intake Structure - Install electrical and control systems	20	6	21.09	LD Fleet Mix	2,531
Tunnel Intake Structure - Testing of control systems	10	8	21.09	LD Fleet Mix	1,687
Tunnel Intake Structure - Re-vegetation and site demob	20	8	22.04	LD Fleet Mix	3,526
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento R	30	8	21.09	LD Fleet Mix	5,061
Tunnel Intake Structure Portal - Install erosion/sediment control and silt	30	10	21.09	LD Fleet Mix	6,327
Tunnel Intake Structure Portal - Grade and improve staging/laydown are	10	6	22.04	LD Fleet Mix	1,322
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	45	6	21.09	LD Fleet Mix	5,694
Tunnel Intake Structure Portal - Install temporary utilities. Water, power	30	8	21.09	LD Fleet Mix	5,061
Tunnel Intake Structure Portal - TBM reception portal excavation and su	30	56	21.09	LD Fleet Mix	35,430
Tunnel Intake Structure Portal - Remove TBM	30	0	0.00	LD Fleet Mix	0
				<b>Total VMT:</b>	<b>109,660</b>

1. CARB, EMFAC2021 (SLO County; LDA/LDT1/LDT2; Annual; CY 2023; Aggregate MY; Aggregate Speed,GSL)  
 2. Department of Energy, Fact #861, 2015 Idle Fuel Consumption for Selected Gasoline and Diesel Vehicles, February 23, 2015.  
<https://www.energy.gov/eere/vehicles/fact-861-february-23-2015-idle-fuel-consumption-selected-gasoline-and-diesel-vehicles>

**Idling Fuel Consumption Factors**

Column1	Column2	Column3	Column4	Column5
VEHICLE TYPE	FUEL TYPE	ENGINE SIZE (LITER)	GROSS VEHICLE WEIGHT (GVW) (LBS)	IDLING FUEL USE (GAL/HR WITH NO LOAD)
Compact Sedan	Gas	2	-	0.16
Large Sedan	Gas	4.6	-	0.39
Compact Sedan	Diesel	2	-	0.17
Medium Heavy Truck	Gas	7-May	19,700-26,000	0.84
Delivery Truck	Diesel	-	19,500	0.84
Tow Truck	Diesel	-	26,000	0.59
Medium Heavy Truck	Diesel	10-Jun	23,000-33,000	0.44
Transit Bus	Diesel	-	30,000	0.97
Combination Truck	Diesel	-	32,000	0.49
Bucket Truck	Diesel	-	37,000	0.9
Tractor-Semitrailer	Diesel	-	80,000	0.64

Department of Energy, Fact #861, 2015 Idle Fuel Consumption for Selected Gasoline and Diesel Vehicles, February 23, 2015.

<https://www.energy.gov/eere/vehicles/fact-861-february-23-2015-idle-fuel-consumption-selected-gasoline-and-diesel-vehicles>



This tool provides a quick estimation of the fuel use and emissions for your equipment in a specific year. The results may slightly differ from those from the official inventory model.

**Instructions:**

Enter the horsepower, model year, and other details about your equipment in the Input box. Make sure to update the **load factor** for your equipment using the lookup table. The **Output** box gives a quick estimation of the fuel use, NOx, PM, and THC emission for your equipment.

Input	Input Engine Here
Horsepower (hp)	70
Model year	2011
Calendar year	2015
Activity (annual hours)	250
Accumulated hours on equipment (estimate using annual-hours*age if you only know the age of the equipment)	1000
Load factor (check the lookup table)	0.2

Results	
Fuel Used (gallon)	201
NOx Emissions (kg)	9.8
PM Emissions (kg)	0.5
THC Emissions (kg)	0.4
CO2 Emissions (kg)	2050.9
NOx Emission Factor (including deterioration and fuel correction factor): gram/bhp-hr	2.79
PM Emission Factor (including deterioration and fuel correction factor): gram/bhp-hr	0.15
THC Emission Factor (including deterioration and fuel correction factor): gram/ bhp-hr	0.11

Intermediate steps	
HPbin	75
NOx_EF0	2.90
NOx_DR	3.8E-05
NOx_FCF	0.950
PM_EF0	0.16
PM_DR	1.2E-05
PM_FCF	0.90
THC_EF0	0.10
THC_DR	2.5E-05
THC_FCF	0.90
NOx_EF (g/hp-hr)	2.79
PM_EF (g/hp-hr)	0.15
THC_EF (g/hp-hr)	0.11
CO2_EF (kg/gallon-diesel)*	10.21
BSFC (lb/hp-hr)	0.408
Unit conversion (lb/gallon)	7.109

\*Reference: [www.epa.gov/sites/production/files/2015-07/documents/emission-factors\\_2014.pdf](http://www.epa.gov/sites/production/files/2015-07/documents/emission-factors_2014.pdf)

Loac Factor Lookup Table			
Equipment Category	Equipment Type	Details	Load Factor
Agriculture equipment	Agricultural tractors		0.48
	Combine harvesters		0.44
	Forage & silage harvesters		0.44
	Cotton pickers		0.44
	Nut harvester		0.44
	Other harvesters		0.44
	Balers (self propelled)		0.50
	Bale wagons (self propelled)		0.50
	Swathers/windrowers/hay conditioners		0.48
	Hay Squeeze/Stack retriever		0.42
	Sprayers/Spray rigs		0.42
	Construction equipment		0.40
	Other non-mobile		0.48
	Forklifts		0.40
Atvs		0.40	
Others		0.40	
Portable equipment	All portable equipment		0.31
Cargo Handling Equipment	Construction equipment		0.55
	Container handling equipment		0.59
	Forklift		0.30
	Other general industrial equipment		0.51
	Rtg crane		0.20
Yard tractor		0.39	
Transport Refrigeration Units (TRU)	TRU on trailers	25 HP and over, MY2012 and Older	0.46
	TRU on trailers	25 HP and over, MY2013 and Newer	0.38
	TRU on trailers	23 HP and Over, below 25 HP, All years	0.46
	TRU on trucks	Below 23 HP, All Model years	0.56
	TRU on railcars	25 HP and over, MY2012 and Older	0.33
	TRU on railcars	25 HP and over, MY2013 and Newer	0.27
	TRU on railcars	Below 25 HP, All Model years	0.33
	TRU with generators	25 HP and over, MY2012 and Older	0.46
	TRU with generators	25 HP and Over, MY2013 and Newer	0.38
	TRU with generators	23 HP and Over, below 25 HP, All Model Years	0.46
Ground Support Equipment	Passenger Stand		0.40
	A/C Tug Narrow Body		0.54
	A/C Tug Wide Body		0.54
	Baggage Tug		0.37
	Belt Loader		0.34
	Bobtail		0.37
	Cargo Loader		0.34
	Cargo Tractor		0.36
	Forklift (GSE)		0.20
	Lift (GSE)		0.34
	Other GSE		0.34
Construction and Industrial Equipment	Cranes		0.29
	Crawler Tractors		0.43
	Excavators		0.38
	Graders		0.41
	Off-Highway Tractors		0.44
	Off-Highway Trucks		0.38
	Other Construction Equipment		0.42
	Pavers		0.42
	Paving Equipment		0.36
	Rollers		0.38
	Rough Terrain Forklifts		0.40
	Rubber Tired Dozers		0.40
	Rubber Tired Loaders		0.36
	Scrapers		0.48
	Skid Steer Loaders		0.37
	Surfacing Equipment		0.30
	Tractors/Loaders/Backhoes		0.37
	Trenchers		0.50
	Aerial Lifts		0.31
	Forklifts		0.20
	Other General Industrial Equipment		0.34
	Other Material Handling Equipment		0.40
	Sweepers/Scrubbers		0.46
Oil and Drill Rigs	Drill Rig (Mobile)		0.50
	Workover Rig (Mobile)		0.50
	Bore/Drill Rigs		0.50

MCWRA Interlake Tunnel and Spillway Modification Project

PhaseName	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023		45
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/2023	6/28/2024		150
Tunnel Intake Structure - Install mechanical systems	7/1/2024	8/9/2024		30
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024		30
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/2024	12/13/2024		20
Tunnel Intake Structure - Install fencing and security systems	1/13/2025	1/31/2025		15
Tunnel Intake Structure - Install electrical and control systems	12/16/2024	1/10/2025		20
Tunnel Intake Structure - Testing of control systems	1/13/2025	1/24/2025		10
Tunnel Intake Structure - Re-vegetation and site demob	2/3/2025	2/28/2025		20
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023		30
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/2023	7/7/2023		30
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023		10
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023		45
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023		30
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023		30
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024		30

**Retail Gasoline Sales by County**

(Millions of Gallons)

County	2010		2011		2012*		2013*		2014*		2015*		2016*		2017#		2018#		2019#	
	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals
Alameda	456	551	476	548	480	568	473	603	341	491	432	542	518	582	521	583	495	569	505	591
Amador	12	15	12	14	12	14	10	12	11	15	10	13	12	14	13	15	14	17	16	18
Butte	66	81	70	81	66	78	64	81	59	85	62	78	74	83	78	87	75	86	62	78
Calaveras	11	14	12	14	10	12	10	13	10	14	11	14	13	15	14	15	13	15	14	15
Colusa	13	17	9	11	8	10	10	13	7	10	7	9	10	11	11	12	11	13	11	13
Contra Costa	332	403	344	395	354	419	331	422	272	392	303	380	384	431	385	430	346	397	374	427
Del Norte	6	8	6	7	6	7	4	5	5	7	5	6	6	7	6	7	6	7	4	6
El Dorado	55	68	57	67	64	75	56	72	36	52	65	81	72	81	73	82	66	76	64	74
Fresno	285	342	290	335	288	341	269	344	209	300	264	331	318	358	328	367	320	368	306	376
Glenn	12	14	12	14	11	12	11	14	11	16	13	16	15	17	17	18	15	17	14	18
Humboldt	44	54	46	54	45	53	51	64	31	44	47	59	54	61	49	55	51	58	42	53
Imperial	56	69	51	60	46	54	46	58	58	83	63	79	77	86	74	83	78	89	73	86
Inyo	16	19	16	18	13	16	12	16	12	17	14	18	16	18	16	18	16	18	14	17
Kern	293	362	309	359	301	356	287	367	267	384	299	375	362	407	349	390	345	396	340	392
Kings	42	51	41	48	40	47	38	49	31	45	41	51	50	57	54	60	52	60	67	76
Lake	20	25	18	22	17	20	19	24	17	25	19	23	19	21	19	21	20	23	18	24
Lassen	6	7	6	7	5	6	5	6	6	8	7	9	7	8	5	6	4	5	5	7
Los Angeles	3,005	3,658	3,069	3,554	2,916	3,451	2,700	3,445	2,606	3,749	2,762	3,465	3,184	3,577	3,272	3,659	3,169	3,638	3,189	3,559
Madera	47	57	54	61	44	53	43	54	31	45	35	44	52	59	56	62	49	57	44	62
Marin	78	94	91	103	91	107	83	106	52	75	83	105	91	102	90	101	71	82	86	96
Mariposa	6	7	6	7	5	6	4	5	6	9	5	6	7	8	5	6	6	7	7	8
Mendocino	33	41	34	40	36	43	33	42	28	40	32	40	37	42	34	38	35	40	27	44
Merced	86	106	81	95	78	92	83	94	58	83	84	105	101	114	105	117	115	132	100	119
Mono	6	7	5	6	2	2	6	8	6	8	6	7	7	8	5	5	6	7	7	8
Monterey	124	152	134	155	124	147	139	177	87	126	147	184	157	177	155	174	157	181	148	174
Napa	42	52	42	47	49	58	41	52	27	39	50	63	50	57	47	53	53	61	54	57
Nevada	34	42	30	35	29	34	19	25	19	27	31	40	36	40	35	39	33	38	29	39
Orange	1,162	1,406	1,162	1,338	1,145	1,355	1,044	1,332	1,018	1,465	1,092	1,370	1,224	1,375	1,236	1,382	1,222	1,402	1,198	1,325
Placer	154	190	162	189	162	192	131	167	118	170	167	209	181	204	182	203	179	206	177	198
Plumas	6	7	7	8	6	7	3	4	5	8	5	6	5	6	5	6	5	6	5	6
Riverside	781	952	792	916	756	895	725	925	702	1,010	828	1,039	921	1,035	941	1,052	916	1,052	921	1,046
Sacramento	467	566	482	553	473	560	446	568	308	442	465	584	534	600	535	599	511	586	536	600
San Benito	15	18	14	16	17	20	5	7	10	14	12	15	15	17	18	20	15	17	12	21
San Bernardino	747	902	761	871	742	878	697	889	659	948	725	909	899	1,010	888	993	862	990	851	977
San Diego	1,094	1,320	1,122	1,291	1,079	1,277	972	1,241	940	1,352	1,123	1,408	1,221	1,372	1,231	1,377	1,208	1,387	1,197	1,325
San Francisco	112	138	129	151	126	149	126	161	71	102	107	134	119	134	120	134	105	120	107	118
San Joaquin	248	303	260	301	253	299	254	325	217	312	287	360	303	340	310	347	293	336	289	352
San Luis Obispo	121	147	123	144	105	124	109	140	101	145	117	147	127	142	127	142	131	150	125	138
San Mateo	232	275	272	310	258	311	244	311	159	229	243	304	289	325	291	326	264	304	293	322
Santa Barbara	141	174	140	164	140	166	135	172	124	178	148	186	161	181	152	170	167	191	166	177
Santa Clara	514	621	600	691	589	697	546	696	460	661	580	727	638	717	613	685	560	643	614	713
Santa Cruz	84	103	91	106	89	105	79	101	53	77	77	96	85	95	84	94	78	90	72	90
Shasta	72	88	73	85	77	91	65	83	55	79	76	95	73	82	83	92	76	87	72	82
Siskiyou	20	25	17	19	19	23	9	12	12	14	21	27	24	27	26	29	25	28	26	27
Solano	158	190	191	218	180	213	158	202	116	167	160	201	187	210	194	217	188	216	182	216
Sonoma	157	189	155	178	160	189	163	208	146	210	160	201	186	209	186	208	167	192	169	204
Stanislaus	191	230	184	212	173	205	144	183	159	229	201	252	217	244	227	253	212	244	196	245
Sutter	30	37	31	37	34	40	33	42	17	24	30	38	35	39	35	39	35	40	27	38
Tehama	27	33	24	28	23	27	18	24	26	24	25	30	25	29	26	29	27	31	28	30
Trinity	3	4	3	4	1	2	3	4	3	4	3	4	4	5	4	5	4	4	2	4
Tulare	109	132	121	139	120	142	91	116	107	155	114	143	136	152	149	167	147	168	144	174
Tuolumne	14	17	13	16	15	18	12	15	14	21	18	23	21	23	22	25	22	25	21	23
Ventura	285	345	290	335	262	310	246	314	249	358	256	321	294	330	302	338	298	342	297	329
Yolo	82	100	76	87	74	87	75	96	63	90	82	103	98	110	101	113	96	110	97	114
Yuba	24	29	26	30	22	26	23	30	14	20	24	30	32	36	30	34	40	46	27	32
Other Counties*	2	3	2	2	1	2	1	2	1	2	2	2	2	2	2	2	1	1	2	2
<b>Total</b>	<b>12,238</b>	<b>14,860</b>	<b>12,644</b>	<b>14,596</b>	<b>12,241</b>	<b>14,486</b>	<b>11,396</b>	<b>14,540</b>	<b>10,220</b>	<b>14,701</b>	<b>12,044</b>	<b>15,108</b>	<b>13,785</b>	<b>15,491</b>	<b>13,936</b>	<b>15,584</b>	<b>13,475</b>	<b>15,471</b>	<b>13,473</b>	<b>15,365</b>

\* 2012 to 2019 data are not directly comparable to other years since an improved methodology is used, but is within 5 percent compared to the previous methodology.

\* Other Counties include Alpine, Modoc and Sierra.

Source: <https://www.energy.ca.gov/media/3874>

**Retail Diesel Sales by County**

(Millions of Gallons)

County	2010		2011		2012#		2013#		2014#		2015#		2016#		2017#		2018#		2019#	
	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals
Alameda	29	32	26	28	30	36	27	34	19	27	38	49	47	54	51	58	56	62	48	55
Amador	2	2	2	2	2	2	1	2	1	2	1	2	2	2	2	2	2	3	3	3
Butte	9	10	9	10	7	9	8	10	8	10	9	11	11	13	11	13	12	13	12	15
Calaveras	2	2	2	2	2	2	1	2	1	2	2	2	3	3	3	3	2	3	3	3
Colusa	3	3	2	3	4	5	4	5	2	4	3	4	4	4	2	3	4	4	7	7
Contra Costa	15	18	19	21	17	20	17	21	12	17	19	24	23	26	24	28	31	34	24	27
Del Norte	1	2	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	1	2
El Dorado	6	8	6	7	6	7	5	6	4	6	7	9	8	9	8	10	8	9	8	10
Fresno	30	33	35	38	33	40	23	29	18	25	39	50	40	46	40	45	46	51	39	49
Glenn	5	5	4	4	4	5	4	5	4	5	5	6	12	14	16	19	16	17	18	19
Humboldt	10	12	10	12	10	12	11	14	4	5	10	13	13	14	8	9	7	8	6	7
Imperial	9	10	8	9	7	8	8	10	8	11	9	11	14	16	11	12	20	22	21	25
Inyo	3	4	3	4	2	2	3	4	3	3	3	4	3	4	3	4	3	3	3	4
Kern	111	117	125	129	133	158	118	148	124	171	125	160	131	149	107	121	97	108	96	105
Kings	7	7	7	8	7	9	5	6	4	6	7	9	5	6	7	7	8	9	8	9
Lake	3	3	3	3	2	2	2	3	2	3	3	3	1	1	3	3	3	4	3	4
Lassen	1	1	1	2	1	1	1	1	1	2	3	3	4	4	1	1	1	1	1	2
Los Angeles	212	235	221	239	205	245	190	239	194	267	257	328	273	309	267	301	228	253	246	276
Madera	23	24	23	24	24	28	18	23	22	31	26	33	28	31	29	33	28	31	23	24
Marin	3	4	2	3	3	3	2	3	2	2	2	3	4	4	4	4	3	3	4	4
Mariposa	1	1	1	1	1	1	-	1	2	2	1	1	1	1	1	1	1	1	1	1
Mendocino	6	7	7	8	7	9	6	6	4	5	6	7	9	10	6	6	5	6	5	8
Merced	44	45	37	38	46	55	49	62	49	68	54	69	59	66	38	42	35	39	28	36
Mono	1	1	1	1	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Monterey	21	23	24	26	25	30	22	27	13	18	23	29	24	28	24	27	24	26	23	26
Napa	2	2	2	2	6	7	2	3	2	3	6	8	6	7	6	7	6	7	6	7
Nevada	5	5	5	5	4	4	1	2	4	6	7	8	8	9	8	9	7	8	5	8
Orange	38	47	36	42	38	46	33	42	37	51	46	59	52	59	54	61	49	55	51	56
Placer	13	16	13	15	12	15	9	12	10	13	13	16	15	17	15	17	16	17	16	17
Plumas	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1
Riverside	84	93	87	94	89	107	86	109	100	138	119	152	128	145	131	148	119	132	108	122
Sacramento	33	37	32	35	27	32	18	21	21	29	18	36	38	42	42	48	41	45	37	41
San Bernardino	141	149	136	142	158	189	164	206	152	210	198	253	223	252	235	265	176	195	165	178
San Diego	69	80	64	72	62	74	58	73	67	93	87	111	93	105	92	103	92	103	94	110
San Francisco	3	3	3	3	3	4	4	5	1	2	5	6	6	6	5	6	5	5	5	5
San Joaquin	73	75	85	87	84	99	90	113	86	119	102	131	116	131	111	126	105	117	101	113
San Luis Obispo	12	14	16	18	11	13	9	12	12	17	19	24	20	23	19	21	20	22	20	22
San Mateo	10	12	8	10	8	10	8	10	4	6	15	19	13	14	15	17	16	17	18	19
Santa Barbara	13	14	16	17	10	13	12	15	13	18	20	26	22	25	17	19	21	24	18	19
Santa Clara	23	26	26	28	27	32	28	35	25	35	36	47	30	34	32	36	43	48	33	42
Santa Cruz	4	5	5	6	4	5	4	6	2	3	5	6	5	6	6	6	6	7	4	6
Shasta	20	23	19	21	16	19	18	22	13	18	21	27	21	24	22	25	21	24	14	16
Siskiyou	5	6	11	11	16	20	15	19	11	16	20	26	19	22	18	21	16	17	16	17
Solano	14	17	18	20	14	16	14	17	8	11	14	18	17	19	22	24	23	25	24	27
Sonoma	14	16	18	19	13	16	14	18	17	20	15	20	20	23	20	23	20	22	28	32
Stanislaus	33	36	27	29	25	30	15	19	20	27	26	33	20	22	30	34	32	36	33	35
Sutter	4	5	2	3	3	4	4	5	2	3	4	5	6	6	3	4	4	5	5	6
Tehama	31	32	38	39	35	42	37	47	25	35	37	48	35	39	34	38	18	20	17	18
Tulare	23	25	33	35	27	32	31	39	31	43	34	43	37	42	37	41	31	34	42	45
Tuolumne	2	2	2	2	1	2	2	2	2	2	2	3	2	3	3	3	3	3	3	3
Ventura	20	23	32	34	23	27	23	29	25	34	27	34	29	32	32	36	30	33	33	35
Yolo	33	34	26	27	27	33	30	37	29	40	27	35	32	37	27	30	25	28	24	26
Yuba	4	4	4	5	3	4	3	4	2	3	2	3	4	5	8	9	11	12	4	5
Other Counties*	1	2	2	2	1	2	1	1	1	2	2	2	3	3	3	3	2	2	2	3
<b>Total</b>	<b>1,285</b>	<b>1,414</b>	<b>1,346</b>	<b>1,447</b>	<b>1,327</b>	<b>1,589</b>	<b>1,261</b>	<b>1,587</b>	<b>1,226</b>	<b>1,691</b>	<b>1,592</b>	<b>2,033</b>	<b>1,742</b>	<b>1,971</b>	<b>1,717</b>	<b>1,937</b>	<b>1,602</b>	<b>1,777</b>	<b>1,559</b>	<b>1,756</b>

\* 2012-2019 data are not directly comparable to other years since an improved methodology is used, but is within 5 percent compared to the previous methodology.

\* Other Counties include Alpine, Modoc, San Benito, Sierra and Trinity.

Note: Non-Retail diesel sales, which comprise approximately 52.8% of all diesel sales, are not reported in this chart.

Source: <https://www.energy.ca.gov/media/3874>

Region	(All)
Model Year	Aggregate
Speed	Aggregate
Fuel	Gasoline
Calendar Year	2023

Row Labels	Sum of Total VMT	Sum of Fuel Consumption
LDA	4043033.469	139.6969411
LDT1	490143.1535	20.56024943
LDT2	2287580.874	99.22098789
<b>Grand Total</b>	<b>6820757.496</b>	<b>259.4781784</b>

Vehicle Categor	VMT (mi/day)	Fuel Consumption			Distribution of Trips	gal/mi
		(1000gal/day)	gal/mi	mi/gal		
LDA	4043033.469	139.6969411	0.034552507	28.94146027	59%	0.038042428
LDT1	490143.1535	20.56024943	0.041947438	23.83935833	7%	
LDT2	2287580.874	99.22098789	0.043373762	23.0554132	34%	

Source: EMFAC2021, Annual, EMFAC2007 Categories

Region	(All)
Model Year	Aggregate
Speed	Aggregate
Fuel	Diesel
Calendar Year	2023

Row Labels	Sum of Total VMT	Sum of Fuel Consumption
HHDT	176485.0152	30.98390106
MHDT	105804.9188	12.46297257
<b>Grand Total</b>	<b>282289.934</b>	<b>43.44687363</b>

Vehicle Categor	VMT (mi/day)	Fuel Consumption			Distribution of Trips
		(1000gal/day)	gal/mi	mi/gal	
HHDT	176485.0152	30.98390106	0.175561087	5.696023068	63%
MHDT	105804.9188	12.46297257	0.117791996	8.489541175	37%

Source: EMFAC2021, Annual, EMFAC2007 Categories

gal/mi
0.153908689

# **Tunnel Only Alternative– Construction Energy Consumption**



**MCWRA ILT - Monterey County Fuel Consumption Summary**

Source Category	Fuel Consumption (gal)	
	Diesel	Gasoline
Offroad Equipment	168,672	--
Haul Trucks	15,352	--
Vendor Trucks	23,076	--
Workers	--	32,596
<b>Total Fuel Consumption</b>	<b>207,101</b>	<b>32,596</b>

**Construction Duration (years):** 1.55  
**Average Annual Diesel (gal):** 134,028  
**Average Annual Gasoline (gal):** 21,095

**County Fuel Consumption (2019) <sup>1</sup>**

County:

Monterey

Source	Fuel Type	Gallons (Retail + Non-Retail)	Percent of Project Compared to County
Workers	Gas	174,000,000	0.01%
Off-Road/Haul & Vendor Trucks	Diesel	54,166,667	0.25%

**Electric-Powered Construction Equipment**

**Total Electricity Consumption (kWh):** 9,703,076.54  
**Total Electricity Consumption (GWh):** 9.70  
**2019 Monterey County Usage (GWh)<sup>2</sup>:** 1772.56  
**Project Percent of Electricity Sales (%):** 0.55%

Notes:

- California Energy Commission, California Annual Retail Fuel Outlet Report Results (CEC-A15), 2010-2019  
<https://www.energy.ca.gov/sites/default/files/2020-10/2010-2019%20CEC-A15%20Results%20and%20Analysis.xlsx>  
 Accessed April 2021. Diesel is adjusted to account for retail (48%) and non-retail (52%) diesel sales
- California Energy Commission. 2021. Electricity Consumption by County (non-residential) for Monterey County (2019).  
<http://www.ecdms.energy.ca.gov/elecbycounty.aspx>

Off-Road Equipment

Fuel Consumption: Equipment ≤ 100HP		Value
Brake Specific Fuel Consumption Factor (lb/hp-hr) <sup>1</sup>		0.408
Fuel Density (lb/gal) <sup>1</sup>		7.11
Consumption Factor (gal/hp-hr)		0.0574
Total HP-HR <100		26,931
<b>Total Diesel Fuel (gal)</b>		<b>1,546</b>

Fuel Consumption: Equipment > 100HP		Value
Brake Specific Fuel Consumption Factor (lb/hp-hr) <sup>1</sup>		0.367
Fuel Density (lb/gal) <sup>1</sup>		7.11
Consumption Factor (gal/hp-hr)		0.0516
Total HP-HR >100		3,237,342
<b>Total Diesel Fuel (gal)</b>		<b>167,127</b>

Total diesel gallons (off-road equipment): 168,672

Phase Name	Equipment	# of Equipment	Hours/Day	HP	Load Factor	Days	Total HP-HR
Energy Dissipation - Site Clearing and Gra	Rubber Tired Dozers	1	10	145	0.4	20	11,600.00
Energy Dissipation - Site Clearing and Gra	Off-Highway Trucks	1	10	214	0.38	20	16,264.00
Energy Dissipation - Site Clearing and Gra	Tractors/Loaders/Backhoes	1	10	246	0.37	20	18,204.00
Energy Dissipation - Construct energy dis	Bore/Drill Rigs	1	10	40	0.5	60	12,000.00
Energy Dissipation - Construct connectio	Tractors/Loaders/Backhoes	1	10	513	0.37	20	37,962.00
Energy Dissipation - Construct connectio	Tractors/Loaders/Backhoes	1	10	246	0.37	20	18,204.00
Energy Dissipation - Construct ATV Trail	t Rollers	1	10	25	0.38	30	2,850.00
Energy Dissipation - Construct ATV Trail	t Tractors/Loaders/Backhoes	2	10	246	0.37	30	54,612.00
Energy Dissipation Structure Tunnel Porta	Rubber Tired Dozers	1	10	145	0.4	15	8,700.00
Energy Dissipation Structure Tunnel Porta	Off-Highway Trucks	1	10	214	0.38	15	12,198.00
Energy Dissipation Structure Tunnel Porta	Rollers	1	10	25	0.38	15	1,425.00
Energy Dissipation Structure Tunnel Porta	Tractors/Loaders/Backhoes	1	10	246	0.37	15	13,653.00
Energy Dissipation Structure Tunnel Porta	Rubber Tired Dozers	1	10	145	0.4	15	8,700.00
Energy Dissipation Structure Tunnel Porta	Off-Highway Trucks	1	10	214	0.38	15	12,198.00
Energy Dissipation Structure Tunnel Porta	Tractors/Loaders/Backhoes	1	10	246	0.37	15	13,653.00
Energy Dissipation Structure Tunnel Porta	Rubber Tired Dozers	1	10	145	0.4	30	17,400.00
Energy Dissipation Structure Tunnel Porta	Off-Highway Trucks	1	10	214	0.38	30	24,396.00
Energy Dissipation Structure Tunnel Porta	Tractors/Loaders/Backhoes	1	10	246	0.37	30	27,306.00
Energy Dissipation Structure Tunnel Porta	Tractors/Loaders/Backhoes	2	10	513	0.37	30	113,886.00
Energy Dissipation Structure Tunnel Porta	Other Construction Equipment	2	10	220	0.42	30	55,440.00
Energy Dissipation Structure Tunnel Porta	Off-Highway Trucks	2	10	214	0.38	30	48,792.00
Energy Dissipation Structure Tunnel Porta	Tractors/Loaders/Backhoes	2	10	246	0.37	30	54,612.00
Energy Dissipation Structure Tunnel Porta	Tractors/Loaders/Backhoes	1	8	513	0.37	20	30,369.60
Energy Dissipation Structure Tunnel Porta	Other Construction Equipment	1	8	220	0.42	20	14,784.00
Energy Dissipation Structure Tunnel Porta	Rubber Tired Dozers	1	8	145	0.4	20	9,280.00
Energy Dissipation Structure Tunnel Porta	Excavators	1	8	100	0.38	20	6,080.00
Energy Dissipation Structure Tunnel Porta	Off-Highway Trucks	2	8	214	0.38	20	26,022.40
Energy Dissipation Structure Tunnel Porta	Tractors/Loaders/Backhoes	2	8	246	0.37	20	29,126.40
Energy Dissipation Structure Tunnel Porta	Cranes	1	10	130	0.29	30	11,310.00
Energy Dissipation Structure Tunnel Porta	Cranes	1	10	152	0.29	30	13,224.00
Energy Dissipation Structure Tunnel Porta	Welders	1	10	100	0.45	30	13,500.00
Energy Dissipation Structure Tunnel Porta	Tractors/Loaders/Backhoes	1	10	246	0.37	30	27,306.00
Energy Dissipation Structure Tunnel Porta	Tractors/Loaders/Backhoes	1	8	246	0.37	200	145,632.00
Energy Dissipation Structure Tunnel Porta	Cranes	1	20	1325	0.29	30	230,550.00
Energy Dissipation Structure Tunnel Porta	Cranes	1	20	265	0.29	30	46,110.00
Energy Dissipation Structure Tunnel Porta	Cranes	1	20	152	0.29	30	26,448.00
Energy Dissipation Structure Tunnel Porta	Welders	1	20	100	0.45	30	27,000.00
Energy Dissipation Structure Tunnel Porta	Tractors/Loaders/Backhoes	1	20	246	0.37	30	54,612.00
Tunneling - Drive 100' of tunnel at 20 fpd	Cranes	1	20	1325	0.29	5	38,425.00
Tunneling - Drive 100' of tunnel at 20 fpd	Cranes	1	20	265	0.29	5	7,685.00
Tunneling - Drive 100' of tunnel at 20 fpd	Cranes	1	20	152	0.29	5	4,408.00
Tunneling - Drive 100' of tunnel at 20 fpd	Welders	1	20	100	0.45	5	4,500.00
Tunneling - Drive 100' of tunnel at 20 fpd	Tractors/Loaders/Backhoes	1	20	246	0.37	5	9,102.00
Tunneling - Tunnel excavation and suppor	Other Material Handling Equipment	4	24	0	0.4	180	0.00
Tunneling - Tunnel excavation and suppor	Other Material Handling Equipment	1	24	250	0.4	180	432,000.00
Tunneling - Tunnel excavation and suppor	Cranes	1	24	152	0.29	180	190,425.60
Tunneling - Tunnel excavation and suppor	Other Material Handling Equipment	2	24	120	0.4	180	414,720.00
Tunneling - Tunnel excavation and suppor	Off-Highway Trucks	2	8	214	0.38	180	234,201.60
Tunneling - Tunnel excavation and suppor	Other Material Handling Equipment	18	24	0	0.4	180	0.00
Tunneling - Tunnel excavation and suppor	Tractors/Loaders/Backhoes	1	24	246	0.37	180	393,206.40
Tunneling - TBM trailing gear and plant re	Cranes	1	20	265	0.29	30	46,110.00
Tunneling - TBM trailing gear and plant re	Skid Steer Loaders	1	24	40	0.37	30	10,656.00
Tunneling - TBM trailing gear and plant re	Other Material Handling Equipment	1	24	600	0.4	30	172,800.00
Tunneling - TBM trailing gear and plant re	Cranes	1	24	130	0.29	30	27,144.00
Tunneling - TBM trailing gear and plant re	Other Material Handling Equipment	1	24	120	0.4	30	34,560.00

Total equip. >100HP 3,237,342.00  
 Total equip. <100HP 26,931.00

Notes:

- CARB, 2017 Off-road Diesel Emission Factors  
[https://ww3.arb.ca.gov/msei/ordiesel/ordas\\_ef\\_fc\\_2017\\_v7.xlsx](https://ww3.arb.ca.gov/msei/ordiesel/ordas_ef_fc_2017_v7.xlsx)

**Electricity Consumption from Electric-Powered Equipment**

Phase	Start Date	Equipment Name	Category	Year	Days	Hours per day	Number	Fuel Type	Horsepower	Kilowatts	Kilowatt Hours (day)	Kilowatt Hours (total)
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust	12/11/2023	Compressor, Stationary 1200cfm	Air Compressors	2023.00	30.00	20.00	1.00	Electric	350.00	260.99	5219.90	156596.97
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust	12/11/2023	EPBM and Backup 14"9"	Bore/Drill Rigs	2023.00	30.00	20.00	1.00	Electric	1800.00	1342.26	26845.20	805355.86
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	Compressor, Stationary 1200cfm	Air compressors	2024.00	5.00	20.00	1.00	Electric	350.00	260.99	5219.90	26099.50
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	EPBM and Backup 14"9"	Bore/Drill Rigs	2024.00	5.00	20.00	1.00	Electric	1800.00	1342.26	26845.20	134225.98
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Compressor, Stationary 1200cfm	Air compressors	2024.00	180.00	24.00	1.00	Electric	350.00	260.99	6263.88	1127498.20
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	EPBM and Backup 14"9"	Bore/Drill Rigs	2024.00	180.00	24.00	1.00	Electric	1800.00	1342.26	32214.23	5798562.19
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Pump, trash 200gpm/100ft head	Other General Industrial Equipment	2024.00	180.00	24.00	1.00	Electric	10.00	7.46	178.97	32214.23
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Ventilation Fan 100hp	Other General Industrial Equipment	2024.00	180.00	24.00	2.00	Electric	100.00	74.57	3579.36	644284.69
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Ventilation Fan 40hp	Other General Industrial Equipment	2024.00	180.00	24.00	1.00	Electric	40.00	29.83	715.87	128856.94
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	Water Treatment Plant	Other General Industrial Equipment	2024.00	180.00	24.00	1.00	Electric	200.00	149.14	3579.36	644284.69
Tunneling - TBM trailing gear and plant removal	10/7/2024	Compressor, Stationary 1200cfm	Air Compressors	2024.00	15.00	24.00	1.00	Electric	350.00	260.99	6263.88	93958.18
Tunneling - TBM trailing gear and plant removal	10/7/2024	Pump, subm. 140gpm/20ft head	Other Construction Equipment	2024.00	15.00	24.00	2.00	Electric	2.00	1.49	71.59	1073.81
Tunneling - TBM trailing gear and plant removal	10/7/2024	Pump, trash 200gpm/100ft head	Other Construction Equipment	2024.00	15.00	24.00	1.00	Electric	10.00	7.46	178.97	2684.52
Tunneling - TBM trailing gear and plant removal	10/7/2024	Ventilation Fan 100hp	Other Construction Equipment	2024.00	15.00	24.00	2.00	Electric	100.00	74.57	3579.36	53690.39
Tunneling - TBM trailing gear and plant removal	10/7/2024	Water Treatment Plant	Other Construction Equipment	2024.00	15.00	24.00	1.00	Electric	200.00	149.14	3579.36	53690.39
<b>9,703,076.54</b>												

Notes:

1. Assumed a direct relationship of 1 hp = 0.7457 kw

**Haul Trucks - Monterey County**

Onroad Travel Consumption	Value
EMFAC2021 Diesel Fuel Consumption Factor (gal/mi): <sup>1</sup>	0.1718
Total VMT (mi):	89,145
<b>Total diesel gallons</b>	<b>15,319</b>
Idling Consumption	Value
Idling Fuel Consumption Factor (gal/hr): <sup>2</sup>	0.6400
Total Idle-Hours per Year:	143
<b>Total diesel gallons</b>	<b>33</b>

**Total diesel gallons: 15,352**

Phase	Days/year	Truck Trips per Day (In/Out)	Trip Length (onsite +offsite) [miles]	Vehicle Category	VMT	Idle Hours
Energy Dissipation - Site Clearing and Grading	20	94	1.45	HHDT	2,726	157
Energy Dissipation - Construct energy dissipation structure	60	0	1.45	HHDT	0	0
Energy Dissipation - Construct connection between tunnel and Energy Dissipation Structure	20	4	28.45	HHDT	2,276	7
Energy Dissipation - Re-vegetation and site demob	30	16	21.45	HHDT	10,296	40
Energy Dissipation - Construct ATV Trail to south portal	30	0	1.45	HHDT	0	0
Energy Dissipation Structure Tunnel Portal - Improve access road	15	54	22.18	HHDT	17,966	68
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	15	0	1.45	HHDT	0	0
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control	15	0	1.45	HHDT	0	0
Energy Dissipation Structure Tunnel Portal - Site grading, staging, layout	30	0	1.45	HHDT	0	0
Energy Dissipation Structure Tunnel Portal - Install temporary utilities	30	0	1.45	HHDT	0	0
Energy Dissipation Structure Tunnel Portal - Portal excavation and site preparation	20	0	1.45	HHDT	0	0
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment	30	4	28.45	HHDT	3,414	10
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel segments	200	4	28.45	HHDT	22,760	67
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment	30	0	1.45	HHDT	0	0
Tunneling - Drive 100' of tunnel at 20 fpd	5	0	1.45	HHDT	0	0
Tunneling - Tunnel excavation and support @ 60' per day	180	6	28.45	HHDT	30,726	90
Tunneling - TBM trailing gear and plant removal	30	0	1.45	HHDT	0	0
Tunneling - Tunnel punch list/clearing	15	0	1.45	HHDT	0	0
Tunneling - Muck disposal on site/grading	180	0	1.45	HHDT	0	0
Tunneling - Demobilization tunnel plant	30	2	28.45	HHDT	1,707	5
<b>Total VMT:</b>					<b>89,145</b>	
<b>Total Idle-Hours:</b>						<b>143</b>

1. CARB, EMFAC2021 (Monterey County; HHDT/MHDT; Annual; CY 2023; Aggregate MY; Aggregate Speed,DSL)  
 2. Department of Energy, Fact #861, 2015 Idle Fuel Consumption for Selected Gasoline and Diesel Vehicles, February 23, 2015.  
<https://www.energy.gov/eere/vehicles/fact-861-february-23-2015-idle-fuel-consumption-selected-gasoline-and-diesel-vehicles>

**Vendor Trucks - Monterey County Portion of Project**

Onroad Travel Consumption	Value
EMFAC2021 Diesel Fuel Consumption Factor (gal/mi): <sup>1</sup>	0.1535
Total VMT (mi):	149,936
<b>Total diesel gallons</b>	<b>23,009</b>
Idling Consumption	Value
Idling Fuel Consumption Factor (gal/hr): <sup>2</sup>	0.6400
Total Idle-Hours per Year:	291
<b>Total diesel gallons</b>	<b>67</b>

**Total diesel gallons: 23,076**

Phase	Days/year	Vendor Truck Trips per Day (In/Out)	Trip Length (onsite +offsite) [miles]	Vehicle Category	VMT	Idle Hours
Energy Dissipation - Site Clearing and Grading	20	2	21.45	HHDT/MHDT	858	3
Energy Dissipation - Construct energy dissipation structure	60	6	21.45	HHDT/MHDT	7,722	30
Energy Dissipation - Construct connection between tunnel and Ener	20	8	21.45	HHDT/MHDT	3,432	13
Energy Dissipation - Re-vegetation and site demob	30	2	21.45	HHDT/MHDT	1,287	5
Energy Dissipation - Construct ATV Trail to south portal	30	10	21.45	HHDT/MHDT	6,435	25
Energy Dissipation Structure Tunnel Portal - Improve access road	15	2	21.45	HHDT/MHDT	644	3
Energy Dissipation Structure Tunnel Portal - site clearing and grubbi	15	2	21.45	HHDT/MHDT	644	3
Energy Dissipation Structure Tunnel Portal - Install erosion/sedimen	15	2	21.45	HHDT/MHDT	644	3
Energy Dissipation Structure Tunnel Portal - Site grading, staging, la	30	2	21.45	HHDT/MHDT	1,287	5
Energy Dissipation Structure Tunnel Portal - Install temporary utiliti	30	8	21.45	HHDT/MHDT	5,148	20
Energy Dissipation Structure Tunnel Portal - Portal excavation and si	20	8	21.45	HHDT/MHDT	3,432	13
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipm	30	8	21.45	HHDT/MHDT	5,148	20
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunn	200	8	21.45	HHDT/MHDT	34,320	133
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equip	30	0	21.45	HHDT/MHDT	0	0
Tunneling - Drive 100' of tunnel at 20 fpd	5	0	21.45	HHDT/MHDT	0	0
Tunneling - Tunnel excavation and support @ 60' per day	180	10	21.45	HHDT/MHDT	38,610	150
Tunneling - TBM trailing gear and plant removal	30	0	21.45	HHDT/MHDT	0	0
Tunneling - Tunnel punch list/clearing	15	8	21.45	HHDT/MHDT	2,574	10
Tunneling - Muck disposal on site/grading	180	10	21.45	HHDT/MHDT	38,610	150
Tunneling - Demobilization tunnel plant	30	0	21.45	HHDT/MHDT	0	0
<b>Total VMT:</b>					<b>149,936</b>	
<b>Total Idle-Hours:</b>						<b>291</b>

1. CARB, EMFAC2021 (Monterey County; HHDT/MHDT; Annual; CY 2023; Aggregate MY; Aggregate Speed,DSL)  
 2. Department of Energy, Fact #861, 2015 Idle Fuel Consumption for Selected Gasoline and Diesel Vehicles, February 23, 2015.  
<https://www.energy.gov/eere/vehicles/fact-861-february-23-2015-idle-fuel-consumption-selected-gasoline-and-diesel-vehicles>

**Workers**

Onroad Travel Consumption	Value
EMFAC2021 Gasoline Fuel Consumption Factor (gal/mi): <sup>1</sup>	0.0377
Total VMT (mi):	865,293
<b>Total gasoline gallons</b>	<b>32,596</b>

Phase	Days/year	Vehicle Trips per day (In/Out)	Trip Length (onsite +offsite) [miles]	Vehicle Category	VMT
Energy Dissipation - Site Clearing and Grading	20	10	21.45	LD Fleet Mix	4,290
Energy Dissipation - Construct energy dissipation structure	60	6	21.45	LD Fleet Mix	7,722
Energy Dissipation - Construct connection between tunnel and Energy I	20	6	21.45	LD Fleet Mix	2,574
Energy Dissipation - Re-vegetation and site demob	30	8	21.45	LD Fleet Mix	5,148
Energy Dissipation - Construct ATV Trail to south portal	30	10	21.45	LD Fleet Mix	6,435
Energy Dissipation Structure Tunnel Portal - Improve access road	15	10	21.45	LD Fleet Mix	3,218
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	15	8	21.45	LD Fleet Mix	2,574
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment coi	15	8	21.45	LD Fleet Mix	2,574
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydov	30	10	21.45	LD Fleet Mix	6,435
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; w	30	6	21.45	LD Fleet Mix	3,861
Energy Dissipation Structure Tunnel Portal - Portal excavation and suppoc	20	8	21.45	LD Fleet Mix	3,432
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment	30	8	21.45	LD Fleet Mix	5,148
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel lin	200	0	21.45	LD Fleet Mix	0
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipmen	30	10	21.45	LD Fleet Mix	6,435
Tunneling - Drive 100' of tunnel at 20 fpd	5	146	21.45	LD Fleet Mix	15,659
Tunneling - Tunnel excavation and support @ 60' per day	180	114	21.45	LD Fleet Mix	440,154
Tunneling - TBM trailing gear and plant removal	30	56	21.45	LD Fleet Mix	36,036
Tunneling - Tunnel punch list/clearing	15	0	21.45	LD Fleet Mix	0
Tunneling - Muck disposal on site/grading	180	78	21.45	LD Fleet Mix	301,158
Tunneling - Demobilization tunnel plant	30	26	21.45	LD Fleet Mix	16,731
				<b>Total VMT:</b>	<b>865,293</b>

1. CARB, EMFAC2021 (Monterey County; LDA/LDT1/LDT2; Annual; CY 2023; Aggregate MY; Aggregate Speed, GSL)  
 2. Department of Energy, Fact #861, 2015 Idle Fuel Consumption for Selected Gasoline and Diesel Vehicles, February 23, 2015.  
<https://www.energy.gov/eere/vehicles/fact-861-february-23-2015-idle-fuel-consumption-selected-gasoline-and-diesel-vehicles>

**Idling Fuel Consumption Factors**

Column1	Column2	Column3	Column4	Column5
VEHICLE TYPE	FUEL TYPE	ENGINE SIZE (LITER)	GROSS VEHICLE WEIGHT (GVW) (LBS)	IDLING FUEL USE (GAL/HR WITH NO LOAD)
Compact Sedan	Gas	2	-	0.16
Large Sedan	Gas	4.6	-	0.39
Compact Sedan	Diesel	2	-	0.17
Medium Heavy Truck	Gas	7-May	19,700-26,000	0.84
Delivery Truck	Diesel	-	19,500	0.84
Tow Truck	Diesel	-	26,000	0.59
Medium Heavy Truck	Diesel	10-Jun	23,000-33,000	0.44
Transit Bus	Diesel	-	30,000	0.97
Combination Truck	Diesel	-	32,000	0.49
Bucket Truck	Diesel	-	37,000	0.9
Tractor-Semitrailer	Diesel	-	80,000	0.64

Department of Energy, Fact #861, 2015 Idle Fuel Consumption for Selected Gasoline and Diesel Vehicles, February 23, 2015.  
<https://www.energy.gov/eere/vehicles/fact-861-february-23-2015-idle-fuel-consumption-selected-gasoline-and-diesel-vehicles>

This tool provides a quick estimation of the fuel use and emissions for your equipment in a specific year. The results may slightly differ from those from the official inventory model.

**Instructions:**

Enter the horsepower, model year, and other details about your equipment in the Input box.

Make sure to update the **load factor** for your equipment using the lookup table.

The **Output** box gives a quick estimation of the fuel use, NOx, PM, and THC emission for your equipment.

Input	Input Engine Here
Horsepower (hp)	70
Model year	2011
Calendar year	2015
Activity (annual hours)	250
Accumulated hours on equipment (estimate using annual-hours*age if you only know the age of the equipment)	1000
Load factor (check the lookup table)	0.2

Results	
Fuel Used (gallon)	201
NOx Emissions (kg)	9.8
PM Emissions (kg)	0.5
THC Emissions (kg)	0.4
CO2 Emissions (kg)	2050.9
NOx Emission Factor (including deterioration and fuel correction factor): gram/bhp-hr	2.79
PM Emission Factor (including deterioration and fuel correction factor): gram/bhp-hr	0.15
THC Emission Factor (including deterioration and fuel correction factor): gram/ bhp-hr	0.11

Intermediate steps	
HPbin	75
NOx_EF0	2.90
NOx_DR	3.8E-05
NOx_FCF	0.950
PM_EF0	0.16
PM_DR	1.2E-05
PM_FCF	0.90
THC_EF0	0.10
THC_DR	2.5E-05
THC_FCF	0.90
NOx_EF (g/hp-hr)	2.79
PM_EF (g/hp-hr)	0.15
THC_EF (g/hp-hr)	0.11
CO2_EF (kg/gallon-diesel)*	10.21
BSFC (lb/hp-hr)	0.408
Unit conversion (lb/gallon)	7.109

\*Reference: [www.epa.gov/sites/production/files/2015-07/documents/emission-factors\\_2014.pdf](http://www.epa.gov/sites/production/files/2015-07/documents/emission-factors_2014.pdf)

Loac Factor Lookup Table			
Equipment Category	Equipment Type	Details	Load Factor
Agriculture equipment	Agricultural tractors		0.48
	Combine harvesters		0.44
	Forage & silage harvesters		0.44
	Cotton pickers		0.44
	Nut harvester		0.44
	Other harvesters		0.44
	Balers (self propelled)		0.50
	Bale wagons (self propelled)		0.50
	Swathers/windrowers/hay conditioners		0.48
	Hay Squeeze/Stack retriever		0.42
	Sprayers/Spray rigs		0.42
	Construction equipment		0.40
	Other non-mobile		0.48
	Forklifts		0.40
Atvs		0.40	
Others		0.40	
Portable equipment	All portable equipment		0.31
Cargo Handling Equipment	Construction equipment		0.55
	Container handling equipment		0.59
	Forklift		0.30
	Other general industrial equipment		0.51
	Rtg crane		0.20
Yard tractor		0.39	
Transport Refrigeration Units (TRU)	TRU on trailers	25 HP and over, MY2012 and Older	0.46
	TRU on trailers	25 HP and over, MY2013 and Newer	0.38
	TRU on trailers	23 HP and Over, below 25 HP, All years	0.46
	TRU on trucks	Below 23 HP, All Model years	0.56
	TRU on railcars	25 HP and over, MY2012 and Older	0.33
	TRU on railcars	25 HP and over, MY2013 and Newer	0.27
	TRU on railcars	Below 25 HP, All Model years	0.33
	TRU with generators	25 HP and over, MY2012 and Older	0.46
	TRU with generators	25 HP and Over, MY2013 and Newer	0.38
TRU with generators	23 HP and Over, below 25 HP, All Model Years	0.46	
Ground Support Equipment	Passenger Stand		0.40
	A/C Tug Narrow Body		0.54
	A/C Tug Wide Body		0.54
	Baggage Tug		0.37
	Belt Loader		0.34
	Bobtail		0.37
	Cargo Loader		0.34
	Cargo Tractor		0.36
	Forklift (GSE)		0.20
	Lift (GSE)		0.34
	Other GSE		0.34
Construction and Industrial Equipment	Cranes		0.29
	Crawler Tractors		0.43
	Excavators		0.38
	Graders		0.41
	Off-Highway Tractors		0.44
	Off-Highway Trucks		0.38
	Other Construction Equipment		0.42
	Pavers		0.42
	Paving Equipment		0.36
	Rollers		0.38
	Rough Terrain Forklifts		0.40
	Rubber Tired Dozers		0.40
	Rubber Tired Loaders		0.36
	Scrapers		0.48
	Skid Steer Loaders		0.37
	Surfacing Equipment		0.30
	Tractors/Loaders/Backhoes		0.37
	Trenchers		0.50
	Aerial Lifts		0.31
	Forklifts		0.20
	Other General Industrial Equipment		0.34
Other Material Handling Equipment		0.40	
Sweepers/Scrubbers		0.46	
Oil and Drill Rigs	Drill Rig (Mobile)		0.50
	Workover Rig (Mobile)		0.50
	Bore/Drill Rigs		0.50



PhaseName	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
Energy Dissipation - Site Clearing and Grading	3/11/2024	4/5/2024		20
Energy Dissipation - Construct energy dissipation structure	4/8/2024	6/28/2024		60
Energy Dissipation - Construct connection between tunnel and Energy Dissipator	11/18/2024	12/13/2024		20
Energy Dissipation - Re-vegetation and site demob	12/16/2024	1/24/2025		30
Energy Dissipation - Construct ATV Trail to south portal	10/2/2023	11/10/2023		30
Energy Dissipation Structure Tunnel Portal - Improve access road	7/10/2023	7/28/2023		15
Energy Dissipation Structure Tunnel Portal - site clearing and grubbing	7/31/2023	8/18/2023		15
Energy Dissipation Structure Tunnel Portal - Install erosion/sediment control and silt fencing	7/31/2023	8/18/2023		15
Energy Dissipation Structure Tunnel Portal - Site grading, staging, laydown and much disposal area prep	8/21/2023	9/29/2023		30
Energy Dissipation Structure Tunnel Portal - Install temporary utilities; water, power, sewage handling, communicat	10/2/2023	11/10/2023		30
Energy Dissipation Structure Tunnel Portal - Portal excavation and support	11/13/2023	12/8/2023		20
Energy Dissipation Structure Tunnel Portal - Mobilize tunnel equipment and materials to site	10/2/2023	11/10/2023		30
Energy Dissipation Structure Tunnel Portal - Fabricate pre-cast tunnel liner segments and trasport to site	7/10/2023	4/12/2024		200
Energy Dissipation Structure Tunnel Portal - EFBM and tunnel equipment/utilities setup and thrust frame install	12/11/2023	1/19/2024		30
Tunneling - Drive 100' of tunnel at 20 fpd	1/22/2024	1/26/2024		5
Tunneling - Tunnel excavation and support @ 60' per day	1/29/2024	10/4/2024		180
Tunneling - TBM trailing gear and plant removal	10/7/2024	11/15/2024		30
Tunneling - Tunnel punch list/clearing	7/10/2023	7/30/2023		15
Tunneling - Muck disposal on site/grading	1/29/2024	10/4/2024		180
Tunneling - Demobilization tunnel plant	10/7/2024	11/15/2024		30

**Retail Gasoline Sales by County**

(Millions of Gallons)

County	2010		2011		2012 <sup>*</sup>		2013 <sup>*</sup>		2014 <sup>*</sup>		2015 <sup>*</sup>		2016 <sup>*</sup>		2017 <sup>#</sup>		2018 <sup>#</sup>		2019 <sup>#</sup>	
	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals
Alameda	456	551	476	548	480	568	473	603	341	491	432	542	518	582	521	583	495	569	505	591
Amador	12	15	12	14	12	14	10	12	11	15	10	13	12	14	13	15	14	17	16	18
Butte	66	81	70	81	66	78	64	81	59	85	62	78	74	83	78	87	75	86	62	78
Calaveras	11	14	12	14	10	12	10	13	10	14	11	14	13	15	14	15	13	15	14	15
Colusa	13	17	9	11	8	10	10	13	7	10	7	9	10	11	11	12	11	13	11	13
Contra Costa	332	403	344	395	354	419	331	422	272	392	303	380	384	431	385	430	346	397	374	427
Del Norte	6	8	6	7	6	7	4	5	5	7	5	6	6	7	6	7	6	7	4	6
El Dorado	55	68	57	67	64	75	56	72	36	52	65	81	72	81	73	82	66	76	64	74
Fresno	285	342	290	335	288	341	269	344	209	300	264	331	318	358	328	367	320	368	306	376
Glenn	12	14	12	14	11	12	11	14	11	16	13	16	15	17	17	18	15	17	14	18
Humboldt	44	54	46	54	45	53	51	64	31	44	47	59	54	61	49	55	51	58	42	53
Imperial	56	69	51	60	46	54	46	58	58	83	63	79	77	86	74	83	78	89	73	86
Inyo	16	19	16	18	13	16	12	16	12	17	14	18	16	18	16	18	16	18	14	17
Kern	293	362	309	359	301	356	287	367	267	384	299	375	362	407	349	390	345	396	340	392
Kings	42	51	41	48	40	47	38	49	31	45	41	51	50	57	54	60	52	60	67	76
Lake	20	25	18	22	17	20	19	24	17	25	19	23	19	21	19	21	20	23	18	24
Lassen	6	7	6	7	5	6	5	6	6	8	7	9	7	8	5	6	4	5	5	7
Los Angeles	3,005	3,658	3,069	3,554	2,916	3,451	2,700	3,445	2,606	3,749	2,762	3,465	3,184	3,577	3,272	3,659	3,169	3,638	3,189	3,559
Madera	47	57	54	61	44	53	43	54	31	45	35	44	52	59	56	62	49	57	44	62
Marin	78	94	91	103	91	107	83	106	52	75	83	105	91	102	90	101	71	82	86	96
Mariposa	6	7	6	7	5	6	4	5	6	9	5	6	7	8	5	6	6	7	7	8
Mendocino	33	41	34	40	36	43	33	42	28	40	32	40	37	42	34	38	35	40	27	44
Merced	86	106	81	95	78	92	83	94	58	83	84	105	101	114	105	117	115	132	100	119
Mono	6	7	5	6	2	2	6	8	6	8	6	7	7	8	5	5	6	7	7	8
Monterey	124	152	134	155	124	147	139	177	87	126	147	184	157	177	155	174	157	181	148	174
Napa	42	52	42	47	49	58	41	52	27	39	50	63	50	57	47	53	53	61	54	57
Nevada	34	42	30	35	29	34	19	25	19	27	31	40	36	40	35	39	33	38	29	39
Orange	1,162	1,406	1,162	1,338	1,145	1,355	1,044	1,332	1,018	1,465	1,092	1,370	1,224	1,375	1,236	1,382	1,222	1,402	1,198	1,325
Placer	154	190	162	189	162	192	131	167	118	170	167	209	181	204	182	203	179	206	177	198
Plumas	6	7	7	8	6	7	3	4	5	8	5	6	5	6	5	6	5	6	5	6
Riverside	781	952	792	916	756	895	725	925	702	1,010	828	1,039	921	1,035	941	1,052	916	1,052	921	1,046
Sacramento	467	566	482	553	473	560	446	568	308	442	465	584	534	600	535	599	511	586	536	600
San Benito	15	18	14	16	17	20	5	7	10	14	12	15	15	17	18	20	15	17	12	21
San Bernardino	747	902	761	871	742	878	697	889	659	948	725	909	899	1,010	888	993	862	990	851	977
San Diego	1,094	1,320	1,122	1,291	1,079	1,277	972	1,241	940	1,352	1,123	1,408	1,221	1,372	1,231	1,377	1,208	1,387	1,197	1,325
San Francisco	112	138	129	151	126	149	126	161	71	102	107	134	119	134	120	134	105	120	107	118
San Joaquin	248	303	260	301	253	299	254	325	217	253	287	360	303	340	310	347	293	336	289	352
San Luis Obispo	121	147	123	144	105	124	109	140	101	145	117	147	127	142	127	142	131	150	125	138
San Mateo	232	275	272	310	258	311	244	311	159	229	243	304	289	325	291	326	264	304	293	322
Santa Barbara	141	174	140	164	140	166	135	172	124	178	148	186	161	181	152	170	167	191	166	177
Santa Clara	514	621	600	691	589	697	546	696	460	661	580	727	638	717	613	685	560	643	614	713
Santa Cruz	84	103	91	106	89	105	79	101	53	77	77	96	85	95	84	94	78	90	72	90
Shasta	72	88	73	85	77	91	65	83	55	79	76	95	73	82	83	92	76	87	72	82
Siskiyou	20	25	17	19	19	23	9	12	12	14	21	27	24	27	26	29	25	28	26	27
Solano	158	190	191	218	180	213	158	202	116	167	160	201	187	210	194	217	188	216	182	216
Sonoma	157	189	155	178	160	189	163	208	146	210	160	201	186	209	186	208	167	192	169	204
Stanislaus	191	230	184	212	173	205	144	183	159	229	201	252	217	244	227	253	212	244	196	245
Sutter	30	37	31	37	34	40	33	42	17	24	30	38	35	39	35	39	35	40	27	38
Tehama	27	33	24	28	23	27	18	24	26	24	29	30	25	29	26	29	27	31	28	30
Trinity	3	4	3	4	1	2	3	4	3	4	3	4	4	5	4	5	4	4	2	4
Tulare	109	132	121	139	120	142	91	116	107	155	114	143	136	152	149	167	147	168	144	174
Tuolumne	14	17	13	16	15	18	12	15	14	21	18	23	21	23	22	25	22	25	21	23
Ventura	285	345	290	335	262	310	246	314	249	358	256	321	294	330	302	338	298	342	297	329
Yolo	82	100	76	87	74	87	75	96	63	90	82	103	98	110	101	113	96	110	97	114
Yuba	24	29	26	30	22	26	23	30	14	20	24	30	32	36	30	34	40	46	27	32
Other Counties <sup>*</sup>	2	3	2	2	1	2	1	2	1	2	2	2	2	2	2	2	1	1	2	2
<b>Total</b>	<b>12,238</b>	<b>14,860</b>	<b>12,644</b>	<b>14,596</b>	<b>12,241</b>	<b>14,486</b>	<b>11,396</b>	<b>14,540</b>	<b>10,220</b>	<b>14,701</b>	<b>12,044</b>	<b>15,108</b>	<b>13,785</b>	<b>15,491</b>	<b>13,936</b>	<b>15,584</b>	<b>13,475</b>	<b>15,471</b>	<b>13,473</b>	<b>15,365</b>

<sup>\*</sup> 2012 to 2019 data are not directly comparable to other years since an improved methodology is used, but is within 5 percent compared to the previous methodology.

<sup>#</sup> Other Counties include Alpine, Modoc and Sierra.

Source: <https://www.energy.ca.gov/media/3874>

**Retail Diesel Sales by County**

(Millions of Gallons)

County	2010		2011		2012#		2013#		2014#		2015#		2016#		2017#		2018#		2019#	
	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals
Alameda	29	32	26	28	30	36	27	34	19	27	38	49	47	54	51	58	56	62	48	55
Amador	2	2	2	2	2	2	1	2	1	2	1	2	2	2	2	2	2	3	3	3
Butte	9	10	9	10	7	9	8	10	8	10	9	11	11	13	11	13	12	13	12	15
Calaveras	2	2	2	2	2	2	1	2	1	2	2	2	3	3	3	3	2	3	3	3
Colusa	3	3	2	3	4	5	4	5	2	4	3	4	4	4	2	3	4	4	7	7
Contra Costa	15	18	19	21	17	20	17	21	12	17	19	24	23	26	24	28	31	34	24	27
Del Norte	1	2	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	1	2
El Dorado	6	8	6	7	6	7	5	6	4	6	7	9	8	9	8	10	8	9	8	10
Fresno	30	33	35	38	33	40	23	29	18	25	39	50	40	46	40	45	46	51	39	49
Glenn	5	5	4	4	4	5	4	5	4	5	5	6	12	14	16	19	16	17	18	19
Humboldt	10	12	10	12	10	12	11	14	4	5	10	13	13	14	8	9	7	8	6	7
Imperial	9	10	8	9	7	8	8	10	8	11	9	11	14	16	11	12	20	22	21	25
Inyo	3	4	3	4	2	2	3	4	3	3	3	4	3	4	3	4	3	3	3	4
Kern	111	117	125	129	133	158	118	148	124	171	125	160	131	149	107	121	97	108	96	105
Kings	7	7	7	8	7	9	5	6	4	6	7	9	5	6	7	7	8	9	8	9
Lake	3	3	3	3	2	2	2	3	2	3	3	3	1	1	3	3	3	4	3	4
Lassen	1	1	1	2	1	1	1	1	1	2	3	3	4	4	1	1	1	1	1	2
Los Angeles	212	235	221	239	205	245	190	239	194	267	257	328	273	309	267	301	228	253	246	276
Madera	23	24	23	24	24	28	18	23	22	31	26	33	28	31	29	33	28	31	23	24
Marin	3	4	2	3	3	3	2	3	2	2	2	3	4	4	4	4	3	3	4	4
Mariposa	1	1	1	1	1	1	-	1	2	2	1	1	1	1	1	1	1	1	1	1
Mendocino	6	7	7	8	7	9	6	6	4	5	6	7	9	10	6	6	5	6	5	8
Merced	44	45	37	38	46	55	49	62	49	68	54	69	59	66	38	42	35	39	28	36
Mono	1	1	1	1	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Monterey	21	23	24	26	25	30	22	27	13	18	23	29	24	28	24	27	24	26	23	26
Napa	2	2	2	2	6	7	2	3	2	3	6	8	6	7	6	7	6	7	6	7
Nevada	5	5	5	5	4	4	1	2	4	6	7	8	8	9	8	9	7	8	5	8
Orange	38	47	36	42	38	46	33	42	37	51	46	59	52	59	54	61	49	55	51	56
Placer	13	16	13	15	12	15	9	12	10	13	13	16	15	17	15	17	16	17	16	17
Plumas	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1
Riverside	84	93	87	94	89	107	86	109	100	138	119	152	128	145	131	148	119	132	108	122
Sacramento	33	37	32	35	27	32	18	21	21	29	28	36	38	42	42	48	41	45	37	41
San Bernardino	141	149	136	142	158	189	164	206	152	210	198	253	223	252	235	265	176	195	165	178
San Diego	69	80	64	72	62	74	58	73	67	93	87	111	93	105	92	103	92	103	94	110
San Francisco	3	3	3	3	3	4	4	5	1	2	5	6	6	6	5	6	5	5	5	5
San Joaquin	73	75	85	87	84	99	90	113	86	119	102	131	116	131	111	126	105	117	101	113
San Luis Obispo	12	14	16	18	11	13	9	12	17	17	19	24	20	23	19	21	20	22	20	22
San Mateo	10	12	8	10	8	10	8	10	4	6	15	19	13	14	15	17	16	17	18	19
Santa Barbara	13	14	16	17	10	13	12	15	13	18	20	26	22	25	17	19	21	24	18	19
Santa Clara	23	26	26	28	27	32	28	35	25	32	36	47	30	34	32	36	43	48	33	42
Santa Cruz	4	5	5	6	4	5	4	6	2	3	5	6	5	6	6	6	6	7	4	6
Shasta	20	23	19	21	16	19	18	22	13	18	21	27	21	24	22	25	21	24	14	16
Siskiyou	5	6	11	11	16	20	15	19	11	16	20	26	19	22	18	21	16	17	16	17
Solano	14	17	18	20	14	16	14	17	8	11	14	18	17	19	22	24	23	25	24	27
Sonoma	14	16	18	19	13	16	14	18	17	17	15	20	20	23	20	23	20	22	28	32
Stanislaus	33	36	27	29	25	30	15	19	20	27	26	33	20	22	30	34	32	36	33	35
Sutter	4	5	2	3	3	4	4	5	2	3	4	5	6	6	3	4	4	5	5	6
Tehama	31	32	38	39	35	42	37	47	25	35	37	48	35	39	34	38	18	20	17	18
Tulare	23	25	33	35	27	32	31	39	31	43	34	43	37	42	37	41	31	34	42	45
Tuolumne	2	2	2	2	1	2	2	2	2	2	2	3	2	3	3	3	3	3	3	3
Ventura	20	23	32	34	23	27	23	29	25	34	27	34	29	32	32	36	30	33	33	35
Yolo	33	34	26	27	27	33	30	37	29	40	27	35	32	37	27	30	25	28	24	26
Yuba	4	4	4	5	3	4	3	4	2	3	2	3	4	5	8	9	11	12	4	5
Other Counties*	1	2	2	2	1	2	1	1	1	2	2	2	3	3	3	3	2	2	2	3
<b>Total</b>	<b>1,285</b>	<b>1,414</b>	<b>1,346</b>	<b>1,447</b>	<b>1,327</b>	<b>1,589</b>	<b>1,261</b>	<b>1,587</b>	<b>1,226</b>	<b>1,691</b>	<b>1,592</b>	<b>2,033</b>	<b>1,742</b>	<b>1,971</b>	<b>1,717</b>	<b>1,937</b>	<b>1,602</b>	<b>1,777</b>	<b>1,559</b>	<b>1,756</b>

# 2012-2019 data are not directly comparable to other years since an improved methodology is used, but is within 5 percent compared to the previous methodology.

\* Other Counties include Alpine, Modoc, San Benito, Sierra and Trinity.

Note: Non-Retail diesel sales, which comprise approximately 52.8% of all diesel sales, are not reported in this chart.

Region	Monterey
Model Year	Aggregate
Speed	Aggregate
Fuel	Gasoline
Calendar Year	2023

Row Labels	Sum of Total VMT	Sum of Fuel Consumption
LDA	5235880.258	180.2302193
LDT1	499564.2123	20.8967432
LDT2	2580927.985	112.157506
<b>Grand Total</b>	<b>8316372.455</b>	<b>313.2844684</b>

Vehicle Categor	VMT (mi/day)	Fuel Consumption			Distribution of Trips	gal/mi
		(1000gal/day)	gal/mi	mi/gal		
LDA	5235880.258	180.2302193	0.034422143	29.05106746	63%	0.037670808
LDT1	499564.2123	20.8967432	0.041829944	23.90631916	6%	
LDT2	2580927.985	112.157506	0.043456271	23.01163853	31%	

Source: EMFAC2021, San Luis Obispo County, Annual, EMFAC2007 Categories

Region	Monterey
Model Year	Aggregate
Speed	Aggregate
Fuel	Diesel
Calendar Year	2023

Row Labels	Sum of Total VMT	Sum of Fuel Consumption
HHDT	294720.5643	50.64656726
MHDT	149216.1873	17.4797698
<b>Grand Total</b>	<b>443936.7516</b>	<b>68.12633706</b>

Vehicle Categor	VMT (mi/day)	Fuel Consumption			Distribution of Trips
		(1000gal/day)	gal/mi	mi/gal	
HHDT	294720.5643	50.64656726	0.171846058	5.819161697	66%
MHDT	149216.1873	17.4797698	0.117143925	8.536507575	34%

Source: EMFAC2021, San Luis Obispo County, Annual, EMFAC2007 Categories

gal/mi
0.153459557

**MCWRA ILT - SLO County Fuel Consumption Summary**

Source Category	Fuel Consumption (gal)	
	Diesel	Gasoline
Offroad Equipment	74,418	--
Haul Trucks	6,802	--
Vendor Trucks	18,023	--
Workers	--	4,172
<b>Total Fuel Consumption</b>	<b>99,243</b>	<b>4,172</b>

<b>Construction Duration (years):</b>	1.87
<b>Average Annual Diesel (gal):</b>	53,036
<b>Average Annual Gasoline (gal):</b>	2,229

**County Fuel Consumption (2019) <sup>1</sup>**

**County:** San Luis Obispo

Source	Fuel Type	Gallons (Retail + Non-Retail)	Percent of Project Compared to County
Workers	Gas	138,000,000	0.002%
Off-Road/Haul & Vendor Trucks	Diesel	45,833,333	0.116%

**Electric-Powered Construction Equipment**

<b>Total Electricity Consumption (kWh):</b>	1,288,569.38
<b>Total Electricity Consumption (GWh):</b>	1.29
<b>2019 SLO County Usage (GWh)<sup>2</sup>:</b>	1060.09
<b>Project Percent of Electricity Sales (%):</b>	0.122%

Notes:

- California Energy Commission, California Annual Retail Fuel Outlet Report Results (CEC-A15), 2010-2019  
<https://www.energy.ca.gov/sites/default/files/2020-10/2010-2019%20CEC-A15%20Results%20and%20Analysis.xlsx>  
 Accessed April 2021. Diesel is adjusted to account for retail (48%) and non-retail (52%) diesel sales
- California Energy Commission. 2021. Electricity Consumption by County (non-residential) for SLO County (2019).  
<http://www.ecdms.energy.ca.gov/elecbycounty.aspx>

Off-Road Equipment - SLO County

Fuel Consumption: Equipment ≤ 100HP	Value
Brake Specific Fuel Consumption Factor (lb/hp-hr) <sup>1</sup>	0.408
Fuel Density (lb/gal) <sup>1</sup>	7.11
Consumption Factor (gal/hp-hr)	0.0574
Total HP-HR <100	20,975
<b>Total Diesel Fuel (gal)</b>	<b>1,204</b>

Fuel Consumption: Equipment > 100HP	Value
Brake Specific Fuel Consumption Factor (lb/hp-hr) <sup>1</sup>	0.367
Fuel Density (lb/gal) <sup>1</sup>	7.11
Consumption Factor (gal/hp-hr)	0.0516
Total HP-HR >100	1,418,193
<b>Total Diesel Fuel (gal)</b>	<b>73,214</b>

**Total diesel gallons (off-road equipment): 74,418**

Phase Name	Equipment	# of Equipment	Hours/Day	HP	Load Factor	Days	Total HP-HR
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Rubber Tired Dozers	1	10	145	0.4	45	26,100.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Off-Highway Trucks	1	10	214	0.38	30	24,396.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Tractors/Loaders/Backhoes	1	10	246	0.37	45	40,959.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Bore/Drill Rigs	1	10	40	0.5	45	9,000.00
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	Tractors/Loaders/Backhoes	1	10	513	0.37	45	85,414.50
Tunnel Intake Structure - Construct Control Building	Tractors/Loaders/Backhoes	1	10	246	0.37	30	27,306.00
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	Rollers	1	10	25	0.38	30	2,850.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Tractors/Loaders/Backhoes	2	10	246	0.37	10	18,204.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Bore/Drill Rigs	1	10	40	0.5	10	2,000.00
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	Rubber Tired Dozers	1	10	145	0.4	10	5,800.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Off-Highway Trucks	1	10	214	0.38	45	36,594.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Rollers	1	10	25	0.38	45	4,275.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Tractors/Loaders/Backhoes	1	10	246	0.37	45	40,959.00
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	Rubber Tired Dozers	1	10	145	0.4	45	26,100.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Off-Highway Trucks	1	10	214	0.38	30	24,396.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Tractors/Loaders/Backhoes	1	10	246	0.37	30	27,306.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Tractors/Loaders/Backhoes	3	10	513	0.37	30	170,829.00
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	Off-Highway Trucks	3	10	214	0.38	30	73,188.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	Tractors/Loaders/Backhoes	3	10	246	0.37	30	81,918.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	Tractors/Loaders/Backhoes	3	10	513	0.37	30	170,829.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	Off-Highway Trucks	3	10	214	0.38	30	73,188.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	Tractors/Loaders/Backhoes	3	10	246	0.37	30	81,918.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	Tractors/Loaders/Backhoes	1	10	246	0.37	30	27,306.00
Tunnel Intake Structure Portal - TBM reception portal excavation and support	Tractors/Loaders/Backhoes	3	10	225	0.37	30	74,925.00
Tunnel Intake Structure Portal - Remove TBM	Tractors/Loaders/Backhoes	3	10	246	0.37	30	81,918.00
Tunnel Intake Structure Portal - Remove TBM	Tractors/Loaders/Backhoes	3	10	225	0.37	30	74,925.00
Tunnel Intake Structure Portal - Remove TBM	Tractors/Loaders/Backhoes	3	10	246	0.37	30	81,918.00
Tunnel Intake Structure Portal - Remove TBM	Rubber Tired Dozers	1	10	145	0.4	30	17,400.00
Tunnel Intake Structure Portal - Remove TBM	Off-Highway Trucks	1	10	214	0.38	30	24,396.00
Tunnel Intake Structure Portal - Remove TBM	Rollers	1	10	25	0.38	30	2,850.00
						<b>Total equip. &gt;100HP</b>	<b>1,418,192.50</b>
						<b>Total equip. &lt;100HP</b>	<b>20,975.00</b>

Notes:

- CARB, 2017 Off-road Diesel Emission Factors  
[https://ww3.arb.ca.gov/msei/ordiesel/ordas\\_ef\\_fcf\\_2017\\_v7.xlsx](https://ww3.arb.ca.gov/msei/ordiesel/ordas_ef_fcf_2017_v7.xlsx)



**SLO County -Electricity Consumption from Electric-Powered Equipment**

Phase	Start Date	equipment Name	Category	Year	Days	Hours per day	Number	Fuel Type	Horsepower	Kilowatts	Kilowatt Hours (day)	Kilowatt Hours (total)
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	Compressor, Stationary 1200cfm	Air compressors	2024.00	30.00	24.00	1.00	Electric	350.00	260.99	6263.88	187916.37
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	EPBM and Backup 14'9"	Air compressors	2024.00	30.00	24.00	1.00	Electric	1800.00	1342.26	32214.23	966427.03
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	Pump, trash 200gpm/100ft head	Air compressors	2024.00	30.00	24.00	1.00	Electric	10.00	7.46	178.97	5369.04
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	Ventilation Fan 40hp	Air compressors	2024.00	30.00	24.00	1.00	Electric	40.00	29.83	715.87	21476.16
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	Water Treatment Plant	Air compressors	2024.00	30.00	24.00	1.00	Electric	200.00	149.14	3579.36	107380.78
												1,288,569.38

Notes:

1. Assumed a direct relationship of 1 hp = 0.7457 kw

**Haul Trucks - SLO County**

<b>Onroad Travel Consumption</b>		<b>Value</b>
EMFAC2021 Diesel Fuel Consumption Factor (gal/mi): <sup>1</sup>		0.1756
Total VMT (mi):		38,671
<b>Total diesel gallons</b>		<b>6,789</b>
<b>Idling Consumption</b>		<b>Value</b>
Idling Fuel Consumption Factor (gal/hr): <sup>2</sup>		0.6400
Total Idle-Hours per Year:		57
<b>Total diesel gallons</b>		<b>13</b>

**Total diesel gallons: 6,802**

<b>Phase</b>	<b>Days/year</b>	<b>Truck Trips per Day (In/Out)</b>	<b>Trip Length (onsite +offsite) [miles]</b>	<b>Vehicle Category</b>	<b>VMT</b>	<b>Idle Hours</b>
Tunnel Intake Structure - Excavate and support for approach chann	45	26	28.09	HHDT	32,864	98
Tunnel Intake Structure - Construct Intake structure structural elem	150	0	0.14	HHDT	0	0
Tunnel Intake Structure - Install mechanical systems	30	0	0.14	HHDT	0	0
Tunnel Intake Structure - Construct Control Building	30	0	0.14	HHDT	0	0
Tunnel Intake Structure - Install pipe connection from tunnel to intz	20	0	0.14	HHDT	0	0
Tunnel Intake Structure - Install fencing and security systems	15	0	0.14	HHDT	0	0
Tunnel Intake Structure - Install electrical and control systems	20	0	0.14	HHDT	0	0
Tunnel Intake Structure - Testing of control systems	10	0	28.09	HHDT	0	0
Tunnel Intake Structure - Re-vegetation and site demob	20	10	29.04	HHDT	5,807	17
Tunnel Intake Structure Portal - Upgrade access road from Nacimer	30	0	1.09	HHDT	0	0
Tunnel Intake Structure Portal - Install erosion/sediment control an	30	0	1.09	HHDT	0	0
Tunnel Intake Structure Portal - Grade and improve staging/laydow	10	0	2.04	HHDT	0	0
Tunnel Intake Structure Portal - Install buried power/fiber optic line	45	0	1.09	HHDT	0	0
Tunnel Intake Structure Portal - Install temporary utilities. Water, p	30	0	28.09	HHDT	0	0
Tunnel Intake Structure Portal - TBM reception portal excavation ar	30	0	1.09	HHDT	0	0
Tunnel Intake Structure Portal - Remove TBM	30	0	0.00	HHDT	0	0
<b>Total VMT:</b>					<b>38,671</b>	
<b>Total Idle-Hours:</b>						<b>57</b>

1. CARB, EMFAC2021 (SLO County; HHDT/MHDT; Annual; CY 2023; Aggregate MY; Aggregate Speed,DSL)  
 2. Department of Energy, Fact #861, 2015 Idle Fuel Consumption for Selected Gasoline and Diesel Vehicles, February 23, 2015.  
<https://www.energy.gov/eere/vehicles/fact-861-february-23-2015-idle-fuel-consumption-selected-gasoline-and-diesel-vehicles>

**Vendor Trucks - SLO County Portion of Project**

<b>Onroad Travel Consumption</b>		<b>Value</b>
EMFAC2021 Diesel Fuel Consumption Factor (gal/mi): <sup>1</sup>		0.1539
Total VMT (mi):		116,757
<b>Total diesel gallons</b>		<b>17,970</b>
<b>Idling Consumption</b>		<b>Value</b>
Idling Fuel Consumption Factor (gal/hr): <sup>2</sup>		0.6400
Total Idle-Hours per Year:		230
<b>Total diesel gallons</b>		<b>53</b>

**Total diesel gallons: 18,023**

<b>Phase</b>	<b>Days/year</b>	<b>Vendor Truck Trips per Day (In/Out)</b>	<b>Trip Length (onsite +offsite) [miles]</b>	<b>Vehicle Category</b>	<b>VMT</b>	<b>Idle Hours</b>
Tunnel Intake Structure - Excavate and support for approach chann	45	36	21.09	HHDT/MHDT	34,164	135
Tunnel Intake Structure - Construct Intake structure structural elem	150	8	21.09	HHDT/MHDT	25,307	100
Tunnel Intake Structure - Install mechanical systems	30	8	21.09	HHDT/MHDT	5,061	20
Tunnel Intake Structure - Construct Control Building	30	8	21.09	HHDT/MHDT	5,061	20
Tunnel Intake Structure - Install pipe connection from tunnel to intz	20	8	21.09	HHDT/MHDT	3,374	13
Tunnel Intake Structure - Install fencing and security systems	15	8	21.09	HHDT/MHDT	2,531	10
Tunnel Intake Structure - Install electrical and control systems	20	0	21.09	HHDT/MHDT	0	0
Tunnel Intake Structure - Testing of control systems	10	10	21.09	HHDT/MHDT	2,109	8
Tunnel Intake Structure - Re-vegetation and site demob	20	22	22.04	HHDT/MHDT	9,549	36
Tunnel Intake Structure Portal - Upgrade access road from Nacimer	30	8	21.09	HHDT/MHDT	5,061	20
Tunnel Intake Structure Portal - Install erosion/sediment control an	30	10	21.09	HHDT/MHDT	6,327	25
Tunnel Intake Structure Portal - Grade and improve staging/laydow	10	8	22.04	HHDT/MHDT	1,763	7
Tunnel Intake Structure Portal - Install buried power/fiber optic line	45	12	21.09	HHDT/MHDT	11,388	45
Tunnel Intake Structure Portal - Install temporary utilities. Water, p	30	8	21.09	HHDT/MHDT	5,061	20
Tunnel Intake Structure Portal - TBM reception portal excavation ar	30	0	21.09	HHDT/MHDT	0	0
Tunnel Intake Structure Portal - Remove TBM	30	0	0.00	HHDT/MHDT	0	0
<b>Total VMT:</b>					<b>116,757</b>	
<b>Total Idle-Hours:</b>						<b>230</b>

1. CARB, EMFAC2021 ( SLO County; HHDT/MHDT; Annual; CY 2023; Aggregate MY; Aggregate Speed,DSL)  
 2. Department of Energy, Fact #861, 2015 Idle Fuel Consumption for Selected Gasoline and Diesel Vehicles, February 23, 2015.  
<https://www.energy.gov/eere/vehicles/fact-861-february-23-2015-idle-fuel-consumption-selected-gasoline-and-diesel-vehicles>

MCWRA Interlake Tunnel and Spillway Modification Project: Tunnel Only Alternative

Workers - SLO County

Onroad Travel Consumption	Value
EMFAC2021 Gasoline Fuel Consumption Factor (gal/mi): <sup>1</sup>	0.0380
Total VMT (mi):	109,660
<b>Total gasoline gallons</b>	<b>4,172</b>

Phase	Days/year	Vehicle Trips per day (In/Out)	Trip Length (onsite +offsite) [miles]	Vehicle Category	VMT
Tunnel Intake Structure - Excavate and support for approach channel an	45	18	21.09	LD Fleet Mix	17,082
Tunnel Intake Structure - Construct Intake structure structural elements	150	4	21.09	LD Fleet Mix	12,653
Tunnel Intake Structure - Install mechanical systems	30	6	21.09	LD Fleet Mix	3,796
Tunnel Intake Structure - Construct Control Building	30	8	21.09	LD Fleet Mix	5,061
Tunnel Intake Structure - Install pipe connection from tunnel to intake a	20	6	21.09	LD Fleet Mix	2,531
Tunnel Intake Structure - Install fencing and security systems	15	6	21.09	LD Fleet Mix	1,898
Tunnel Intake Structure - Install electrical and control systems	20	6	21.09	LD Fleet Mix	2,531
Tunnel Intake Structure - Testing of control systems	10	8	21.09	LD Fleet Mix	1,687
Tunnel Intake Structure - Re-vegetation and site demob	20	8	22.04	LD Fleet Mix	3,526
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento R	30	8	21.09	LD Fleet Mix	5,061
Tunnel Intake Structure Portal - Install erosion/sediment control and silt	30	10	21.09	LD Fleet Mix	6,327
Tunnel Intake Structure Portal - Grade and improve staging/laydown are	10	6	22.04	LD Fleet Mix	1,322
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	45	6	21.09	LD Fleet Mix	5,694
Tunnel Intake Structure Portal - Install temporary utilities. Water, power	30	8	21.09	LD Fleet Mix	5,061
Tunnel Intake Structure Portal - TBM reception portal excavation and su	30	56	21.09	LD Fleet Mix	35,430
Tunnel Intake Structure Portal - Remove TBM	30	0	0.00	LD Fleet Mix	0
				<b>Total VMT:</b>	<b>109,660</b>

1. CARB, EMFAC2021 (SLO County; LDA/LDT1/LDT2; Annual; CY 2023; Aggregate MY; Aggregate Speed,GSL)
2. Department of Energy, Fact #861, 2015 Idle Fuel Consumption for Selected Gasoline and Diesel Vehicles, February 23, 2015.  
<https://www.energy.gov/eere/vehicles/fact-861-february-23-2015-idle-fuel-consumption-selected-gasoline-and-diesel-vehicles>

**Idling Fuel Consumption Factors**

Column1	Column2	Column3	Column4	Column5
VEHICLE TYPE	FUEL TYPE	ENGINE SIZE (LITER)	GROSS VEHICLE WEIGHT (GVW) (LBS)	IDLING FUEL USE (GAL/HR WITH NO LOAD)
Compact Sedan	Gas	2	-	0.16
Large Sedan	Gas	4.6	-	0.39
Compact Sedan	Diesel	2	-	0.17
Medium Heavy Truck	Gas	7-May	19,700-26,000	0.84
Delivery Truck	Diesel	-	19,500	0.84
Tow Truck	Diesel	-	26,000	0.59
Medium Heavy Truck	Diesel	10-Jun	23,000-33,000	0.44
Transit Bus	Diesel	-	30,000	0.97
Combination Truck	Diesel	-	32,000	0.49
Bucket Truck	Diesel	-	37,000	0.9
Tractor-Semitrailer	Diesel	-	80,000	0.64

Department of Energy, Fact #861, 2015 Idle Fuel Consumption for Selected Gasoline and Diesel Vehicles, February 23, 2015.  
<https://www.energy.gov/eere/vehicles/fact-861-february-23-2015-idle-fuel-consumption-selected-gasoline-and-diesel-vehicles>

This tool provides a quick estimation of the fuel use and emissions for your equipment in a specific year. The results may slightly differ from those from the official inventory model.

**Instructions:**

Enter the horsepower, model year, and other details about your equipment in the Input box. Make sure to update the **load factor** for your equipment using the lookup table. The **Output** box gives a quick estimation of the fuel use, NOx, PM, and THC emission for your equipment.

Input	Input Engine Here
Horsepower (hp)	70
Model year	2011
Calendar year	2015
Activity (annual hours)	250
Accumulated hours on equipment (estimate using annual-hours*age if you only know the age of the equipment)	1000
Load factor (check the lookup table)	0.2

Results	
Fuel Used (gallon)	201
NOx Emissions (kg)	9.8
PM Emissions (kg)	0.5
THC Emissions (kg)	0.4
CO2 Emissions (kg)	2050.9

NOx Emission Factor (including deterioration and fuel correction factor): gram/bhp-hr	2.79
PM Emission Factor (including deterioration and fuel correction factor): gram/bhp-hr	0.15
THC Emission Factor (including deterioration and fuel correction factor): gram/ bhp-hr	0.11

Intermediate steps	
HPbin	75
NOx_EFO	2.90
NOx_DR	3.8E-05
NOx_FCF	0.950
PM_EFO	0.16
PM_DR	1.2E-05
PM_FCF	0.90
THC_EFO	0.10
THC_DR	2.5E-05
THC_FCF	0.90
NOx_EF (g/hp-hr)	2.79
PM_EF (g/hp-hr)	0.15
THC_EF (g/hp-hr)	0.11
CO2_EF (kg/gallon-diesel)*	10.21
BSFC (lb/hp-hr)	0.408
Unit conversion (lb/gallon)	7.109

\*Reference: [www.epa.gov/sites/production/files/2015-07/documents/emission-factors\\_2014.pdf](http://www.epa.gov/sites/production/files/2015-07/documents/emission-factors_2014.pdf)

Loac Factor Lookup Table			
Equipment Category	Equipment Type	Details	Load Factor
Agriculture equipment	Agricultural tractors		0.48
	Combine harvesters		0.44
	Forage & silage harvesters		0.44
	Cotton pickers		0.44
	Nut harvester		0.44
	Other harvesters		0.44
	Balers (self propelled)		0.50
	Bale wagons (self propelled)		0.50
	Swathers/windrowers/hay conditioners		0.48
	Hay Squeeze/Stack retriever		0.42
	Sprayers/Spray rigs		0.42
	Construction equipment		0.40
	Other non-mobile		0.48
	Forklifts		0.40
	Atvs		0.40
Others		0.40	
Portable equipment	All portable equipment		0.31
Cargo Handling Equipment	Construction equipment		0.55
	Container handling equipment		0.59
	Forklift		0.30
	Other general industrial equipment		0.51
	Rtg crane		0.20
Yard tractor		0.39	
Transport Refrigeration Units (TRU)	TRU on trailers	25 HP and over, MY2012 and Older	0.46
	TRU on trailers	25 HP and over, MY2013 and Newer	0.38
	TRU on trailers	23 HP and Over, below 25 HP, All years	0.46
	TRU on trucks	Below 23 HP, All Model years	0.56
	TRU on railcars	25 HP and over, MY2012 and Older	0.33
	TRU on railcars	25 HP and over, MY2013 and Newer	0.27
	TRU on railcars	Below 25 HP, All Model years	0.33
	TRU with generators	25 HP and over, MY2012 and Older	0.46
	TRU with generators	25 HP and Over, MY2013 and Newer	0.38
TRU with generators	23 HP and Over, below 25 HP, All Model Years	0.46	
Ground Support Equipment	Passenger Stand		0.40
	A/C Tug Narrow Body		0.54
	A/C Tug Wide Body		0.54
	Baggage Tug		0.37
	Belt Loader		0.34
	Bobtail		0.37
	Cargo Loader		0.34
	Cargo Tractor		0.36
	Forklift (GSE)		0.20
	Lift (GSE)		0.34
Other GSE		0.34	
Construction and Industrial Equipment	Cranes		0.29
	Crawler Tractors		0.43
	Excavators		0.38
	Graders		0.41
	Off-Highway Tractors		0.44
	Off-Highway Trucks		0.38
	Other Construction Equipment		0.42
	Pavers		0.42
	Paving Equipment		0.36
	Rollers		0.38
	Rough Terrain Forklifts		0.40
	Rubber Tired Dozers		0.40
	Rubber Tired Loaders		0.36
	Scrapers		0.48
	Skid Steer Loaders		0.37
	Surfacing Equipment		0.30
	Tractors/Loaders/Backhoes		0.37
	Trenchers		0.50
	Aerial Lifts		0.31
	Forklifts		0.20
Other General Industrial Equipment		0.34	
Other Material Handling Equipment		0.40	
Sweepers/Scrubbers		0.46	
Oil and Drill Rigs	Drill Rig (Mobile)		0.50
	Workover Rig (Mobile)		0.50
	Bore/Drill Rigs		0.50

MCWRA Interlake Tunnel and Spillway Modification Project: Tunnel Only Alternative

PhaseName	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
Tunnel Intake Structure - Excavate and support for approach channel and intake structure	10/2/2023	12/1/2023		45
Tunnel Intake Structure - Construct Intake structure structural elements	12/4/2023	6/28/2024		150
Tunnel Intake Structure - Install mechanical systems	7/1/2024	8/9/2024		30
Tunnel Intake Structure - Construct Control Building	8/12/2024	9/20/2024		30
Tunnel Intake Structure - Install pipe connection from tunnel to intake and backfill	11/18/2024	12/13/2024		20
Tunnel Intake Structure - Install fencing and security systems	1/13/2025	1/31/2025		15
Tunnel Intake Structure - Install electrical and control systems	12/16/2024	1/10/2025		20
Tunnel Intake Structure - Testing of control systems	1/13/2025	1/24/2025		10
Tunnel Intake Structure - Re-vegetation and site demob	2/3/2025	2/28/2025		20
Tunnel Intake Structure Portal - Upgrade access road from Nacimiento Reservoir Drive	4/17/2023	5/26/2023		30
Tunnel Intake Structure Portal - Install erosion/sediment control and silt fencing	5/29/2023	7/7/2023		30
Tunnel Intake Structure Portal - Grade and improve staging/laydown area	5/29/2023	6/9/2023		10
Tunnel Intake Structure Portal - Install buried power/fiber optic lines	4/17/2023	6/16/2023		45
Tunnel Intake Structure Portal - Install temporary utilities. Water, power, sewage Handling, communications	7/10/2023	8/18/2023		30
Tunnel Intake Structure Portal - TBM reception portal excavation and support	8/21/2023	9/29/2023		30
Tunnel Intake Structure Portal - Remove TBM	10/7/2024	11/15/2024		30

**Retail Gasoline Sales by County**

(Millions of Gallons)

County	2010		2011		2012*		2013*		2014*		2015*		2016*		2017#		2018#		2019#	
	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals
Alameda	456	551	476	548	480	568	473	603	341	491	432	542	518	582	521	583	495	569	505	591
Amador	12	15	12	14	12	14	10	12	11	15	10	13	12	14	13	15	14	17	16	18
Butte	66	81	70	81	66	78	64	81	59	85	62	78	74	83	78	87	75	86	62	78
Calaveras	11	14	12	14	10	12	10	13	10	14	11	14	13	15	14	15	13	15	14	15
Colusa	13	17	9	11	8	10	10	13	7	10	7	9	10	11	11	12	11	13	11	13
Contra Costa	332	403	344	395	354	419	331	422	272	392	303	380	384	431	385	430	346	397	374	427
Del Norte	6	8	6	7	6	7	4	5	5	7	5	6	6	7	6	7	6	7	4	6
El Dorado	55	68	57	67	64	75	56	72	36	52	65	81	72	81	73	82	66	76	64	74
Fresno	285	342	290	335	288	341	269	344	209	300	264	331	318	358	328	367	320	368	306	376
Glenn	12	14	12	14	11	12	11	14	11	16	13	16	15	17	17	18	15	17	14	18
Humboldt	44	54	46	54	45	53	51	64	31	44	47	59	54	61	49	55	51	58	42	53
Imperial	56	69	51	60	46	54	46	58	58	83	63	79	77	86	74	83	78	89	73	86
Inyo	16	19	16	18	13	16	12	16	12	17	14	18	16	18	16	18	16	18	14	17
Kern	293	362	309	359	301	356	287	367	267	384	299	375	362	407	349	390	345	396	340	392
Kings	42	51	41	48	40	47	38	49	31	45	41	51	50	57	54	60	52	60	67	76
Lake	20	25	18	22	17	20	19	24	17	25	19	23	19	21	19	21	20	23	18	24
Lassen	6	7	6	7	5	6	5	6	6	8	7	9	7	8	5	6	4	5	5	7
Los Angeles	3,005	3,658	3,069	3,554	2,916	3,451	2,700	3,445	2,606	3,749	2,762	3,465	3,184	3,577	3,272	3,659	3,169	3,638	3,189	3,559
Madera	47	57	54	61	44	53	43	54	31	45	35	44	52	59	56	62	49	57	44	62
Marin	78	94	91	103	91	107	83	106	52	75	83	105	91	102	90	101	71	82	86	96
Mariposa	6	7	6	7	5	6	4	5	6	9	5	6	7	8	5	6	6	7	7	8
Mendocino	33	41	34	40	36	43	33	42	28	40	32	40	37	42	34	38	35	40	27	44
Merced	86	106	81	95	78	92	83	94	58	83	84	105	101	114	105	117	115	132	100	119
Mono	6	7	5	6	2	2	6	8	6	8	6	7	7	8	5	5	6	7	7	8
Monterey	124	152	134	155	124	147	139	177	87	126	147	184	157	177	155	174	157	181	148	174
Napa	42	52	42	47	49	58	41	52	27	39	50	63	50	57	47	53	53	61	54	57
Nevada	34	42	30	35	29	34	19	25	19	27	31	40	36	40	35	39	33	38	29	39
Orange	1,162	1,406	1,162	1,338	1,145	1,355	1,044	1,332	1,018	1,465	1,092	1,370	1,224	1,375	1,236	1,382	1,222	1,402	1,198	1,325
Placer	154	190	162	189	162	192	131	167	118	170	167	209	181	204	182	203	179	206	177	198
Plumas	6	7	7	8	6	7	3	4	5	8	5	6	5	6	5	6	5	6	5	6
Riverside	781	952	792	916	756	895	725	925	702	1,010	828	1,039	921	1,035	941	1,052	916	1,052	921	1,046
Sacramento	467	566	482	553	473	560	446	568	308	442	465	584	534	600	535	599	511	586	536	600
San Benito	15	18	14	16	17	20	5	7	10	14	12	15	15	17	18	20	15	17	12	21
San Bernardino	747	902	761	871	742	878	697	889	659	948	725	909	899	1,010	888	993	862	990	851	977
San Diego	1,094	1,320	1,122	1,291	1,079	1,277	972	1,241	940	1,352	1,123	1,408	1,221	1,372	1,231	1,377	1,208	1,387	1,197	1,325
San Francisco	112	138	129	151	126	149	126	161	71	102	107	134	119	134	120	134	105	120	107	118
San Joaquin	248	303	260	301	253	299	254	325	217	312	287	360	303	340	310	347	293	336	289	352
San Luis Obispo	121	147	123	144	105	124	109	140	101	145	117	147	127	142	127	142	131	150	125	138
San Mateo	232	275	272	310	258	311	244	311	159	229	243	304	289	325	291	326	264	304	293	322
Santa Barbara	141	174	140	164	140	166	135	172	124	178	148	186	161	181	152	170	167	191	166	177
Santa Clara	514	621	600	691	589	697	546	696	460	661	580	727	638	717	613	685	560	643	614	713
Santa Cruz	84	103	91	106	89	105	79	101	53	77	77	96	85	95	84	94	78	90	72	90
Shasta	72	88	73	85	77	91	65	83	55	79	76	95	73	82	83	92	76	87	72	82
Siskiyou	20	25	17	19	19	23	9	12	12	14	21	27	24	27	26	29	25	28	26	27
Solano	158	190	191	218	180	213	158	202	116	167	160	201	187	210	194	217	188	216	182	216
Sonoma	157	189	155	178	160	189	163	208	146	210	160	201	186	209	186	208	167	192	169	204
Stanislaus	191	230	184	212	173	205	144	183	159	229	201	252	217	244	227	253	212	244	196	245
Sutter	30	37	31	37	34	40	33	42	17	24	30	38	35	39	35	39	35	40	27	38
Tehama	27	33	24	28	23	27	18	24	26	24	25	30	25	29	26	29	27	31	28	30
Trinity	3	4	3	4	1	2	3	4	3	4	3	4	4	5	4	5	4	4	2	4
Tulare	109	132	121	139	120	142	91	116	107	155	114	143	136	152	149	167	147	168	144	174
Tuolumne	14	17	13	16	15	18	12	15	14	21	18	23	21	23	22	25	22	25	21	23
Ventura	285	345	290	335	262	310	246	314	249	358	256	321	294	330	302	338	298	342	297	329
Yolo	82	100	76	87	74	87	75	96	63	90	82	103	98	110	101	113	96	110	97	114
Yuba	24	29	26	30	22	26	23	30	14	20	24	30	32	36	30	34	40	46	27	32
Other Counties*	2	3	2	2	1	2	1	2	1	2	2	2	2	2	2	2	1	1	2	2
<b>Total</b>	<b>12,238</b>	<b>14,860</b>	<b>12,644</b>	<b>14,596</b>	<b>12,241</b>	<b>14,486</b>	<b>11,396</b>	<b>14,540</b>	<b>10,220</b>	<b>14,701</b>	<b>12,044</b>	<b>15,108</b>	<b>13,785</b>	<b>15,491</b>	<b>13,936</b>	<b>15,584</b>	<b>13,475</b>	<b>15,471</b>	<b>13,473</b>	<b>15,365</b>

\* 2012 to 2019 data are not directly comparable to other years since an improved methodology is used, but is within 5 percent compared to the previous methodology.

\* Other Counties include Alpine, Modoc and Sierra.

Source: <https://www.energy.ca.gov/media/3874>



**Retail Diesel Sales by County**

(Millions of Gallons)

County	2010		2011		2012#		2013#		2014#		2015#		2016#		2017#		2018#		2019#	
	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals
Alameda	29	32	26	28	30	36	27	34	19	27	38	49	47	54	51	58	56	62	48	55
Amador	2	2	2	2	2	2	1	2	1	2	1	2	2	2	2	2	2	3	3	3
Butte	9	10	9	10	7	9	8	10	8	10	9	11	11	13	11	13	12	13	12	15
Calaveras	2	2	2	2	2	2	1	2	1	2	2	2	3	3	3	3	2	3	3	3
Colusa	3	3	2	3	4	5	4	5	2	4	3	4	4	4	2	3	4	4	7	7
Contra Costa	15	18	19	21	17	20	17	21	12	17	19	24	23	26	24	28	31	34	24	27
Del Norte	1	2	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	1	2
El Dorado	6	8	6	7	6	7	5	6	4	6	7	9	8	9	8	10	8	9	8	10
Fresno	30	33	35	38	33	40	23	29	18	25	39	50	40	46	40	45	46	51	39	49
Glenn	5	5	4	4	4	5	4	5	4	5	5	6	12	14	16	19	16	17	18	19
Humboldt	10	12	10	12	10	12	11	14	4	5	10	13	13	14	8	9	7	8	6	7
Imperial	9	10	8	9	7	8	8	10	8	11	9	11	14	16	11	12	20	22	21	25
Inyo	3	4	3	4	2	2	3	4	3	3	3	4	3	4	3	4	3	3	3	4
Kern	111	117	125	129	133	158	118	148	124	171	125	160	131	149	107	121	97	108	96	105
Kings	7	7	7	8	7	9	5	6	4	6	7	9	5	6	7	7	8	9	8	9
Lake	3	3	3	3	2	2	2	3	2	3	3	3	1	1	3	3	3	4	3	4
Lassen	1	1	1	2	1	1	1	1	1	2	3	3	4	4	1	1	1	1	1	2
Los Angeles	212	235	221	239	205	245	190	239	194	267	257	328	273	309	267	301	228	253	246	276
Madera	23	24	23	24	24	28	18	23	22	31	26	33	28	31	29	33	28	31	23	24
Marin	3	4	2	3	3	3	2	3	2	2	2	3	4	4	4	4	3	3	4	4
Mariposa	1	1	1	1	1	1	-	1	2	2	1	1	1	1	1	1	1	1	1	1
Mendocino	6	7	7	8	7	9	6	6	4	5	6	7	9	10	6	6	5	6	5	8
Merced	44	45	37	38	46	55	49	62	49	68	54	69	59	66	38	42	35	39	28	36
Mono	1	1	1	1	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Monterey	21	23	24	26	25	30	22	27	13	18	23	29	24	28	24	27	24	26	23	26
Napa	2	2	2	2	6	7	2	3	2	3	6	8	6	7	6	7	6	7	6	7
Nevada	5	5	5	5	4	4	1	2	4	6	7	8	8	9	8	9	7	8	5	8
Orange	38	47	36	42	38	46	33	42	37	51	46	59	52	59	54	61	49	55	51	56
Placer	13	16	13	15	12	15	9	12	10	13	13	16	15	17	15	17	16	17	16	17
Plumas	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1
Riverside	84	93	87	94	89	107	86	109	100	138	119	152	128	145	131	148	119	132	108	122
Sacramento	33	37	32	35	27	32	18	21	21	29	18	28	36	42	42	48	41	45	37	41
San Bernardino	141	149	136	142	158	189	164	206	152	210	198	253	223	252	235	265	176	195	165	178
San Diego	69	80	64	72	62	74	58	73	67	93	87	111	93	105	92	103	92	103	94	110
San Francisco	3	3	3	3	3	4	4	5	1	2	5	6	6	6	5	6	5	5	5	5
San Joaquin	73	75	85	87	84	99	90	113	86	119	102	131	116	131	111	126	105	117	101	113
San Luis Obispo	12	14	16	18	11	13	9	12	17	17	19	24	20	23	19	21	20	22	20	22
San Mateo	10	12	8	10	8	10	8	10	4	6	15	19	13	14	15	17	16	17	18	19
Santa Barbara	13	14	16	17	10	13	12	15	13	18	20	26	22	25	17	19	21	24	18	19
Santa Clara	23	26	26	28	27	32	28	35	25	36	28	47	30	34	32	36	43	48	33	42
Santa Cruz	4	5	5	6	4	5	4	6	2	3	5	6	5	6	6	6	6	7	4	6
Shasta	20	23	19	21	16	19	18	22	13	18	21	27	21	24	22	25	21	24	14	16
Siskiyou	5	6	11	11	16	20	15	19	11	16	20	26	19	22	18	21	16	17	16	17
Solano	14	17	18	20	14	16	14	17	8	11	14	18	17	19	22	24	23	25	24	27
Sonoma	14	16	18	19	13	16	14	18	17	17	15	20	20	23	20	23	20	22	28	32
Stanislaus	33	36	27	29	25	30	15	19	20	27	26	33	20	22	30	34	32	36	33	35
Sutter	4	5	2	3	3	4	4	5	2	3	4	5	6	6	3	4	4	5	5	6
Tehama	31	32	38	39	35	42	37	47	25	35	37	48	35	39	34	38	18	20	17	18
Tulare	23	25	33	35	27	32	31	39	31	43	34	43	37	42	37	41	31	34	42	45
Tuolumne	2	2	2	2	1	2	2	2	2	2	2	3	2	3	3	3	3	3	3	3
Ventura	20	23	32	34	23	27	23	29	25	34	27	34	29	32	32	36	30	33	33	35
Yolo	33	34	26	27	27	33	30	37	29	40	27	35	32	37	27	30	25	28	24	26
Yuba	4	4	4	5	3	4	3	4	2	3	2	3	4	5	8	9	11	12	4	5
Other Counties*	1	2	2	2	1	2	1	1	1	2	2	2	3	3	3	3	2	2	2	3
<b>Total</b>	<b>1,285</b>	<b>1,414</b>	<b>1,346</b>	<b>1,447</b>	<b>1,327</b>	<b>1,589</b>	<b>1,261</b>	<b>1,587</b>	<b>1,226</b>	<b>1,691</b>	<b>1,592</b>	<b>2,033</b>	<b>1,742</b>	<b>1,971</b>	<b>1,717</b>	<b>1,937</b>	<b>1,602</b>	<b>1,777</b>	<b>1,559</b>	<b>1,756</b>

\* 2012-2019 data are not directly comparable to other years since an improved methodology is used, but is within 5 percent compared to the previous methodology.

\* Other Counties include Alpine, Modoc, San Benito, Sierra and Trinity.

Note: Non-Retail diesel sales, which comprise approximately 52.8% of all diesel sales, are not reported in this chart.

Source: <https://www.energy.ca.gov/media/3874>

MCWRA Interlake Tunnel and Spillway Modification Project: Tunnel Only Alternative

Region	(All)
Model Year	Aggregate
Speed	Aggregate
Fuel	Gasoline
Calendar Year	2023

Row Labels	Sum of Total VMT	Sum of Fuel Consumption
LDA	4043033.469	139.6969411
LDT1	490143.1535	20.56024943
LDT2	2287580.874	99.22098789
<b>Grand Total</b>	<b>6820757.496</b>	<b>259.4781784</b>

Vehicle Categor	VMT (mi/day)	Fuel Consumption			Distribution of Trips	gal/mi
		(1000gal/day)	gal/mi	mi/gal		
LDA	4043033.469	139.6969411	0.034552507	28.94146027	59%	0.038042428
LDT1	490143.1535	20.56024943	0.041947438	23.83935833	7%	
LDT2	2287580.874	99.22098789	0.043373762	23.0554132	34%	

Source: EMFAC2021, San Luis Obispo County, Annual, EMFAC2007 Categories

Region	(All)
Model Year	Aggregate
Speed	Aggregate
Fuel	Diesel
Calendar Year	2023

Row Labels	Sum of Total VMT	Sum of Fuel Consumption
HHDT	176485.0152	30.98390106
MHDT	105804.9188	12.46297257
<b>Grand Total</b>	<b>282289.934</b>	<b>43.44687363</b>

Vehicle Categor	VMT (mi/day)	Fuel Consumption			Distribution of Trips
		(1000gal/day)	gal/mi	mi/gal	
HHDT	176485.0152	30.98390106	0.175561087	5.696023068	63%
MHDT	105804.9188	12.46297257	0.117791996	8.489541175	37%

Source: EMFAC2021, San Luis Obispo County, Annual, EMFAC2007 Categories

gal/mi
0.153908689

# **Proposed Project – Operational Energy Consumption**

**MCWRA ILT - Operational Energy Consumption Summary**

**Transportation Fuel**

Fuel Type	Gallons/Year
GAS	1,760
DSL <sup>1</sup>	954

County: San Luis Obispo

Fuel Type	Gallons (Retail + non-retail)	Percent of Project Compared to County
Gas	138,000,000	0.00%
Diesel	45,833,333	0.00%

**Electricity**

Comparison	GWh/year
SLO County 2019 Electricity Usage	1,060.09
Project Electricity	1.68
<b>Project % of Sales</b>	<b>0.16%</b>

**Notes:**

1. Based off operational data provided by MJA.

						Fleet Mix		Weighted Fuel Factor (gal/mi)		Annual Fuel Consumption (gal/year)	
						DSL	GAS	DSL	GAS	DSL	GAS
Trip Type	Days per Year	Year	Daily Trips	Trip Length (mi)	Annual VMT (miles/year)						
Operations Manager - Normal Operations	255	2025	2	20.00	10,200	0.00%	100.00%	0.287	0.042	0	426
Operator 1 - Normal Operations	255	2025	2	20.00	10,200	0.00%	100.00%	0.287	0.042	0	426
Operator Technician - Normal Operations	255	2025	2	20.00	10,200	0.00%	100.00%	0.287	0.042	0	426
Electrical/Controls Technician -Maintenance - 3 Weeks per Year	15	2025	2	20.00	600	0.00%	100.00%	0.287	0.042	0	25
Mechanical Technician - Maintenance - 3 Weeks per Year	15	2025	2	20.00	600	0.00%	100.00%	0.287	0.042	0	25
Laborer - Maintenance - 3 Weeks per Year	15	2025	4	20.00	1,200	0.00%	100.00%	0.287	0.042	0	50
Operations Manager - 4 Weeks per Year	20	2025	2	20.00	800	0.00%	100.00%	0.287	0.042	0	33
Operator 1 - 4 Weeks per Year	20	2025	2	20.00	800	0.00%	100.00%	0.287	0.042	0	33
Operator Technician - 4 Weeks per Year	20	2025	2	20.00	800	0.00%	100.00%	0.287	0.042	0	33
Operations Manager - 1 Day a Week	52	2025	2	20.00	2,080	0.00%	100.00%	0.287	0.042	0	87
Operator 1 - 1 Day a Week	52	2025	2	20.00	2,080	0.00%	100.00%	0.287	0.042	0	87
Operator Technician - 1 Day a Week	52	2025	2	20.00	2,080	0.00%	100.00%	0.287	0.042	0	87
Boom Truck - 3 weeks per year	15	2025	2	20.00	600	100.00%	0.00%	0.287	0.042	172	0
Dump Truck - 3 weeks per year+ 1 day per week	67	2025	2	20.00	2,680	100.00%	0.00%	0.287	0.042	770	0
Total:										942	1,739

Mobile Fuel Consumption - Offsite						Fleet Mix		Weighted Fuel Factor (gal/mi)		Annual Fuel Consumption (gal/year)	
						DSL	GAS	DSL	GAS	DSL	GAS
Trip Type	Days per Year	Year	Daily Trips (In/Out)	Trip Length (mi)	Annual VMT (miles/year)	DSL	GAS	DSL	GAS	DSL	GAS
Operations Manager - Normal Operations	255	2025	2	0.25	128	0.00%	100.00%	0.287	0.042	0	5
Operator 1 - Normal Operations	255	2025	2	0.25	128	0.00%	100.00%	0.287	0.042	0	5
Operator Technician - Normal Operations	255	2025	2	0.25	128	0.00%	100.00%	0.287	0.042	0	5
Electrical/Controls Technician -Maintenance - 3 Weeks per Year	15	2025	2	0.25	8	0.00%	100.00%	0.287	0.042	0	0
Mechanical Technician - Mainenance - 3 Weeks per Year	15	2025	2	0.25	8	0.00%	100.00%	0.287	0.042	0	0
Laborer - Mainenance - 3 Weeks per Year	15	2025	4	0.25	15	0.00%	100.00%	0.287	0.042	0	1
Operations Manager - 4 Weeks per Year	20	2025	2	0.25	10	0.00%	100.00%	0.287	0.042	0	0
Operator 1 - 4 Weeks per Year	20	2025	2	0.25	10	0.00%	100.00%	0.287	0.042	0	0
Operator Technician - 4 Weeks per Year	20	2025	2	0.25	10	0.00%	100.00%	0.287	0.042	0	0
Operations Manager - 1 Day a Week	52	2025	2	0.25	26	0.00%	100.00%	0.287	0.042	0	1
Operator 1 - 1 Day a Week	52	2025	2	0.25	26	0.00%	100.00%	0.287	0.042	0	1
Operator Technician - 1 Day a Week	52	2025	2	0.25	26	0.00%	100.00%	0.287	0.042	0	1
Boom Truck - 3 weeks per year	15	2025	2	0.25	8	100.00%	0.00%	0.287	0.042	2	0
Dump Truck - 3 weeks per year+ 1 day per week	67	2025	2	0.25	34	100.00%	0.00%	0.287	0.042	10	0
								Total:		12	22



**Utility Consumption**

**Electricity<sup>3</sup>**

Land Use	kWh/year	GWh/year
Intake Structure Energy Usage	102,682	0.103
Hydroelectric Facility Loss	1,577,697	1.578
<b>Total</b>	<b>1,680,379</b>	<b>1.680</b>

Comparison	GWh/year
SLO County 2019 Electricity usage <sup>1</sup>	1,060.09
Project Electricity	1.68
<b>Project % of Sales</b>	<b>0.1585%</b>

Notes:

1 SLO County Non-residential energy usage for 2019. CEC Electricity Consumption by County.  
<http://www.ecdms.energy.ca.gov/elecbycounty.aspx>

**Truck Fuel Consumption Factors** Year: 2025

Fuel Type	Vehicle Category	VMT (mi/day)	Fuel Consumption (1000)		Fleet Mix
			gal/day	gal/mi	
Diesel	HHDT	181762.3	31.013	0.170622	0.00%
Diesel	MHDT	108006.0	12.601	0.116670	0.00%
Gasoline	HHDT	48.6	0.013	0.277686	50.00%
Gasoline	MHDT	14867.1	3.140	0.211229	50.00%
Grand Total	0	304684.0	46.768	0.153495	100.00%

Notes:

- 1. Assumed all MHDT/HHDT is diesel

Source: EMFAC2021, San Luis Obispo County, Annual, EMFAC2007 Categories

Vehicle Category	Gal/mi		Fuel Distribution		Fleet Mix		Weighted Fuel Factor (gal/mi)	
	DSL	GAS	DSL	GAS	DSL	GAS	DSL	GAS
HHDT	0.170622	0.153495	100%	0%	0.00%	100.00%	0.287	0.000
MHDT	0.116670	0.211229	100%	0%				

**Employee Fuel Consumption Factors**                      **Year: 2025**

Fuel Type	Vehicle Category	VMT (mi/day)	Fuel Consumption (1000)		Fleet Mix
			gal/day	gal/mi	
Diesel	LDT1	203.4	0.008	0.040981	0.00%
Diesel	LDT2	11911.5	0.379	0.031791	0.00%
Gasoline	LDT1	456760.9	18.693	0.040926	50.00%
Gasoline	LDT2	2367770.9	99.087	0.041848	50.00%
Grand Total	0	2836646.7	118.167	0.041657	100.00%

Notes:

1. Assumed all LDT1/LDT2 is Gasoline.

Source: EMFAC2021, San Luis Obispo County, Annual, EMFAC2007 Categories

Vehicle Category	Gal/mi		Fuel Distribution		Fleet Mix		Weighted Fuel Factor (gal/mi)	
	DSL	GAS	DSL	GAS	DSL	GAS	DSL	GAS
	LDT1	0.040981	0.041657	0%	50%	0.00%	100.00%	0.000
LDT2	0.031791	0.041848	0%	50%				

Retail Gasoline Sales by County																				
(Millions of Gallons)																				
County	2010		2011		2012 <sup>a</sup>		2013 <sup>a</sup>		2014 <sup>a</sup>		2015 <sup>a</sup>		2016 <sup>a</sup>		2017 <sup>#</sup>		2018 <sup>#</sup>		2019 <sup>#</sup>	
	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals
Alameda	456	551	476	548	480	568	473	603	341	491	432	542	518	582	521	583	495	569	505	591
Amador	12	15	12	14	12	14	10	12	11	15	10	13	12	14	13	15	14	17	16	18
Butte	66	81	70	81	66	78	64	81	59	85	62	78	74	83	78	87	75	86	62	78
Calaveras	11	14	12	14	10	12	10	13	10	14	11	14	13	15	14	15	13	15	14	15
Colusa	13	17	9	11	8	10	10	13	7	10	7	9	10	11	11	12	11	13	11	13
Contra Costa	332	403	344	395	354	419	331	422	272	392	303	380	384	431	385	430	346	397	374	427
Del Norte	6	8	6	7	6	7	4	5	5	7	5	6	6	7	6	7	6	7	4	6
El Dorado	55	68	57	67	64	75	56	72	36	52	65	81	72	81	73	82	66	76	64	74
Fresno	285	342	290	335	288	341	269	344	209	288	264	331	318	358	328	367	320	368	306	376
Glenn	12	14	12	14	11	12	11	14	11	16	13	16	15	17	17	18	15	17	14	18
Humboldt	44	54	46	54	45	53	45	64	31	44	47	59	54	61	49	55	51	58	42	53
Imperial	56	69	51	60	46	54	46	58	58	83	63	79	77	86	74	83	78	89	73	86
Inyo	16	19	16	18	13	16	12	16	12	17	14	18	16	18	16	18	16	18	14	17
Kern	293	362	309	359	301	356	287	367	267	384	299	375	362	407	349	390	345	396	340	392
Kings	42	51	41	48	40	47	38	49	31	45	41	51	50	57	54	60	52	60	67	76
Lake	20	25	18	22	17	20	19	24	17	25	19	23	19	21	19	21	20	23	18	24
Lassen	6	7	6	7	5	6	5	6	6	8	7	9	7	8	5	6	4	5	5	7
Los Angeles	3,005	3,658	3,069	3,554	2,916	3,451	2,700	3,445	2,606	3,749	2,762	3,465	3,184	3,577	3,272	3,659	3,169	3,638	3,189	3,559
Madera	47	57	54	61	44	53	43	54	31	44	35	44	52	59	56	62	49	57	44	62
Marin	78	94	91	103	91	107	83	106	52	75	83	105	91	102	90	101	71	82	86	96
Mariposa	6	7	6	7	5	6	4	5	6	9	5	6	7	8	5	6	6	7	7	8
Mendocino	33	41	34	40	36	43	33	42	28	40	32	40	37	42	34	38	35	40	27	44
Merced	86	106	81	95	78	92	74	94	58	83	84	105	101	114	105	117	115	132	100	119
Mono	6	7	5	6	2	2	6	8	6	8	6	7	7	8	5	6	6	7	7	8
Monterey	124	152	134	155	124	147	139	177	87	126	147	184	157	177	155	174	157	181	148	174
Napa	42	52	42	47	49	58	41	52	27	39	50	63	50	57	47	53	53	61	54	57
Nevada	34	42	30	35	29	34	19	25	19	27	31	40	36	40	35	39	33	38	29	39
Orange	1,162	1,406	1,162	1,338	1,145	1,355	1,044	1,332	1,018	1,465	1,092	1,370	1,224	1,375	1,236	1,382	1,222	1,402	1,198	1,325
Placer	154	190	162	189	162	192	131	167	118	170	167	209	181	204	182	203	179	206	177	198
Plumas	6	7	7	8	6	7	3	4	5	8	5	7	5	5	5	6	5	6	5	6
Riverside	781	952	792	916	756	895	725	925	702	1,010	828	1,039	921	1,035	941	1,052	916	1,052	921	1,046
Sacramento	467	566	482	553	473	560	446	568	308	442	465	584	534	600	535	599	511	586	536	600
San Benito	15	18	14	16	17	20	5	7	10	14	12	15	15	17	18	20	15	17	12	21
San Bernardino	747	902	761	871	742	878	697	889	659	948	725	909	899	1,010	888	993	862	990	851	977
San Diego	1,094	1,320	1,122	1,291	1,079	1,277	972	1,241	940	1,352	1,123	1,408	1,221	1,372	1,231	1,377	1,208	1,387	1,197	1,325
San Francisco	112	138	129	151	126	149	126	161	71	102	107	134	119	134	120	134	105	120	107	118
San Joaquin	248	303	260	301	253	299	254	325	301	217	312	287	360	303	310	347	293	336	289	352
San Luis Obispo	121	147	123	144	105	124	109	140	101	145	117	147	127	142	127	142	131	150	125	138
San Mateo	232	275	272	310	258	306	244	311	159	229	243	304	289	325	291	326	264	304	293	322
Santa Barbara	141	174	140	164	140	166	135	172	124	178	148	186	161	181	152	170	167	191	166	177
Santa Clara	514	621	600	691	589	697	546	696	460	661	580	727	638	717	613	685	560	643	614	713
Santa Cruz	84	103	91	106	89	105	79	101	53	77	77	96	85	95	84	94	78	90	72	90
Shasta	72	88	73	85	77	91	65	83	55	79	76	95	73	82	83	92	76	87	72	82
Siskiyou	20	25	17	19	19	23	9	12	10	14	21	27	24	27	26	29	25	28	26	27
Solano	158	190	191	218	180	213	158	202	116	167	160	201	187	210	194	217	188	216	182	216
Sonoma	157	189	155	178	160	189	163	208	146	210	160	201	186	209	186	208	167	192	169	204
Stanislaus	191	230	184	212	173	205	144	183	159	229	201	252	217	244	227	253	212	244	196	245
Sutter	30	37	31	37	34	40	33	42	17	24	30	38	35	39	35	39	35	40	27	38
Tehama	27	33	24	28	23	27	19	24	18	26	24	30	25	29	26	29	27	31	28	30
Trinity	3	4	3	4	1	2	3	4	3	4	3	4	4	5	4	5	4	4	2	4
Tulare	109	132	121	139	120	142	91	116	107	155	114	143	136	152	149	167	147	168	144	174
Tuolumne	14	17	13	16	15	18	15	18	12	15	18	23	21	23	22	25	22	25	21	23
Ventura	285	345	290	335	262	310	246	314	249	358	256	321	294	330	302	338	298	342	297	329
Yolo	82	100	76	87	74	87	75	96	63	90	82	103	98	110	101	113	96	110	97	114
Yuba	24	29	26	30	22	26	23	30	14	20	24	30	32	36	30	34	40	46	27	32
Other Counties	2	3	2	2	1	2	1	1	1	2	2	2	2	2	2	2	1	1	2	2
<b>Total</b>	<b>12,238</b>	<b>14,860</b>	<b>12,644</b>	<b>14,596</b>	<b>12,241</b>	<b>14,486</b>	<b>11,396</b>	<b>14,540</b>	<b>10,220</b>	<b>14,701</b>	<b>12,044</b>	<b>15,108</b>	<b>13,785</b>	<b>15,491</b>	<b>13,936</b>	<b>15,584</b>	<b>13,475</b>	<b>15,471</b>	<b>13,473</b>	<b>15,365</b>

<sup>a</sup> 2012 to 2019 data are not directly comparable to other years since an improved methodology is used, but is within 5 percent compared to the previous methodology.  
<sup>#</sup> Other Counties include Alpine, Modoc and Sierra.

Retail Diesel Sales by County																					
(Millions of Gallons)																					
County	2010		2011		2012#		2013#		2014#		2015#		2016#		2017#		2018#		2019#		
	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	
Alameda	29	32	26	28	30	36	27	34	19	27	38	49	47	54	51	58	56	62	48	55	
Amador	2	2	2	2	2	2	1	2	1	2	1	2	2	2	2	2	2	3	3	3	
Butte	9	10	9	10	7	9	8	10	8	10	9	11	11	13	11	13	12	13	12	15	
Calaveras	2	2	2	2	2	2	1	2	1	2	2	2	3	3	3	3	2	3	3	3	
Colusa	3	3	2	3	4	5	4	5	2	2	3	4	4	4	2	3	4	4	7	7	
Contra Costa	15	18	19	21	17	20	17	21	12	17	19	24	23	26	24	28	31	34	24	27	
Del Norte	1	2	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	1	2	
El Dorado	6	8	6	7	6	7	5	6	4	6	7	9	8	9	8	10	8	9	8	10	
Fresno	30	33	35	38	33	40	23	29	18	25	39	50	40	46	40	45	46	51	39	49	
Glenn	5	5	4	4	4	5	4	5	4	5	5	6	12	14	16	19	16	17	18	19	
Humboldt	10	12	10	12	10	12	11	14	4	5	10	13	13	14	8	9	7	8	6	7	
Imperial	9	10	8	9	7	8	8	10	9	11	9	11	14	16	11	12	20	22	21	25	
Inyo	3	4	3	4	2	2	3	4	3	3	3	4	3	4	3	4	3	3	3	4	
Kern	111	117	125	129	133	158	118	148	124	171	125	160	131	149	107	121	97	108	96	105	
Kings	7	7	7	8	7	9	5	7	4	6	7	9	5	6	7	7	8	9	8	9	
Lake	3	3	3	3	2	2	2	3	2	3	3	3	1	1	3	3	3	4	3	4	
Lassen	1	1	1	2	1	1	1	1	1	2	3	3	4	4	1	1	1	1	1	2	
Los Angeles	212	235	221	239	205	245	190	239	194	267	257	328	273	309	267	301	228	253	246	276	
Madera	23	24	23	24	24	28	18	23	22	31	26	33	28	31	29	33	28	31	23	24	
Marin	3	4	2	3	3	3	2	3	2	2	2	3	4	4	4	4	3	3	4	4	
Mariposa	1	1	1	1	1	1	-	1	2	2	1	1	1	2	1	1	1	1	1	1	
Mendocino	6	7	7	8	7	9	6	6	8	4	7	6	9	10	6	6	7	5	6	8	
Merced	44	45	37	38	46	55	49	62	49	68	54	69	59	66	38	42	35	39	28	36	
Mono	1	1	1	1	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Monterey	21	23	24	26	25	30	22	27	13	18	23	29	24	28	24	27	24	26	23	26	
Napa	2	2	2	2	6	7	2	3	2	3	6	8	6	7	6	7	6	7	6	7	
Nevada	5	5	5	5	4	4	1	2	4	6	7	8	8	9	8	9	7	8	5	8	
Orange	38	47	36	42	38	46	33	42	37	51	46	59	52	59	54	61	49	55	51	56	
Placer	13	16	13	15	12	15	9	12	10	13	13	16	15	17	15	17	16	17	16	17	
Plumas	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	
Riverside	84	93	87	94	89	107	86	109	100	138	119	152	128	145	131	148	119	132	108	122	
Sacramento	33	37	32	35	27	32	18	21	21	29	28	36	38	42	42	48	41	45	37	41	
San Bernardino	141	149	136	142	158	189	164	206	152	210	198	253	223	252	235	265	176	195	165	178	
San Diego	69	80	64	72	62	74	58	73	67	93	87	111	93	105	92	103	92	103	94	110	
San Francisco	3	3	3	3	3	4	4	5	1	2	5	6	6	6	5	6	5	5	5	5	
San Joaquin	73	75	85	87	84	99	90	113	86	119	102	131	116	131	111	126	105	117	101	113	
San Luis Obispo	12	14	16	18	11	13	9	12	12	17	19	24	20	23	19	21	20	22	20	22	
San Mateo	10	12	8	10	8	10	8	10	4	6	10	15	13	14	15	17	16	17	18	19	
Santa Barbara	13	14	16	17	10	13	12	15	13	18	20	26	22	25	17	19	21	24	18	19	
Santa Clara	23	26	26	28	27	32	28	35	25	35	36	47	30	34	32	36	43	48	33	42	
Santa Cruz	4	5	5	6	4	5	4	6	2	3	5	6	5	6	6	6	6	7	4	6	
Shasta	20	23	19	21	16	19	18	22	13	18	21	27	21	24	22	25	21	24	14	16	
Siskiyou	5	6	11	11	16	20	15	19	16	20	20	26	19	22	18	21	16	17	16	17	
Solano	14	17	18	20	14	16	14	17	8	11	14	18	17	19	22	24	23	25	24	27	
Sonoma	14	16	18	19	13	16	14	18	12	17	15	20	20	23	20	23	20	22	28	32	
Stanislaus	33	36	27	29	25	30	15	19	20	27	26	33	20	22	30	34	32	36	33	35	
Sutter	4	5	2	3	3	4	4	5	2	3	4	5	5	6	3	4	4	5	5	6	
Tehama	31	32	38	39	35	42	37	47	25	35	37	48	35	39	34	38	18	20	17	18	
Tulare	23	25	33	35	27	32	31	39	31	43	34	43	37	42	37	41	31	34	42	45	
Tuolumne	2	2	2	2	1	2	2	2	2	2	2	3	2	3	3	3	3	3	3	3	
Ventura	20	23	32	34	23	27	23	29	25	34	27	34	29	32	32	36	30	33	33	35	
Yolo	33	34	26	27	27	33	30	37	29	40	27	35	32	37	27	30	25	28	24	26	
Yuba	4	4	4	5	3	4	3	4	2	3	2	3	4	5	8	9	11	12	4	5	
Other Counties*	1	2	2	2	1	2	1	1	1	2	2	2	3	3	3	3	2	2	2	3	
<b>Total</b>	<b>1,285</b>	<b>1,414</b>	<b>1,346</b>	<b>1,447</b>	<b>1,327</b>	<b>1,589</b>	<b>1,261</b>	<b>1,587</b>	<b>1,226</b>	<b>1,691</b>	<b>1,592</b>	<b>2,033</b>	<b>1,742</b>	<b>1,971</b>	<b>1,717</b>	<b>1,937</b>	<b>1,602</b>	<b>1,777</b>	<b>1,559</b>	<b>1,756</b>	

\* 2012-2019 data are not directly comparable to other years since an improved methodology is used, but is within 5 percent compared to the previous methodology.

\* Other Counties include Alpine, Modoc, San Benito, Sierra and Trinity.

Note: Non-Retail diesel sales, which comprise approximately 52.8% of all diesel sales, are not reported in this chart.



## Assumptions for Cumulative Analysis

This appendix presents assumptions that were used in the development of the Salinas Valley Operational Model (SVOM)<sup>1</sup> reflecting climate change and anticipated land use changes through 2070, including for baseline (baseline 2070CC), the proposed project (proposed project 2070CC), and the Tunnel-Only Alternative (Tunnel-Only Alternative 2070CC).

### H.1 SVOM Model Assumptions for 2070 Climate Change Scenario

The following assumptions are reflected in the SVOM model reflecting climate change and anticipated land use changes through 2070 for the baseline (baseline 2070CC), proposed project (proposed project 2070CC), and the Tunnel-Only Alternative (Tunnel-Only Alternative 2070CC) scenarios.

- The simulation was for a central tendency climate scenario with medium increase in temperature.
- Spatial variability of future precipitation is consistent with historical precipitation and temperature patterns. For example, relatively wet portions of the Salinas Valley Groundwater Basin (Basin) remain relatively wet and relatively dry areas remain relatively dry.
- There is very little spatial variability across the (Basin) in future temperature projects; all areas experience similar increases in seasonal and annual temperatures.
- Climate projections used in the modeling were developed using the Locally Constructed Analog method to statistically downscale and bias-correct global climate model projections.
- The active model area is, for the most part, MCWRA Zone 2C. The active model area covers primarily the Salinas Valley within Monterey County but does extend a little bit into San Luis Obispo County in order to capture the area around the reservoirs.
- The SVOM model uses historical groundwater extraction data that was reported to MCWRA through the Groundwater Extraction Management System (GEMS) to simulate 2014 urban water demands. The agricultural water demand was modeled for 2014 and is based on 2014 land use

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<sup>1</sup> SVOM Model: Unofficial Collaborator Development Version of Preliminary Model. Access to this repository and use of its data is limited to those who are collaborating on the model development. Once the model is published and received full USGS approval, it will be archived and released to the public. This preliminary data (model and/or model results) are preliminary or provisional and subject to revision. This model and model results are being provided specifically to collaborate with agencies that are contributing to the model development and meet the need for timely best science. The model has not received final approval by USGS. No warranty, expressed or implied, is made by the USGS or the U.S. Government as to the functionality of the model and related material, nor will the fact of release constitute any such warranty. The model is provided on the condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from the authorized or unauthorized use of the model.

and historical climate (temperature, precipitation, etc.). Because MCWRA has reported data for actual groundwater extraction for ag uses in 2014, that data was used as an “observation” against which the modeled ag water demand was compared to make sure the modeled data was reasonable. For 2070 urban water demand, data from another ongoing study (the Salinas and Carmel River Basins Study, being led by the U.S. Bureau of Reclamation)<sup>2</sup> that had developed 2070 urban water demands based on projected changes in urban land use area, population growth, and increased water efficiency was incorporated. For 2070 agricultural water demand, the SVOM model simulated agricultural water use based on project land use (crop type), irrigation efficiency, and climate conditions (e.g. temperature, crop evapotranspiration), which was also obtained from the USBR Salinas and Carmel River Basins Study.

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<sup>2</sup> An overview of the Salinas and Carmel River Basins Study is available here: <https://www.usgs.gov/centers/california-water-science-center/science/salinas-and-carmel-river-basins-study>.



## H.2 Reservoir Stage

Table H-1 through Table H-3 represent the modelled median maximum monthly stage in each reservoir for all year types, wet years, normal years, and dry years in 2070, assuming climate change.

**Table H-1. Modeled Reservoir Stage, Baseline 2070CC Scenario**

Month	Modeled Median Monthly Maximum Stage (feet NGVD29), Baseline 2070CC Scenario							
	All Year Types		Wet Years		Normal Years		Dry Years	
	Nacimiento	San Antonio	Nacimiento	San Antonio	Nacimiento	San Antonio	Nacimiento	San Antonio
October	759	707	734	691	768	740	758	711
November	759	699	732	685	768	730	757	705
December	763	703	741	694	770	731	756	706
January	783	720	789	715	778	735	756	708
February	788	731	796	747	786	740	759	710
March	793	740	800	754	786	742	759	710
April	794	741	801	756	783	748	755	706
May	793	737	801	756	780	741	753	695
June	786	734	800	755	774	734	744	689
July	776	730	799	754	766	729	738	687
August	763	731	796	753	757	727	734	681
September	760	725	794	748	754	717	724	660
<b>Average</b>	<b>776</b>	<b>725</b>	<b>782</b>	<b>734</b>	<b>773</b>	<b>735</b>	<b>749</b>	<b>697</b>

**Table H-2. Modeled Reservoir Stage, Proposed Project 2070CC Scenario**

Month	Modeled Median Monthly Maximum Stage (feet NGVD) Proposed Project 2070CC Scenario							
	All Year Types		Wet Years		Normal Years		Dry Years	
	Nacimiento	San Antonio	Nacimiento	San Antonio	Nacimiento	San Antonio	Nacimiento	San Antonio
October	741	768	725	741	753	776	738	758
November	733	767	715	733	747	775	727	759
December	741	767	733	734	751	775	725	760
January	760	767	780	740	761	777	724	760
February	772	774	788	771	777	779	739	761
March	781	777	794	784	785	784	739	762
April	780	779	794	787	780	784	732	760
May	780	778	793	787	780	784	726	752
June	777	777	792	787	777	783	711	749
July	769	775	785	786	769	782	705	731
August	758	774	780	785	758	781	700	706
September	749	771	776	780	751	777	693	665
<b>Average</b>	<b>762</b>	<b>773</b>	<b>771</b>	<b>768</b>	<b>766</b>	<b>780</b>	<b>722</b>	<b>744</b>

**Table H-3. Modeled Reservoir Stage, Tunnel-Only Alternative 2070CC Scenario**

Month	Modeled Median Monthly Maximum Stage (feet NGVD) Tunnel-Only Alternative 2070CC Scenario							
	All Year Types		Wet Years		Normal Years		Dry Years	
	Nacimiento	San Antonio	Nacimiento	San Antonio	Nacimiento	San Antonio	Nacimiento	San Antonio
October	735	768	725	728	746	773	735	753
November	726	767	714	717	740	772	726	759
December	737	767	732	719	741	774	725	760
January	753	767	774	740	750	774	724	760
February	766	772	788	770	768	775	738	761
March	781	775	793	779	782	779	739	762
April	779	777	794	780	779	779	730	758
May	777	779	793	780	777	779	724	756
June	774	776	792	780	774	778	711	749
July	763	774	790	780	763	777	706	735
August	752	773	779	780	752	776	699	711
September	744	771	770	778	744	772	692	665
<b>Average</b>	<b>757</b>	<b>772</b>	<b>770</b>	<b>761</b>	<b>760</b>	<b>776</b>	<b>721</b>	<b>744</b>

### H.3 Average Annual Release

Table H-4 through Table H-6 represent the modelled average maximum annual release in each reservoir and combined for all year types, wet years, normal years, and dry years in 2070, assuming climate change.

**Table H-4. Modelled Average Annual Release, Baseline 2070CC Scenario**

Water Year Type	Average Annual Release by Category and Subcategory (acre-feet per year), Baseline 2070CC Scenario											
	Nacimiento				San Antonio				Combined			
	All	Wet	Normal	Dry	All	Wet	Normal	Dry	All	Wet	Normal	Dry
Average Annual Total Release	221,064	390,313	177,604	117,388	103,835	82,615	124,789	88,407	324,899	472,928	302,393	205,796
Flood Control Release	93,851	275,669	37,605	0	11,916	26,832	9,568	61	105,767	302,501	47,173	61
Environmental Release	40,497	28,816	51,758	32,507	32,869	5,037	37,486	54,555	73,366	33,854	89,244	87,062
Fish Passage Release	11,802	617	23,505	2,465	28,686	785	33,709	49,705	40,489	1,402	57,214	52,170
Fish and Wildlife Habitat Release	29,074	28,221	28,993	30,146	4,316	4,273	3,923	5,082	33,389	32,493	32,916	35,228
Conservation Release	81,048	82,566	81,590	78,409	53,716	44,517	70,720	32,508	134,764	127,083	152,310	110,917
Over-Release	9,105	6,206	10,556	9,588	5,908	6,617	7,623	1,993	15,013	12,823	18,179	11,581

**Table H-5. Modeled Average Annual Release, Proposed Project 2070CC Scenario**

Water Year Type	Modeled Average Annual Release by Category and Subcategory (acre-feet per year) Proposed Project 2070CC Scenario											
	Nacimiento				San Antonio				Combined			
	All	Wet	Normal	Dry	All	Wet	Normal	Dry	All	Wet	Normal	Dry
Average Annual Total Release	190,079	287,217	170,787	106,191	105,956	101,216	97,962	123,110	296,035	388,433	268,750	229,301
Flood Control Release	66,453	174,118	26,923	0	21,898	54,831	10,849	48	88,352	228,949	37,771	48
Environmental Release	34,103	25,266	49,447	21,873	32,729	4,442	43,092	50,223	66,832	29,708	92,539	72,096
Fish Passage Release	10,902	526	24,898	2,417	28,917	690	39,499	46,020	39,818	1,216	64,397	48,437
Fish and Wildlife Habitat Release	23,201	24,740	24,549	19,456	3,813	3,752	3,594	4,203	27,014	28,492	28,142	23,659
Conservation Release	82,912	81,141	89,303	75,616	47,986	38,677	41,859	67,683	130,898	119,818	131,162	143,299
SRDF Diversion from Cons. Rel. <sup>a</sup>	-	-	-	-	-	-	-	-	8,273	8,863	8,141	7,787
Conservation Release Lost Above SRDF <sup>b</sup>	-	-	-	-	-	-	-	-	122,625	110,955	123,021	135,512
Over-Release <sup>c</sup>	6,610	6,691	5,115	8,703	3,342	3,266	2,162	5,155	9,953	9,957	7,277	13,858

<sup>a</sup> SRDF Diversion is measured at the location of the diversion facility, and is not differentiated by reservoir. Numbers presented here do not include SRDF Diversion that is supplied by other sources, including natural flow and agricultural return flow.

<sup>b</sup> The difference between the amount of Conservation Release and that portion diverted at SRDF is lost along the journey (required bypass flows are accounted for as part of the Fish Passage Releases). The model does not account for direct precipitation into and evaporation from the stream system, so this water must all be exchanged with the subsurface.

<sup>c</sup> Over-Release represents water released from the reservoirs over and above any requirement in place. This release typically leaves the system and flows out to Monterey Bay.

**Table H-6. Modeled Average Annual Release, Tunnel-Only Alternative 2070CC Scenario**

Water Year Type	Modeled Average Annual Release by Category and Subcategory (acre-feet per year) Tunnel-Only Alternative 2070CC Scenario											
	Nacimiento				San Antonio				Combined			
	All	Wet	Normal	Dry	All	Wet	Normal	Dry	All	Wet	Normal	Dry
Average Annual Total Release	190,220	289,973	175,700	96,344	107,644	102,906	98,188	126,930	297,864	392,879	273,888	223,274
Flood Control Release	61,918	162,997	24,483	0	33,715	71,030	25,664	2,426	95,633	234,027	50,147	2,426
Environmental Release	33,755	25,604	47,713	22,762	28,289	4,956	36,807	42,763	62,045	30,560	84,520	65,524
Fish Passage Release	10,258	518	23,445	2,225	24,933	1,672	33,807	38,803	35,191	2,190	57,251	41,029
Fish and Wildlife Habitat Release	23,497	25,087	24,268	20,536	3,356	3,284	3,001	3,959	26,853	28,371	27,269	24,496
Conservation Release	88,002	93,975	98,303	66,054	42,303	24,577	33,536	75,568	130,305	118,552	131,839	141,623
SRDF Diversion from Cons. Rel. <sup>a</sup>	-	-	-	-	-	-	-	-	8,203	8,766	8,100	7,705
Conservation Release Lost Above SRDF <sup>b</sup>	-	-	-	-	-	-	-	-	122,101	109,786	123,739	133,918
Over-Release <sup>c</sup>	6,545	7,396	5,202	7,527	3,337	2,343	2,180	6,173	9,882	9,739	7,382	13,701

- a. SRDF Diversion is measured at the location of the diversion facility and is not differentiated by reservoir. Numbers presented here do not include SRDF Diversion that is supplied by other sources, including natural flow and agricultural return flow.
- b. The difference between the amount of Conservation Release and that portion diverted at SRDF is lost along the journey (required bypass flows are accounted for as part of the Fish Passage Releases). The model does not account for direct precipitation into and evaporation from the stream system, so this water must all be exchanged with the subsurface.
- c. Over-Release represents water released from the reservoirs over and above any requirement in place. This release typically leaves the system and flows out to Monterey Bay.

## H.4 Streamflow at Spreckels Above Select Thresholds

**Table H-7** represents the modelled percentage of timesteps above select streamflow thresholds for all year types, wet years, normal years, and dry years in 2070, assuming climate change, under the baseline 2070CC, proposed project 2070CC, and Tunnel-Only Alternative 2070CC.

**Table H-7. Modeled Percentage (%) of Timesteps above Thresholds at Spreckels, Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios**

Streamflow	Modeled Percentage (%) of Timesteps above Select Streamflow at Spreckels by Water Year											
	Baseline 2070CC				Proposed Project 2070CC				Tunnel-Only Alternative 2070CC			
	All	Wet	Normal	Dry	All	Wet	Normal	Dry	All	Wet	Normal	Dry
30 cfs	79.0	95.0	84.0	55.0	82.0	96.0	85.0	72.0	80.0	97.0	76.0	65.0
80 cfs	61.0	75.0	67.0	36.0	55.0	71.0	53.0	41.0	53.0	72.0	45.0	44.0
150 cfs	39.0	57.0	41.0	14.0	38.0	55.0	39.0	17.0	35.0	59.0	28.0	18.0

cfs = cubic feet per second; N/A = not applicable.

## H.5 Tunnel Transfers

Tables G-8, G-9, and G-10 present information regarding the average annual tunnel transfer, tunnel transfer days per year, and percentage of years with tunnel transfer. Because there would be no tunnel constructed in the baseline 2070CC scenario, tunnel releases are not relevant in the baseline 2070CC scenario.

**Table H-8. Modeled Average Annual Tunnel Transfer for each Water Year, 2070CC Scenarios**

Scenario	Modeled Average Annual Tunnel Transfer (acre-feet per year)			
	All Year Types	Wet Years	Normal Years	Dry Years
Proposed Project 2070CC	29,962	92,628	5,818	6,338
Tunnel-Only Alternative 2070CC	30,187	92,296	6,495	6,338

**Table H-9. Modeled Tunnel Transfer Days per Year, 2070CC Scenarios**

Scenario	Modeled Annual Tunnel Transfer Days per Year			
	All Year Types	Wet Years	Normal Years	Dry Years
Proposed Project 2070CC	48	112	33	8
Tunnel-Only Alternative 2070CC	53	108	42	7

**Table H-10. Modeled Percentage of Years with Tunnel Transfer, 2070CC Scenarios**

Scenario	Modeled Percentage (%) of Years with Tunnel Transfer			
	All Year Types	Wet Years	Normal Years	Dry Years
Proposed Project 2070CC	60	100	63	8
Tunnel-Only Alternative 2070CC	60	100	63	8



## H.6 Flood Frequency Analysis

A flood frequency analysis was performed for all of the 5- to 6-day timestep model data provided by Monterey County Water Resources Agency (MCWRA). Flood frequency was determined by using the Weibull Plotting Position<sup>3</sup> technique to rank the peak annual flow in descending order and calculate return periods in years. Modelled data of flood frequencies for water bodies within the project area for the years up to 2070, assuming climate change, is summarized in **Table H-11**.

**Table H-11. Modeled Flood Frequency Analysis**

	1.50 Year		2.00 Year		4.80 Year		9.60 Year		24.00 Year		48.00 Year	
	cfs	% Change from Baseline 2070CC	cfs	% Change from Baseline 2070CC	cfs	% Change from Baseline 2070CC	cfs	% Change from Baseline 2070CC	cfs	% Change from Baseline 2070CC	cfs	% Change from Baseline 2070CC
Nacimiento River Above Salinas River Confluence Baseline 2070CC	454	-	724	-	6,347	-	13,264	-	19,705	-	23,932	-
Nacimiento River Above Salinas River Confluence Proposed Project 2070CC	398	-12%	516	-29%	3,552	-44%	9,511	-28%	16,201	-18%	20,736	-13%
Nacimiento River Above Salinas River Confluence Tunnel-Only Alternative 2070CC	401	-12%	485	-33%	3,179	-50%	9,432	-29%	16,201	-18%	18,733	-22%
San Antonio River Above Salinas River Confluence Baseline 2070CC	884	-	1,035	-	1,486	-	1,900	-	2,077	-	4,823	-
San Antonio River Above Salinas River Confluence Proposed Project 2070CC	473	-46%	776	-25%	1,442	-3%	1,920	1%	5,428	161%	6,905	43%
San Antonio River Above Salinas River Confluence Tunnel-Only Alternative 2070CC	796	-10%	1,133	9%	1,642	10%	2,095	10%	5,194	150%	7,984	66%
Salinas River Above Nacimiento River Confluence Baseline 2070CC	264	-	567	-	3,129	-	5,019	-	7,482	-	9,530	-
Salinas River Above Nacimiento River Confluence Proposed Project 2070CC	264	0%	567	0%	3,129	0%	5,019	0%	7,482	0%	9,530	0%
Salinas River Above Nacimiento River Confluence Tunnel-Only Alternative 2070CC	264	0%	567	0%	3,129	0%	5,019	0%	7,482	0%	9,530	0%
Salinas River Below Nacimiento River Confluence Baseline 2070CC	583	-	1,339	-	8,202	-	16,436	-	22,948	-	33,462	-
Salinas River Below Nacimiento River Confluence Proposed Project 2070CC	507	-13%	1,339	0%	5,452	-34%	13,386	-19%	19,443	-15%	30,266	-10%
Salinas River Below Nacimiento River Confluence Tunnel-Only Alternative 2070CC	512	-12%	1,339	0%	5,630	-31%	13,386	-19%	19,443	-15%	28,262	-16%
Salinas River Above San Antonio River Confluence Baseline 2070CC	644	-	1,449	-	8,225	-	16,543	-	23,048	-	33,701	-
Salinas River Above San Antonio River Confluence Proposed Project 2070CC	517	-20%	1,449	0%	5,561	-32%	13,387	-19%	19,546	-15%	30,507	-9%
Salinas River Above San Antonio River Confluence Tunnel-Only Alternative 2070CC	517	-20%	1,449	0%	5,739	-30%	13,387	-19%	19,546	-15%	28,504	-15%
Salinas River at Los Lobos Baseline 2070CC	1,255	-	2,164	-	9,069	-	17,513	-	23,167	-	35,825	-
Salinas River at Los Lobos Proposed Project 2070CC	1,349	7%	2,192	1%	5,949	-34%	13,858	-21%	21,723	-6%	34,686	-3%
Salinas River at Los Lobos Tunnel-Only Alternative 2070CC	1,640	31%	2,181	1%	5,931	-35%	13,807	-21%	21,671	-6%	32,248	-10%
Salinas River at Soledad Baseline 2070CC	782	-	1,461	-	7,551	-	16,465	-	19,367	-	33,840	-
Salinas River at Soledad Proposed Project 2070CC	946	21%	1,464	0%	5,682	-25%	12,919	-22%	19,630	1%	32,929	-3%
Salinas River at Soledad Tunnel-Only Alternative 2070CC	832	6%	2,069	42%	5,708	-24%	12,919	-22%	19,427	0%	30,910	-9%
Salinas River at Chualar Baseline 2070CC	1,150	-	2,552	-	8,085	-	17,805	-	19,515	-	36,923	-
Salinas River at Chualar Proposed Project 2070CC	1,208	5%	2,556	0%	6,818	-16%	14,227	-20%	20,747	6%	36,077	-2%
Salinas River at Chualar Tunnel-Only Alternative 2070CC	1,241	8%	2,610	2%	6,849	-15%	14,152	-21%	20,555	5%	34,179	-7%

<sup>3</sup> [glossary.ametsoc.org/wiki/Weibull\\_plotting\\_position](https://glossary.ametsoc.org/wiki/Weibull_plotting_position).

	1.50 Year		2.00 Year		4.80 Year		9.60 Year		24.00 Year		48.00 Year	
	cfs	% Change from Baseline 2070CC	cfs	% Change from Baseline 2070CC	cfs	% Change from Baseline 2070CC	cfs	% Change from Baseline 2070CC	cfs	% Change from Baseline 2070CC	cfs	% Change from Baseline 2070CC
Salinas River at Spreckles Baseline 2070CC	1,185	-	2,473	-	7,739	-	17,487	-	18,859	-	36,485	-
Salinas River at Spreckles Proposed Project 2070CC	1,174	-1%	2,478	0%	6,693	-14%	13,831	-21%	20,326	8%	35,667	-2%
Salinas River at Spreckles Tunnel-Only Alternative 2070CC	1,301	10%	2,536	3%	6,729	-13%	13,758	-21%	20,139	7%	33,827	-7%
Salinas River Lagoon Baseline 2070CC	1,335	-	2,679	-	7,834	-	17,716	-	18,943	-	37,074	-
Salinas River Lagoon Proposed Project 2070CC	1,340	0%	2,593	-3%	7,001	-11%	13,952	-21%	20,529	8%	36,259	-2%
Salinas River Lagoon Tunnel-Only Alternative 2070CC	1,535	15%	2,675	0%	6,972	-11%	13,879	-22%	20,342	7%	34,426	-7%

cfs = cubic feet per second  
Source: Viessman and Lewis 2003.

## H.7 Flow Exceedance Tables for the 2070CC Scenarios

The following tables present modelled flow exceedance probabilities for various locations in 2070 under all, wet, normal, and dry year types.

**Table H-12. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the Nacimiento River above Confluence Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for All Water Year Types**

Location & Scenario	Exceedance Probability	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
Nacimiento River above Confluence Baseline 2070CC	0.05	739	4,543	2,834	487	358	425	396	370	352	262	121	120	445
Nacimiento River above Confluence Proposed Project 2070CC	0.05	540	3,684	1,738	452	383	417	396	377	361	331	89	115	434
Nacimiento River above Confluence Tunnel-Only Alternative 2070CC	0.05	415	3,780	1,471	454	413	423	392	377	361	330	89	115	436
Nacimiento River above Confluence Baseline 2070CC	0.25	118	133	112	72	89	252	293	297	106	78	73	89	106
Nacimiento River above Confluence Proposed Project 2070CC	0.25	118	124	99	76	183	325	330	347	328	268	68	87	267
Nacimiento River above Confluence Tunnel-Only Alternative 2070CC	0.25	118	118	100	77	221	320	322	333	321	267	68	88	253
Nacimiento River above Confluence Baseline 2070CC	0.5	80	88	76	62	57	57	57	57	57	60	63	76	65
Nacimiento River above Confluence Proposed Project 2070CC	0.5	79	85	76	62	57	174	267	301	281	127	59	70	71
Nacimiento River above Confluence Tunnel-Only Alternative 2070CC	0.5	79	85	76	63	57	178	258	244	160	106	59	70	71
Nacimiento River above Confluence Baseline 2070CC	0.75	66	68	64	57	57	51	43	38	34	39	57	64	57
Nacimiento River above Confluence Proposed Project 2070CC	0.75	65	63	63	58	57	57	57	57	57	11	12	58	57
Nacimiento River above Confluence Tunnel-Only Alternative 2070CC	0.75	65	63	63	58	57	57	57	57	57	3	11	58	57
Nacimiento River above Confluence Baseline 2070CC	0.95	35	57	57	0	0	0	0	0	3	0	6	5	0.00
Nacimiento River above Confluence Proposed Project 2070CC	0.95	10	21	57	57	9	0	0	0	0	0	0	5	0.40
Nacimiento River above Confluence Tunnel-Only Alternative 2070CC	0.95	10	21	57	57	9	0	0	0	0	0	0	5	0.37

cfs = cubic feet per second.

**Table H-13. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the Nacimiento River above Confluence Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for Wet Water Year Types**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
Nacimiento River above Confluence Baseline 2070CC	0.05	6,961	8,071	4,898	146	200	344	384	348	319	103	125	125	2,457
Nacimiento River above Confluence Proposed Project 2070CC	0.05	4,030	4,578	4,014	77	153	338	376	373	361	332	90	124	1,460
Nacimiento River above Confluence Tunnel-Only Alternative 2070CC	0.05	3,986	4,578	4,013	378	153	327	378	378	362	332	90	124	1,274
Nacimiento River above Confluence Baseline 2070CC	0.25	217	4,012	917	71	61	60	236	269	295	78	88	113	129
Nacimiento River above Confluence Proposed Project 2070CC	0.25	217	2,528	556	71	61	186	285	317	327	251	67	111	255
Nacimiento River above Confluence Tunnel-Only Alternative 2070CC	0.25	188	2,517	508	71	61	178	286	327	331	248	67	107	248
Nacimiento River above Confluence Baseline 2070CC	0.5	129	269	90	62	57	57	57	115	67	63	68	86	74
Nacimiento River above Confluence Proposed Project 2070CC	0.5	129	163	83	62	57	57	147	273	296	94	62	86	81
Nacimiento River above Confluence Tunnel-Only Alternative 2070CC	0.5	128	151	83	62	57	57	156	270	297	94	62	86	82
Nacimiento River above Confluence Baseline 2070CC	0.75	112	109	72	58	57	41	39	40	31	57	59	79	57
Nacimiento River above Confluence Proposed Project 2070CC	0.75	112	109	70	58	57	57	57	62	154	20	17	64	57
Nacimiento River above Confluence Tunnel-Only Alternative 2070CC	0.75	110	109	70	58	57	57	57	62	145	20	17	64	57
Nacimiento River above Confluence Baseline 2070CC	0.95	74	68	57	57	0	0	0	7	14	3	57	64	9
Nacimiento River above Confluence Proposed Project 2070CC	0.95	74	68	57	57	57	57	57	57	58	0	0	10	17
Nacimiento River above Confluence Tunnel-Only Alternative 2070CC	0.95	74	68	57	57	57	57	57	57	58	0	0	10	17

cfs = cubic feet per second.

**Table H-14. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the Nacimiento River above Confluence Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for Normal Water Year Types**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
Nacimiento River above Confluence Baseline 2070CC	0.05	263	2,091	1,028	566	354	365	408	366	308	288	121	110	392
Nacimiento River above Confluence Proposed Project 2070CC	0.05	141	2,091	698	453	378	417	399	366	348	330	91	110	405
Nacimiento River above Confluence Tunnel-Only Alternative 2070CC	0.05	141	1,786	688	453	383	430	368	357	347	321	91	110	414
Nacimiento River above Confluence Baseline 2070CC	0.25	109	115	142	76	100	233	296	282	57	126	73	87	102
Nacimiento River above Confluence Proposed Project 2070CC	0.25	109	112	102	67	171	326	328	344	326	271	72	87	282
Nacimiento River above Confluence Tunnel-Only Alternative 2070CC	0.25	109	105	142	77	224	325	319	334	324	269	72	88	278
Nacimiento River above Confluence Baseline 2070CC	0.5	80	76	79	62	57	57	57	57	57	61	62	76	63
Nacimiento River above Confluence Proposed Project 2070CC	0.5	80	76	76	62	57	253	297	321	304	206	61	76	76
Nacimiento River above Confluence Tunnel-Only Alternative 2070CC	0.5	80	74	81	64	57	253	285	313	304	200	61	77	77
Nacimiento River above Confluence Baseline 2070CC	0.75	64	61	67	57	24	8	30	38	36	41	57	63	57
Nacimiento River above Confluence Proposed Project 2070CC	0.75	64	61	67	58	57	57	57	57	57	60	57	58	57
Nacimiento River above Confluence Tunnel-Only Alternative 2070CC	0.75	64	61	68	58	57	57	57	57	57	57	57	63	57
Nacimiento River above Confluence Baseline 2070CC	0.95	10	58	22	0	0	0	0	15	22	0	6	5	0
Nacimiento River above Confluence Proposed Project 2070CC	0.95	10	57	60	57	57	57	57	57	57	0	0	14	14
Nacimiento River above Confluence Tunnel-Only Alternative 2070CC	0.95	10	47	60	57	57	57	57	57	57	0	0	14	14

cfs = cubic feet per second.

**Table H-15. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the Nacimiento River above Confluence Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for Dry Water Year Types**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
Nacimiento River above Confluence Baseline 2070CC	0.05	81	93	251	444	452	669	700	415	368	74	72	102	400
Nacimiento River above Confluence Proposed Project 2070CC	0.05	81	93	251	454	440	450	450	439	370	333	72	87	403
Nacimiento River above Confluence Tunnel-Only Alternative 2070CC	0.05	81	93	251	454	440	450	450	436	368	335	72	87	399
Nacimiento River above Confluence Baseline 2070CC	0.25	78	81	71	72	301	384	373	360	114	60	68	71	79
Nacimiento River above Confluence Proposed Project 2070CC	0.25	77	81	68	274	319	374	375	364	345	253	60	70	106
Nacimiento River above Confluence Tunnel-Only Alternative 2070CC	0.25	77	81	68	285	316	369	374	141	59	253	60	70	82
Nacimiento River above Confluence Baseline 2070CC	0.5	66	74	64	59	57	57	57	57	57	57	62	70	62
Nacimiento River above Confluence Proposed Project 2070CC	0.5	66	70	61	71	109	57	57	57	57	57	47	58	59
Nacimiento River above Confluence Tunnel-Only Alternative 2070CC	0.5	66	70	61	71	110	57	57	57	57	11	34	58	58
Nacimiento River above Confluence Baseline 2070CC	0.75	62	59	60	56	57	57	57	41	21	16	58	58	57
Nacimiento River above Confluence Proposed Project 2070CC	0.75	57	59	57	58	45	43	0	0	0	2	4	24	11
Nacimiento River above Confluence Tunnel-Only Alternative 2070CC	0.75	57	59	57	58	45	43	0	0	0	1	4	24	9
Nacimiento River above Confluence Baseline 2070CC	0.95	35	57	57	0.41	2.47	0	0	0	0	0	0.73	0	0
Nacimiento River above Confluence Proposed Project 2070CC	0.95	0	0	9	0	0	0	0	0	0	0	0.73	0	0
Nacimiento River above Confluence Tunnel-Only Alternative 2070CC	0.95	0	0	9	0	0	0	0	0	0	0	0.73	0	0

cfs = cubic feet per second.

**Table H-16. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the San Antonio River above Confluence Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for All Water Year Types**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
San Antonio River above Confluence Baseline 2070CC	0.05	276	492	901	1,121	812	915	879	886	962	767	44	85	868
San Antonio River above Confluence Proposed Project 2070CC	0.05	287	1474	950	1,092	792	886	857	854	852	630	55	85	799
San Antonio River above Confluence Tunnel-Only Alternative 2070CC	0.05	833	1,829	1,056	1,138	775	856	883	970	914	545	109	351	866
San Antonio River above Confluence Baseline 2070CC	0.25	102	95	112	458	459	686	758	796	808	510	26	47	356
San Antonio River above Confluence Proposed Project 2070CC	0.25	104	96	96	331	324	415	394	383	368	330	26	48	329
San Antonio River above Confluence Tunnel-Only Alternative 2070CC	0.25	177	113	132	333	304	389	388	388	367	307	48	73	329
San Antonio River above Confluence Baseline 2070CC	0.5	45	40	45	29	69	340	327	337	312	209	17	33	44
San Antonio River above Confluence Proposed Project 2070CC	0.5	47	41	44	45	51	294	317	342	333	253	17	33	56
San Antonio River above Confluence Tunnel-Only Alternative 2070CC	0.5	52	47	45	80	52	267	305	341	328	229	22	40	67
San Antonio River above Confluence Baseline 2070CC	0.75	21	23	21	12	10	10	10	10	10	16	12	19	14
San Antonio River above Confluence Proposed Project 2070CC	0.75	21	23	20	15	11	31	48	14	16	46	12	20	17
San Antonio River above Confluence Tunnel-Only Alternative 2070CC	0.75	23	23	20	18	11	12	11	10	15	16	16	24	18
San Antonio River above Confluence Baseline 2070CC	0.95	10	13	11	0	0	0	0	0	0	0.48	10	11	0
San Antonio River above Confluence Proposed Project 2070CC	0.95	10	13	11	11	10	10	10	10	10	10	10	11	10
San Antonio River above Confluence Tunnel-Only Alternative 2070CC	0.95	10	13	11	11	10	10	10	10	10	10	10	11	10

cfs = cubic feet per second.

**Table H-17. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the San Antonio River above Confluence Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for Wet Water Year Types**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
San Antonio River above Confluence Baseline 2070CC	0.05	423	1,863	392	461	413	632	768	819	1032	690	55	85	780
San Antonio River above Confluence Proposed Project 2070CC	0.05	2,188	2,336	1207	406	139	507	707	754	569	519	55	85	640
San Antonio River above Confluence Tunnel-Only Alternative 2070CC	0.05	2,155	2,298	1461	409	150	488	716	759	569	516	111	526	744
San Antonio River above Confluence Baseline 2070CC	0.25	205	239	96	43	63	440	595	743	771	352	30	77	311
San Antonio River above Confluence Proposed Project 2070CC	0.25	211	239	138	91	46	244	335	390	366	311	30	77	294
San Antonio River above Confluence Tunnel-Only Alternative 2070CC	0.25	287	239	207	153	48	226	337	398	370	315	30	85	306
San Antonio River above Confluence Baseline 2070CC	0.5	158	139	62	20	14	108	286	345	349	54	22	50	75
San Antonio River above Confluence Proposed Project 2070CC	0.5	160	139	62	29	14	52	259	312	342	124	22	50	78
San Antonio River above Confluence Tunnel-Only Alternative 2070CC	0.5	177	139	63	36	22	53	258	317	337	123	22	54	88
San Antonio River above Confluence Baseline 2070CC	0.75	79	68	50	12	10	11	24	214	307	16	17	34	22
San Antonio River above Confluence Proposed Project 2070CC	0.75	79	68	50	15	11	10	48	251	305	29	17	34	24
San Antonio River above Confluence Tunnel-Only Alternative 2070CC	0.75	106	68	52	18	11	10	39	251	307	29	17	34	27
San Antonio River above Confluence Baseline 2070CC	0.95	27	39	11	2	0	0	0	21	24	0	1	20	1.26
San Antonio River above Confluence Proposed Project 2070CC	0.95	27	39	11	10	10	10	10	15	18	10	10	20	10
San Antonio River above Confluence Tunnel-Only Alternative 2070CC	0.95	27	39	11	10	10	10	10	15	18	10	10	20	10

cfs = cubic feet per second.



**Table H-18. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the San Antonio River above Confluence Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for Normal Water Year Types**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
San Antonio River above Confluence Baseline 2070CC	0.05	133	403	923	1,318	904	969	880	909	961	734	35	74	896
San Antonio River above Confluence Proposed Project 2070CC	0.05	133	403	856	1,353	904	812	860	864	897	600	83	93	844
San Antonio River above Confluence Tunnel-Only Alternative 2070CC	0.05	536	765	850	1,357	903	948	900	913	867	531	129	363	871
San Antonio River above Confluence Baseline 2070CC	0.25	63	60	203	375	564	779	819	836	851	533	26	43	531
San Antonio River above Confluence Proposed Project 2070CC	0.25	64	60	128	356	303	384	367	372	366	307	27	43	334
San Antonio River above Confluence Tunnel-Only Alternative 2070CC	0.25	148	100	180	375	285	378	349	369	361	293	67	73	331
San Antonio River above Confluence Baseline 2070CC	0.5	47	30	46	32	237	516	528	532	792	302	17	33	60
San Antonio River above Confluence Proposed Project 2070CC	0.5	47	31	44	38	62	304	328	352	340	277	18	33	63
San Antonio River above Confluence Tunnel-Only Alternative 2070CC	0.5	61	31	46	61	66	298	317	343	330	236	27	40	87
San Antonio River above Confluence Baseline 2070CC	0.75	21	17	28	11	16	227	274	10	10	145	11	19	17
San Antonio River above Confluence Proposed Project 2070CC	0.75	21	17	27	15	10	233	291	10	11	177	11	19	19
San Antonio River above Confluence Tunnel-Only Alternative 2070CC	0.75	21	23	28	19	10	216	254	10	10	71	17	26	20
San Antonio River above Confluence Baseline 2070CC	0.95	11	13	14	0	3	0	10	10	0	10	10	12	10
San Antonio River above Confluence Proposed Project 2070CC	0.95	11	13	15	11	10	10	10	10	10	11	10	12	10
San Antonio River above Confluence Tunnel-Only Alternative 2070CC	0.95	11	13	15	11	10	10	10	10	10	10	10	12	10

cfs = cubic feet per second.

**Table H-19. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the San Antonio River above Confluence Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for Dry Water Year Types**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
San Antonio River above Confluence Baseline 2070CC	0.05	44	51	917	1,074	835	895	898	990	102	904	25	57	880
San Antonio River above Confluence Proposed Project 2070CC	0.05	44	51	917	1,027	801	909	931	990	719	661	25	57	823
San Antonio River above Confluence Tunnel-Only Alternative 2070CC	0.05	69	51	736	937	789	1,026	982	1,092	984	573	87	75	920
San Antonio River above Confluence Baseline 2070CC	0.25	33	36	26	704	751	529	369	10	16	403	17	29	54
San Antonio River above Confluence Proposed Project 2070CC	0.25	33	36	26	602	555	687	420	394	375	360	17	29	374
San Antonio River above Confluence Tunnel-Only Alternative 2070CC	0.25	34	36	26	562	486	452	408	544	475	362	37	44	365
San Antonio River above Confluence Baseline 2070CC	0.5	23	28	18	440	257	243	10	10	10	45	16	24	17
San Antonio River above Confluence Proposed Project 2070CC	0.5	23	28	19	294	339	407	391	178	25	264	16	24	26
San Antonio River above Confluence Tunnel-Only Alternative 2070CC	0.5	26	28	18	305	327	382	198	192	34	259	16	24	28
San Antonio River above Confluence Baseline 2070CC	0.75	18	16	12	12	10	0	0	0	0	10	12	12	10
San Antonio River above Confluence Proposed Project 2070CC	0.75	18	16	14	15	133	10	10	10	10	13	12	12	12
San Antonio River above Confluence Tunnel-Only Alternative 2070CC	0.75	18	17	14	17	14	10	10	10	10	13	16	18	12
San Antonio River above Confluence Baseline 2070CC	0.95	10	10	10	0	0	0	0	0	0	0	11	10	0
San Antonio River above Confluence Proposed Project 2070CC	0.95	10	10	10	11	0	0	0	0	0.03	0	11	10	10
San Antonio River above Confluence Tunnel-Only Alternative 2070CC	0.95	10	10	10	11	10	5	0	0	0.03	0	11	10	10

cfs = cubic feet per second.

**Table H-20. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the Salinas River above Confluence Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for All Year Types**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
Salinas River above Confluence Baseline 2070CC	0.05	5,955	10,713	6,269	584	361	423	395	373	366	304	261	1,209	1,760
Salinas River above Confluence Proposed Project 2070CC	0.05	5,955	8,795	4,861	583	383	416	395	385	368	343	261	1,202	1,596
Salinas River above Confluence Tunnel-Only Alternative 2070CC	0.05	5,955	8,786	4,861	583	414	421	391	376	365	342	261	1,202	1,524
Salinas River above Confluence Baseline 2070CC	0.25	1,250	1,615	1,078	224	136	252	292	296	131	130	151	303	304
Salinas River above Confluence Proposed Project 2070CC	0.25	1,250	1,430	1,068	282	235	324	329	347	337	282	137	303	341
Salinas River above Confluence Tunnel-Only Alternative 2070CC	0.25	1,158	1,430	1,068	332	240	321	321	332	329	280	137	303	335
Salinas River above Confluence Baseline 2070CC	0.5	275	353	390	122	59	57	57	57	57	75	86	172	112
Salinas River above Confluence Proposed Project 2070CC	0.5	275	345	448	130	63	179	266	300	291	200	74	170	172
Salinas River above Confluence Tunnel-Only Alternative 2070CC	0.5	275	295	448	140	66	186	258	243	260	193	74	172	171
Salinas River above Confluence Baseline 2070CC	0.75	159	158	133	64	57	54	42	38	37	41	59	101	57
Salinas River above Confluence Proposed Project 2070CC	0.75	159	127	132	66	58	57	57	57	57	25	57	93	59
Salinas River above Confluence Tunnel-Only Alternative 2070CC	0.75	159	127	132	72	58	57	57	57	57	21	57	93	59
Salinas River above Confluence Baseline 2070CC	0.95	57	82	67	0	0	0	0	0	13	0	29	30	0
Salinas River above Confluence Proposed Project 2070CC	0.95	57	82	67	57	49	0	0	0	0	0	5	29	3
Salinas River above Confluence Tunnel-Only Alternative 2070CC	0.95	57	82	67	57	49	0	0	0	0	0	5	29	3

cfs = cubic feet per second.

**Table H-21. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the Salinas River above Confluence Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for Wet Water Year Types**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
Salinas River above Confluence Baseline 2070CC	0.05	10,735	15,702	11,640	611	255	343	382	347	339	332	400	1,299	6,447
Salinas River above Confluence Proposed Project 2070CC	0.05	7,816	14,353	9,557	557	237	337	375	372	361	374	381	1,299	5,955
Salinas River above Confluence Tunnel-Only Alternative 2070CC	0.05	7,816	14,353	9,559	758	237	326	377	377	363	373	381	1,299	5,951
Salinas River above Confluence Baseline 2070CC	0.25	5,735	8,099	3,458	375	83	68	235	268	297	142	203	1,146	677
Salinas River above Confluence Proposed Project 2070CC	0.25	5,735	5,914	2,962	375	83	187	284	316	336	304	203	1,146	672
Salinas River above Confluence Tunnel-Only Alternative 2070CC	0.25	5,286	5,767	2,962	375	83	188	285	326	335	304	203	1,146	683
Salinas River above Confluence Baseline 2070CC	0.5	3,527	3,398	1,301	181	66	57	57	114	111	90	141	351	178
Salinas River above Confluence Proposed Project 2070CC	0.5	3,527	3,398	1,301	181	60	60	147	273	299	231	107	351	254
Salinas River above Confluence Tunnel-Only Alternative 2070CC	0.5	3,339	3,398	1,301	181	60	61	156	269	303	227	107	350	257
Salinas River above Confluence Baseline 2070CC	0.75	1,231	867	1,018	113	58	43	39	40	32	59	86	179	60
Salinas River above Confluence Proposed Project 2070CC	0.75	1,231	867	1,018	113	59	57	57	78	157	83	58	172	78
Salinas River above Confluence Tunnel-Only Alternative 2070CC	0.75	1,158	867	1,018	113	59	57	57	78	148	83	58	172	78
Salinas River above Confluence Baseline 2070CC	0.95	172	672	74	59	1	0	0	7	13	18	57	111	13
Salinas River above Confluence Proposed Project 2070CC	0.95	172	672	74	59	57	57	57	57	65	1	5	54	57
Salinas River above Confluence Tunnel-Only Alternative 2070CC	0.95	172	672	74	59	57	57	57	57	65	1	5	54	57

cfs = cubic feet per second.

**Table H-22. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the Salinas River above Confluence Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for Normal Water Year Types**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
Salinas River above Confluence Baseline 2070CC	0.05	2,161	2,944	1,977	701	353	363	408	365	307	290	261	907	881
Salinas River above Confluence Proposed Project 2070CC	0.05	2,086	2,944	1,976	584	378	417	398	365	347	341	261	907	812
Salinas River above Confluence Tunnel-Only Alternative 2070CC	0.05	2,086	2,459	1,976	584	383	429	367	356	347	335	261	907	787
Salinas River above Confluence Baseline 2070CC	0.25	487	943	581	256	105	232	295	281	57	146	151	277	279
Salinas River above Confluence Proposed Project 2070CC	0.25	487	943	600	216	172	325	327	343	331	274	151	277	331
Salinas River above Confluence Tunnel-Only Alternative 2070CC	0.25	487	812	596	406	240	324	318	334	327	271	151	277	326
Salinas River above Confluence Baseline 2070CC	0.5	284	208	386	125	58	57	57	57	57	76	84	169	105
Salinas River above Confluence Proposed Project 2070CC	0.5	284	208	437	125	66	252	296	320	303	222	84	169	194
Salinas River above Confluence Tunnel-Only Alternative 2070CC	0.5	284	206	448	138	66	252	284	312	304	216	82	182	197
Salinas River above Confluence Baseline 2070CC	0.75	136	127	164	62	26	8	30	38	36	45	57	94	57
Salinas River above Confluence Proposed Project 2070CC	0.75	136	115	164	64	58	58	57	57	57	73	57	93	66
Salinas River above Confluence Tunnel-Only Alternative 2070CC	0.75	136	115	164	78	58	58	57	57	57	61	57	93	65
Salinas River above Confluence Baseline 2070CC	0.95	58	87	76	0	0	0	0	14	26	0	29	29	0
Salinas River above Confluence Proposed Project 2070CC	0.95	58	87	84	57	57	57	57	57	57	0	3	61	57
Salinas River above Confluence Tunnel-Only Alternative 2070CC	0.95	58	87	84	62	57	57	57	57	57	0	3	61	57

cfs = cubic feet per second.

**Table H-23. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the Salinas River above Confluence Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for Dry Water Year Types**

<b>Location &amp; Scenario</b>	<b>Exceedance Probability</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
Salinas River above Confluence Baseline 2070CC	0.05	275	417	334	472	452	667	698	439	446	112	130	416	439
Salinas River above Confluence Proposed Project 2070CC	0.05	275	417	334	470	439	449	449	438	447	336	130	358	432
Salinas River above Confluence Tunnel-Only Alternative 2070CC	0.05	275	417	334	470	439	449	449	435	447	340	130	358	425
Salinas River above Confluence Baseline 2070CC	0.25	170	195	143	122	300	383	372	364	352	79	101	164	174
Salinas River above Confluence Proposed Project 2070CC	0.25	168	195	143	295	318	373	374	369	354	274	71	150	275
Salinas River above Confluence Tunnel-Only Alternative 2070CC	0.25	168	195	143	301	315	369	373	175	120	274	71	150	215
Salinas River above Confluence Baseline 2070CC	0.5	159	173	116	69	60	57	57	57	59	57	84	128	87
Salinas River above Confluence Proposed Project 2070CC	0.5	151	158	104	100	121	57	57	57	57	57	55	113	95
Salinas River above Confluence Tunnel-Only Alternative 2070CC	0.5	151	158	104	107	122	57	57	57	57	55	55	113	77
Salinas River above Confluence Baseline 2070CC	0.75	116	106	95	57	57	57	57	41	57	25	62	64	57
Salinas River above Confluence Proposed Project 2070CC	0.75	106	106	73	62	55	42	0	0	1	17	28	61	50
Salinas River above Confluence Tunnel-Only Alternative 2070CC	0.75	106	106	73	62	55	42	0	0	1	3	28	61	50
Salinas River above Confluence Baseline 2070CC	0.95	57	58	57	4	20	0	0	0	0	0	8	0	0
Salinas River above Confluence Proposed Project 2070CC	0.95	0	1	50	0	0	0	0	0	0	0	5	0	0
Salinas River above Confluence Tunnel-Only Alternative 2070CC	0.95	0	1	50	0	0	0	0	0	0	0	5	0	0

cfs = cubic feet per second.

**Table H-24. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the Salinas River at Los Lobos Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for All Water Year Types**

Location & Scenario	Exceedance Probability	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
LOSLOBOS_FLOW Baseline 2070CC	0.05	6,113	11,179	6,700	1,397	957	1014	945	919	1012	848	309	1,294	2,101
LOSLOBOS_FLOW Proposed Project 2070CC	0.05	6,113	9,390	5,482	1,501	921	973	947	917	910	715	394	1,287	2,092
LOSLOBOS_FLOW Tunnel-Only Alternative 2070CC	0.05	6,113	9,380	6,302	1,597	890	1003	959	1027	975	706	396	1,394	2,104
LOSLOBOS_FLOW Baseline 2070CC	0.25	1,311	1,992	1,196	763	631	754	811	836	850	595	176	340	763
LOSLOBOS_FLOW Proposed Project 2070CC	0.25	1,311	1,872	1,233	763	610	747	760	742	705	588	160	340	709
LOSLOBOS_FLOW Tunnel-Only Alternative 2070CC	0.25	1,556	2,225	1,269	742	586	731	752	741	701	566	179	399	701
LOSLOBOS_FLOW Baseline 2070CC	0.5	315	407	529	222	181	504	612	648	593	373	103	214	287
LOSLOBOS_FLOW Proposed Project 2070CC	0.5	318	399	527	216	122	561	613	657	639	495	93	205	369
LOSLOBOS_FLOW Tunnel-Only Alternative 2070CC	0.5	318	388	527	271	131	516	585	657	635	461	123	222	358
LOSLOBOS_FLOW Baseline 2070CC	0.75	182	184	161	105	68	68	66	67	66	103	69	120	96
LOSLOBOS_FLOW Proposed Project 2070CC	0.75	182	150	143	121	70	88	105	93	115	163	67	114	102
LOSLOBOS_FLOW Tunnel-Only Alternative 2070CC	0.75	182	150	143	146	70	79	71	67	112	104	68	123	103
LOSLOBOS_FLOW Baseline 2070CC	0.95	67	95	85	0	0	0	0	0	0	10	45	46	10
LOSLOBOS_FLOW Proposed Project 2070CC	0.95	67	95	79	69	66	66	10	10	11	10	16	46	32
LOSLOBOS_FLOW Tunnel-Only Alternative 2070CC	0.95	67	95	79	72	66	10	10	10	10	10	16	46	16

cfs = cubic feet per second.

**Table H-25. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the Salinas River at Los Lobos Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for Wet Water Year Types**

Location & Scenario	Exceedance Probability	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
LOSLOBOS_FLOW Baseline 2070CC	0.05	11,066	17,003	11,847	1,141	436	715	814	843	1039	777	455	1,384	7,145
LOSLOBOS_FLOW Proposed Project 2070CC	0.05	9,633	16,501	10,021	920	374	704	785	811	745	817	426	1,384	6,113
LOSLOBOS_FLOW Tunnel-Only Alternative 2070CC	0.05	9,434	16,491	10,023	1,053	378	688	793	816	750	818	488	1,809	6,453
LOSLOBOS_FLOW Baseline 2070CC	0.25	5,920	8,238	3,507	404	208	558	740	778	803	451	225	1,225	878
LOSLOBOS_FLOW Proposed Project 2070CC	0.25	5,920	8,116	3,057	404	106	477	622	702	684	571	225	1,225	825
LOSLOBOS_FLOW Tunnel-Only Alternative 2070CC	0.25	5,905	8,103	3,522	492	117	440	642	703	686	566	225	1,225	827
LOSLOBOS_FLOW Baseline 2070CC	0.5	3,704	3,562	1,360	198	97	184	498	665	658	224	160	401	491
LOSLOBOS_FLOW Proposed Project 2070CC	0.5	3,704	3,562	1,360	198	94	109	466	593	645	378	130	401	511
LOSLOBOS_FLOW Tunnel-Only Alternative 2070CC	0.5	3,629	3,562	1,360	204	94	110	465	596	642	378	130	401	514
LOSLOBOS_FLOW Baseline 2070CC	0.75	1,317	935	1,080	149	71	68	79	416	596	104	103	214	156
LOSLOBOS_FLOW Proposed Project 2070CC	0.75	1,317	935	1,080	151	70	71	105	487	592	112	79	204	125
LOSLOBOS_FLOW Tunnel-Only Alternative 2070CC	0.75	1,556	935	1,080	152	70	71	96	486	596	112	79	204	130
LOSLOBOS_FLOW Baseline 2070CC	0.95	199	711	85	69	45	43	0	97	121	32	63	133	63
LOSLOBOS_FLOW Proposed Project 2070CC	0.95	199	711	85	69	68	66	67	93	115	11	16	75	67
LOSLOBOS_FLOW Tunnel-Only Alternative 2070CC	0.95	199	711	85	69	68	66	67	93	115	11	16	75	67

cfs = cubic feet per second.

**Table H-26. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the Salinas River at Los Lobos Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for Normal Water Year Types**

Location & Scenario	Exceedance Probability	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
LOSLOBOS_FLOW Baseline 2070CC	0.05	2,279	3,273	2,147	1,457	978	1068	959	920	1,014	792	309	981	1,350
LOSLOBOS_FLOW Proposed Project 2070CC	0.05	2,219	3,273	2,101	1,566	961	949	942	920	954	700	309	981	1,293
LOSLOBOS_FLOW Tunnel-Only Alternative 2070CC	0.05	2,279	2,820	2,101	1,781	959	1,015	966	970	923	691	309	1,186	1,490
LOSLOBOS_FLOW Baseline 2070CC	0.25	562	998	1036	940	656	837	858	873	893	623	179	317	807
LOSLOBOS_FLOW Proposed Project 2070CC	0.25	563	998	928	860	574	745	712	721	707	580	179	317	686
LOSLOBOS_FLOW Tunnel-Only Alternative 2070CC	0.25	705	1,009	1,063	786	546	733	676	716	700	563	185	336	674
LOSLOBOS_FLOW Baseline 2070CC	0.5	318	238	545	200	289	634	738	696	835	511	100	208	369
LOSLOBOS_FLOW Proposed Project 2070CC	0.5	318	238	544	181	144	590	636	682	660	526	100	212	410
LOSLOBOS_FLOW Tunnel-Only Alternative 2070CC	0.5	331	239	544	247	159	578	614	666	640	487	127	251	402
LOSLOBOS_FLOW Baseline 2070CC	0.75	182	149	220	84	69	325	530	266	67	276	68	112	112
LOSLOBOS_FLOW Proposed Project 2070CC	0.75	182	138	192	111	70	451	565	447	69	349	68	114	120
LOSLOBOS_FLOW Tunnel-Only Alternative 2070CC	0.75	182	142	192	144	74	417	492	67	68	141	69	122	125
LOSLOBOS_FLOW Baseline 2070CC	0.95	74	101	92	0	0	0	66	66	27	12	45	46	43
LOSLOBOS_FLOW Proposed Project 2070CC	0.95	74	101	100	73	66	68	66	66	66	12	14	73	66
LOSLOBOS_FLOW Tunnel-Only Alternative 2070CC	0.95	74	101	100	73	68	67	66	66	66	10	14	73	66

cfs = cubic feet per second.

**Table H-27. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the Salinas River at Los Lobos Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for Dry Water Year Types**

Location & Scenario	Exceedance Probability	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
LOSLOBOS_FLOW Baseline 2070CC	0.05	308	468	1,177	1,138	927	974	961	1,043	402	937	156	473	946
LOSLOBOS_FLOW Proposed Project 2070CC	0.05	308	468	1,177	1,129	926	983	988	1,046	958	706	156	415	957
LOSLOBOS_FLOW Tunnel-Only Alternative 2070CC	0.05	308	468	1,157	1,117	926	1,083	1,039	1,180	1,059	694	213	415	1,010
LOSLOBOS_FLOW Baseline 2070CC	0.25	202	223	168	844	845	822	727	131	125	456	115	193	397
LOSLOBOS_FLOW Proposed Project 2070CC	0.25	202	223	168	788	811	916	808	770	721	628	84	179	707
LOSLOBOS_FLOW Tunnel-Only Alternative 2070CC	0.25	214	223	167	777	751	837	793	907	761	584	134	207	659
LOSLOBOS_FLOW Baseline 2070CC	0.5	183	206	142	519	569	490	67	57	58	123	100	152	129
LOSLOBOS_FLOW Proposed Project 2070CC	0.5	176	184	125	582	658	763	758	393	154	492	71	135	167
LOSLOBOS_FLOW Tunnel-Only Alternative 2070CC	0.5	176	184	125	585	635	731	407	396	154	479	72	152	160
LOSLOBOS_FLOW Baseline 2070CC	0.75	136	122	119	93	51	57	49	0	0	66	74	76	66
LOSLOBOS_FLOW Proposed Project 2070CC	0.75	126	122	89	81	283	67	10	10	27	60	44	72	67
LOSLOBOS_FLOW Tunnel-Only Alternative 2070CC	0.75	126	122	89	78	67	66	10	10	27	39	44	80	67
LOSLOBOS_FLOW Baseline 2070CC	0.95	67	69	74	2	0	0	0	0	0	0	20	10	0
LOSLOBOS_FLOW Proposed Project 2070CC	0.95	10	12	69	39	0	0	0	0	0.05	0	17	10	10
LOSLOBOS_FLOW Tunnel-Only Alternative 2070CC	0.95	10	12	67	39	10	5	0	0	0.05	0	17	10	10

cfs = cubic feet per second.



**Table H-28. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the Salinas River at Soledad Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for All Water Year Types**

Location & Scenario	Exceedance Probability	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
SOLEDAD_FLOW Baseline 2070CC	0.05	6,114	11,321	6,700	1,260	537	377	350	349	391	364	526	1,542	2,104
SOLEDAD_FLOW Proposed Project 2070CC	0.05	6,208	9,384	5,479	1,241	533	373	348	356	380	344	525	1,558	2,080
SOLEDAD_FLOW Tunnel-Only Alternative 2070CC	0.05	6,214	9,367	6,304	1,312	490	382	356	391	403	336	545	1,576	2,126
SOLEDAD_FLOW Baseline 2070CC	0.25	1,474	2,023	1,605	467	294	275	286	305	340	270	197	510	360
SOLEDAD_FLOW Proposed Project 2070CC	0.25	1,465	2,011	1,481	475	265	241	227	225	232	238	226	530	353
SOLEDAD_FLOW Tunnel-Only Alternative 2070CC	0.25	1,875	2,276	1,513	503	237	232	223	225	235	235	206	546	367
SOLEDAD_FLOW Baseline 2070CC	0.5	364	484	605	297	199	203	191	189	191	169	81	235	210
SOLEDAD_FLOW Proposed Project 2070CC	0.5	375	513	610	273	176	199	186	199	206	194	89	223	210
SOLEDAD_FLOW Tunnel-Only Alternative 2070CC	0.5	406	525	636	292	171	184	177	199	205	189	87	239	206
SOLEDAD_FLOW Baseline 2070CC	0.75	152	180	176	173	76	85	59	1	2	19	22	106	76
SOLEDAD_FLOW Proposed Project 2070CC	0.75	160	172	177	197	94	123	119	91	102	98	29	110	108
SOLEDAD_FLOW Tunnel-Only Alternative 2070CC	0.75	156	196	186	198	98	109	86	6	57	36	37	118	104
SOLEDAD_FLOW Baseline 2070CC	0.95	11	38	26	0	0	0	0	0	0	0	1.53	14	0.06
SOLEDAD_FLOW Proposed Project 2070CC	0.95	11	55	38	13	0.55	0.41	0.17	0.09	0.24	0.14	1.53	14	0.49
SOLEDAD_FLOW Tunnel-Only Alternative 2070CC	0.95	11	60	37	21	0.88	0.42	0.17	0.06	0.11	0.14	1.53	18	0.45

cfs = cubic feet per second.

**Table H-29. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the Salinas River at Soledad Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for Wet Water Year Types**

Location & Scenario	Exceedance Probability	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
SOLEDAD_FLOW Baseline 2070CC	0.05	10,090	18,038	11,370	1,792	775	367	302	325	387	483	557	1,910	7,136
SOLEDAD_FLOW Proposed Project 2070CC	0.05	9,417	18,627	10,351	1,828	850	388	290	301	341	417	541	1,887	6,736
SOLEDAD_FLOW Tunnel-Only Alternative 2070CC	0.05	9,413	18,629	10,356	1,825	851	395	285	302	344	415	589	2,036	6,720
SOLEDAD_FLOW Baseline 2070CC	0.25	5,758	7,929	3,841	1,032	399	253	257	279	338	270	328	1,272	1,067
SOLEDAD_FLOW Proposed Project 2070CC	0.25	5,810	7,558	3,706	1,080	388	219	202	211	230	283	328	1,271	1,090
SOLEDAD_FLOW Tunnel-Only Alternative 2070CC	0.25	5,818	7,536	3,789	1,101	391	219	206	214	231	284	328	1,338	1,099
SOLEDAD_FLOW Baseline 2070CC	0.5	4,127	4,488	1,902	512	251	208	184	193	234	125	139	422	297
SOLEDAD_FLOW Proposed Project 2070CC	0.5	4,125	4,013	1,812	482	204	165	163	186	207	205	118	422	259
SOLEDAD_FLOW Tunnel-Only Alternative 2070CC	0.5	4,010	4,006	1,823	488	210	164	166	188	206	213	118	434	259
SOLEDAD_FLOW Baseline 2070CC	0.75	1,534	1,189	1,601	339	172	149	115	140	184	34	29	188	172
SOLEDAD_FLOW Proposed Project 2070CC	0.75	1,525	1,195	1,540	311	124	121	120	152	185	70	34	195	167
SOLEDAD_FLOW Tunnel-Only Alternative 2070CC	0.75	1,736	1,188	1,538	320	125	122	122	152	187	66	36	195	167
SOLEDAD_FLOW Baseline 2070CC	0.95	218	833	460	268	59	65	55	87	137	0.42	0.16	65	34
SOLEDAD_FLOW Proposed Project 2070CC	0.95	225	884	457	245	66	76	80	96	133	0.42	0.16	70	60
SOLEDAD_FLOW Tunnel-Only Alternative 2070CC	0.95	226	888	455	238	63	79	80	95	130	0.42	0.16	73	59

cfs = cubic feet per second.

**Table H-30. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the Salinas River at Soledad Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for Normal Water Year Types**

Location & Scenario	Exceedance Probability	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
SOLEDAD_FLOW Baseline 2070CC	0.05	2,661	2,786	2,454	1,054	393	386	369	352	390	324	568	1,339	1,165
SOLEDAD_FLOW Proposed Project 2070CC	0.05	2,681	2,788	2,293	923	359	329	349	352	378	271	553	1,345	1,181
SOLEDAD_FLOW Tunnel-Only Alternative 2070CC	0.05	2,682	2,697	2,287	932	360	379	361	369	364	268	554	1,450	1,259
SOLEDAD_FLOW Baseline 2070CC	0.25	869	1,112	835	420	244	311	318	328	349	278	224	493	362
SOLEDAD_FLOW Proposed Project 2070CC	0.25	857	1,101	773	407	206	232	218	218	229	225	244	503	346
SOLEDAD_FLOW Tunnel-Only Alternative 2070CC	0.25	992	1,123	787	432	200	228	210	216	226	222	244	516	358
SOLEDAD_FLOW Baseline 2070CC	0.5	385	364	646	260	176	223	254	211	320	186	99	230	234
SOLEDAD_FLOW Proposed Project 2070CC	0.5	400	341	641	249	130	197	191	205	211	187	106	231	209
SOLEDAD_FLOW Tunnel-Only Alternative 2070CC	0.5	449	375	668	268	132	194	185	202	206	182	103	244	205
SOLEDAD_FLOW Baseline 2070CC	0.75	158	238	276	139	78	115	165	65	2	134	47	113	117
SOLEDAD_FLOW Proposed Project 2070CC	0.75	167	233	269	162	81	130	167	143	5	166	40	115	131
SOLEDAD_FLOW Tunnel-Only Alternative 2070CC	0.75	157	253	269	181	86	126	144	5	2	99	47	134	123
SOLEDAD_FLOW Baseline 2070CC	0.95	68	92	82	0	0	0.04	0.06	0.06	0.11	0.41	2	30	0.11
SOLEDAD_FLOW Proposed Project 2070CC	0.95	54	103	86	34	0.87	0.41	0.17	0.09	0.28	0.55	2	28	0.52
SOLEDAD_FLOW Tunnel-Only Alternative 2070CC	0.95	60	105	108	53	2.66	0.41	0.17	0.06	0.11	0.56	2	29	0.51

cfs = cubic feet per second.

**Table H-31. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the Salinas River at Soledad Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for Dry Water Year Types**

Location & Scenario	Exceedance Probability	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
SOLEDAD_FLOW Baseline 2070CC	0.05	344	723	405	417	344	368	312	359	431	367	165	683	381
SOLEDAD_FLOW Proposed Project 2070CC	0.05	365	718	408	428	348	375	371	391	755	349	155	722	405
SOLEDAD_FLOW Tunnel-Only Alternative 2070CC	0.05	374	714	405	459	347	379	378	462	772	326	178	727	425
SOLEDAD_FLOW Baseline 2070CC	0.25	197	284	176	292	315	241	215	10	45	205	82	256	221
SOLEDAD_FLOW Proposed Project 2070CC	0.25	206	276	171	266	260	261	253	258	242	226	87	245	242
SOLEDAD_FLOW Tunnel-Only Alternative 2070CC	0.25	211	281	146	262	234	255	245	293	374	227	89	252	241
SOLEDAD_FLOW Baseline 2070CC	0.5	123	134	82	232	172	87	18	0	3	44	27	85	66
SOLEDAD_FLOW Proposed Project 2070CC	0.5	140	130	82	230	204	227	225	123	158	213	59	112	145
SOLEDAD_FLOW Tunnel-Only Alternative 2070CC	0.5	141	127	75	230	199	215	134	111	181	203	62	120	127
SOLEDAD_FLOW Baseline 2070CC	0.75	69	64	42	26	0.42	0.43	0.56	0	0.06	0.14	15	28	2
SOLEDAD_FLOW Proposed Project 2070CC	0.75	67	73	57	63	114	35	0.64	0.43	3	11	21	23	17
SOLEDAD_FLOW Tunnel-Only Alternative 2070CC	0.75	60	80	57	63	38	1.45	0.56	0.43	3	11	21	31	15
SOLEDAD_FLOW Baseline 2070CC	0.95	0.52	2	21	3	0	0	0	0	0	0	3	0.15	0
SOLEDAD_FLOW Proposed Project 2070CC	0.95	0.52	22	22	3	0.05	0.06	0.07	0.06	0.06	0	3	0.15	0.14
SOLEDAD_FLOW Tunnel-Only Alternative 2070CC	0.95	0.52	23	21	3	0.05	0.06	0.07	0.06	0.06	0	3	0.15	0.14

cfs = cubic feet per second.

**Table H-32. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the Salinas River at Chualar Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for All Water Year Types**

Location & Scenario	Exceedance Probability	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
CHUALAR_FLOW Baseline 2070CC	0.05	8,572	12,556	7,314	1,711	608	284	212	207	264	270	581	2,004	2,912
CHUALAR_FLOW Proposed Project 2070CC	0.05	8,515	10,806	6,221	1,690	576	270	212	219	264	259	578	2,092	2,866
CHUALAR_FLOW Tunnel-Only Alternative 2070CC	0.05	8,529	10,783	6,955	1,727	586	257	215	221	264	248	616	2,094	2,909
CHUALAR_FLOW Baseline 2070CC	0.25	2,513	2,994	2,214	636	233	198	186	186	205	184	203	895	406
CHUALAR_FLOW Proposed Project 2070CC	0.25	2,506	3,038	2,068	582	216	155	112	108	136	156	240	897	409
CHUALAR_FLOW Tunnel-Only Alternative 2070CC	0.25	2,648	3,143	2,075	584	212	151	110	108	139	151	234	898	420
CHUALAR_FLOW Baseline 2070CC	0.5	571	1,025	806	352	174	116	102	94	103	98	65	288	183
CHUALAR_FLOW Proposed Project 2070CC	0.5	606	1,056	803	365	140	109	96	99	102	112	73	309	139
CHUALAR_FLOW Tunnel-Only Alternative 2070CC	0.5	615	1,041	812	376	142	106	94	99	102	108	76	295	141
CHUALAR_FLOW Baseline 2070CC	0.75	210	237	268	172	94	75	20	0	0	5	13	98	71
CHUALAR_FLOW Proposed Project 2070CC	0.75	204	248	281	174	98	84	80	67	63	66	19	104	91
CHUALAR_FLOW Tunnel-Only Alternative 2070CC	0.75	210	253	279	174	97	79	69	0	32	20	24	111	89
CHUALAR_FLOW Baseline 2070CC	0.95	2	81	42	0.25	0	0	0	0	0	0	0.04	10	0
CHUALAR_FLOW Proposed Project 2070CC	0.95	2	80	49	17	4	0	0	0	0	0	0.10	8	0
CHUALAR_FLOW Tunnel-Only Alternative 2070CC	0.95	2	82	50	15	5	0	0	0	0	0	0.10	11	0

cfs = cubic feet per second.

**Table H-33. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the Salinas River at Chualar Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for Wet Water Year Types**

Location & Scenario	Exceedance Probability	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
CHUALAR_FLOW Baseline 2070CC	0.05	11,590	21,446	11,999	2,343	1,008	430	226	200	261	401	735	2,587	8,419
CHUALAR_FLOW Proposed Project 2070CC	0.05	11,528	22,669	11,577	2,388	1,078	464	236	187	261	338	719	2,558	8,350
CHUALAR_FLOW Tunnel-Only Alternative 2070CC	0.05	11,528	22,622	11,572	2,384	1,079	465	238	191	263	341	708	2,714	8,355
CHUALAR_FLOW Baseline 2070CC	0.25	7,236	9,050	4,670	1,469	490	216	187	183	213	217	348	1,546	1,502
CHUALAR_FLOW Proposed Project 2070CC	0.25	7,346	8,421	4,455	1,434	471	211	136	107	142	193	353	1,567	1,497
CHUALAR_FLOW Tunnel-Only Alternative 2070CC	0.25	7,356	8,398	4,558	1,435	485	212	138	109	141	192	354	1,654	1,515
CHUALAR_FLOW Baseline 2070CC	0.5	5,324	5,823	2,741	737	271	176	107	100	143	92	122	507	265
CHUALAR_FLOW Proposed Project 2070CC	0.5	5,337	5,292	2,576	707	265	137	94	96	103	137	99	492	254
CHUALAR_FLOW Tunnel-Only Alternative 2070CC	0.5	5,100	5,190	2,567	714	268	133	95	98	104	139	99	500	254
CHUALAR_FLOW Baseline 2070CC	0.75	2,436	1,606	2,207	535	199	111	82	85	98	5	34	287	107
CHUALAR_FLOW Proposed Project 2070CC	0.75	2,421	1,613	2,163	523	159	88	83	86	94	50	39	311	100
CHUALAR_FLOW Tunnel-Only Alternative 2070CC	0.75	2,468	1,604	2,174	518	156	89	82	86	95	48	41	296	101
CHUALAR_FLOW Baseline 2070CC	0.95	349	1,239	628	305	101	66	56	59	90	0	0	75	37
CHUALAR_FLOW Proposed Project 2070CC	0.95	355	1,294	612	294	96	69	68	72	89	0	0	83	56
CHUALAR_FLOW Tunnel-Only Alternative 2070CC	0.95	356	1,299	620	300	94	69	69	71	89	0	0	87	54

cfs = cubic feet per second.

**Table H-34. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the Salinas River at Chualar Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for Normal Water Year Types**

Location & Scenario	Exceedance Probability	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
CHUALAR_FLOW Baseline 2070CC	0.05	3,434	3,474	2,994	1,616	331	234	212	209	252	240	630	1,990	1,868
CHUALAR_FLOW Proposed Project 2070CC	0.05	3,428	3,477	2,767	1,539	285	199	209	207	224	207	608	2,087	1,838
CHUALAR_FLOW Tunnel-Only Alternative 2070CC	0.05	3,475	3,563	2,788	1,510	275	220	212	215	222	209	609	2,090	1,883
CHUALAR_FLOW Baseline 2070CC	0.25	1,173	1,737	1,348	537	211	196	194	197	208	180	216	921	422
CHUALAR_FLOW Proposed Project 2070CC	0.25	1,178	1,746	1,305	498	179	140	108	105	110	139	263	920	442
CHUALAR_FLOW Tunnel-Only Alternative 2070CC	0.25	1,317	1,739	1,311	523	177	139	102	103	109	139	257	927	453
CHUALAR_FLOW Baseline 2070CC	0.5	589	680	880	352	160	138	132	100	192	104	84	301	197
CHUALAR_FLOW Proposed Project 2070CC	0.5	624	665	875	368	124	106	96	99	101	104	92	297	144
CHUALAR_FLOW Tunnel-Only Alternative 2070CC	0.5	667	688	883	376	122	105	94	99	100	102	81	308	148
CHUALAR_FLOW Baseline 2070CC	0.75	355	367	443	194	103	87	86	23	0	77	36	114	94
CHUALAR_FLOW Proposed Project 2070CC	0.75	418	369	449	217	93	83	88	78	0	92	29	110	96
CHUALAR_FLOW Tunnel-Only Alternative 2070CC	0.75	415	370	458	224	93	80	81	0	0	67	32	124	94
CHUALAR_FLOW Baseline 2070CC	0.95	159	99	184	0	0	0	0	0	0	0	0.20	31	0
CHUALAR_FLOW Proposed Project 2070CC	0.95	142	119	183	90	10	0	0	0	0	0	0.20	23	0
CHUALAR_FLOW Tunnel-Only Alternative 2070CC	0.95	147	118	191	107	13	0	0	0	0	0	0.20	25	0

cfs = cubic feet per second.

**Table H-35. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the Salinas River at Chualar Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for Dry Water Year Types**

Location & Scenario	Exceedance Probability	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
CHUALAR_FLOW Baseline 2070CC	0.05	540	1,124	441	287	217	224	155	212	391	241	141	913	409
CHUALAR_FLOW Proposed Project 2070CC	0.05	565	1,117	438	298	218	225	214	226	677	251	129	967	411
CHUALAR_FLOW Tunnel-Only Alternative 2070CC	0.05	571	1,112	435	345	217	219	215	303	683	241	144	973	413
CHUALAR_FLOW Baseline 2070CC	0.25	241	291	194	231	188	109	99	0	16	146	67	283	158
CHUALAR_FLOW Proposed Project 2070CC	0.25	242	301	188	195	172	120	110	111	137	142	73	271	163
CHUALAR_FLOW Tunnel-Only Alternative 2070CC	0.25	271	306	191	203	168	111	109	144	214	141	76	280	168
CHUALAR_FLOW Baseline 2070CC	0.5	141	170	123	148	94	43	0	0	0	11	19	78	65
CHUALAR_FLOW Proposed Project 2070CC	0.5	149	169	117	146	101	107	104	53	82	114	45	98	107
CHUALAR_FLOW Tunnel-Only Alternative 2070CC	0.5	156	165	119	146	100	104	62	51	102	110	48	102	105
CHUALAR_FLOW Baseline 2070CC	0.75	80	108	68	21	0	0	0	0	0	0	5	22	0
CHUALAR_FLOW Proposed Project 2070CC	0.75	90	105	79	74	65	13	0	0	0	4	14	16	10
CHUALAR_FLOW Tunnel-Only Alternative 2070CC	0.75	90	108	74	72	18	0	0	0	0	4	14	21	8
CHUALAR_FLOW Baseline 2070CC	0.95	0	5	29	0.25	0	0	0	0	0	0	0	0	0
CHUALAR_FLOW Proposed Project 2070CC	0.95	0	22	43	0.25	0	0	0	0	0	0	0.34	0	0
CHUALAR_FLOW Tunnel-Only Alternative 2070CC	0.95	0	23	41	0.25	0	0	0	0	0	0	0.34	0	0

cfs = cubic feet per second.

**Table H-36. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the Salinas River at Spreckels Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for All Water Year Types**

Location & Scenario	Exceedance Probability	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
SPRECKLES_FLOW Baseline 2070CC	0.05	8,552	12,288	7,163	1,705	631	258	125	113	204	199	619	2,053	2,879
SPRECKLES_FLOW Proposed Project 2070CC	0.05	8,484	10,675	6,132	1,691	617	255	109	107	209	187	620	2,157	2,828
SPRECKLES_FLOW Tunnel-Only Alternative 2070CC	0.05	8,500	10,599	6,820	1,770	621	260	108	111	209	187	646	2,109	2,888
SPRECKLES_FLOW Baseline 2070CC	0.25	2,528	2,928	2,145	570	199	114	106	105	107	114	174	868	369
SPRECKLES_FLOW Proposed Project 2070CC	0.25	2,512	2,954	2,008	532	174	102	57	45	64	101	195	890	372
SPRECKLES_FLOW Tunnel-Only Alternative 2070CC	0.25	2,588	3,065	2,018	556	152	95	54	50	80	101	196	885	371
SPRECKLES_FLOW Baseline 2070CC	0.5	549	935	743	297	110	76	46	44	55	52	58	263	107
SPRECKLES_FLOW Proposed Project 2070CC	0.5	567	955	731	307	105	55	44	43	44	57	66	256	97
SPRECKLES_FLOW Tunnel-Only Alternative 2070CC	0.5	579	961	735	307	102	52	44	44	44	57	65	255	100
SPRECKLES_FLOW Baseline 2070CC	0.75	172	200	216	123	48	41	3	1	2	13	19	79	43
SPRECKLES_FLOW Proposed Project 2070CC	0.75	161	205	231	114	48	44	42	39	27	42	20	87	44
SPRECKLES_FLOW Tunnel-Only Alternative 2070CC	0.75	167	212	224	114	48	43	40	2	11	19	22	93	44
SPRECKLES_FLOW Baseline 2070CC	0.95	7	65	34	4	0	0	0	0	0	0	2	5	0.44
SPRECKLES_FLOW Proposed Project 2070CC	0.95	7	68	41	26	3	0.70	0.62	0.51	0.76	0.99	2	5	0.97
SPRECKLES_FLOW Tunnel-Only Alternative 2070CC	0.95	7	69	41	26	3	0.71	0.58	0.51	0.77	0.90	2	5	0.96

cfs = cubic feet per second.

**Table H-37. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the Salinas River at Spreckels Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for Wet Water Year Types**

Location & Scenario	Exceedance Probability	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
SPRECKLES_FLOW Baseline 2070CC	0.05	11,467	21,615	11,820	2,434	1,054	449	216	131	200	293	711	2,598	8,355
SPRECKLES_FLOW Proposed Project 2070CC	0.05	11,453	2,2814	11,528	2,485	1,096	474	226	137	205	232	696	2,558	8,291
SPRECKLES_FLOW Tunnel-Only Alternative 2070CC	0.05	11,453	22,773	11,531	2,480	1,096	475	226	136	205	232	734	2,592	8,267
SPRECKLES_FLOW Baseline 2070CC	0.25	6,872	8,996	4,421	1,529	499	205	108	106	108	152	347	1,465	1,463
SPRECKLES_FLOW Proposed Project 2070CC	0.25	6,979	8,294	4,430	1,516	485	202	108	81	80	110	356	1,470	1,469
SPRECKLES_FLOW Tunnel-Only Alternative 2070CC	0.25	6,997	8,270	4,484	1,525	493	204	108	83	80	109	358	1,558	1,485
SPRECKLES_FLOW Baseline 2070CC	0.5	5,190	5,777	2,743	727	268	133	94	44	80	58	106	485	231
SPRECKLES_FLOW Proposed Project 2070CC	0.5	5,208	5,153	2,585	702	253	106	58	44	45	87	95	461	230
SPRECKLES_FLOW Tunnel-Only Alternative 2070CC	0.5	5,093	5,141	2,594	716	257	106	59	44	45	87	95	461	232
SPRECKLES_FLOW Baseline 2070CC	0.75	2,395	1,563	2,102	505	168	85	44	43	45	12	26	250	80
SPRECKLES_FLOW Proposed Project 2070CC	0.75	2,401	1,570	2,104	497	135	55	43	42	43	37	27	294	61
SPRECKLES_FLOW Tunnel-Only Alternative 2070CC	0.75	2,428	1,559	2,102	503	140	55	43	43	43	38	28	284	61
SPRECKLES_FLOW Baseline 2070CC	0.95	300	1,158	625	285	81	43	43	42	42	0	0.82	76	28
SPRECKLES_FLOW Proposed Project 2070CC	0.95	306	1,221	606	272	71	40	42	42	41	0.90	0.82	80	40
SPRECKLES_FLOW Tunnel-Only Alternative 2070CC	0.95	308	1,228	613	279	72	41	42	42	41	0.90	0.82	83	40

cfs = cubic feet per second.

**Table H-38. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the Salinas River at Spreckels Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for Normal Water Year Types**

Location & Scenario	Exceedance Probability	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
SPRECKLES_FLOW Baseline 2070CC	0.05	3,343	3,360	2,891	1,520	252	134	114	113	127	192	631	2,032	1,870
SPRECKLES_FLOW Proposed Project 2070CC	0.05	3,334	3,364	2,550	1,462	232	105	105	104	112	187	634	2,132	1,792
SPRECKLES_FLOW Tunnel-Only Alternative 2070CC	0.05	3,379	3,462	2,575	1,441	241	105	105	106	112	187	636	2,131	1,845
SPRECKLES_FLOW Baseline 2070CC	0.25	1,194	1,699	1,298	424	141	105	106	106	107	114	188	922	391
SPRECKLES_FLOW Proposed Project 2070CC	0.25	1,203	1,730	1,274	415	118	82	52	44	48	89	218	918	393
SPRECKLES_FLOW Tunnel-Only Alternative 2070CC	0.25	1,393	1,712	1,314	427	113	80	49	45	49	89	221	919	400
SPRECKLES_FLOW Baseline 2070CC	0.5	571	695	832	302	105	85	72	44	104	56	68	270	110
SPRECKLES_FLOW Proposed Project 2070CC	0.5	584	686	828	307	86	55	45	43	43	51	70	253	96
SPRECKLES_FLOW Tunnel-Only Alternative 2070CC	0.5	619	708	833	307	91	53	45	44	43	48	70	253	98
SPRECKLES_FLOW Baseline 2070CC	0.75	272	344	387	152	70	47	44	3	1.32	42	23	95	50
SPRECKLES_FLOW Proposed Project 2070CC	0.75	336	379	391	177	55	44	43	37	1.71	42	21	92	44
SPRECKLES_FLOW Tunnel-Only Alternative 2070CC	0.75	335	392	382	198	56	44	43	1.78	1.71	42	22	104	44
SPRECKLES_FLOW Baseline 2070CC	0.95	136	95	146	0	0	0.52	0.56	0.44	0.37	1.38	3	22	0.59
SPRECKLES_FLOW Proposed Project 2070CC	0.95	123	96	152	58	5	0.70	0.61	0.51	0.75	1.88	3	14	1.31
SPRECKLES_FLOW Tunnel-Only Alternative 2070CC	0.95	127	95	155	72	7	0.70	0.58	0.51	0.76	1.38	3	15	1.04

cfs = cubic feet per second.

**Table H-39. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the Salinas River at Spreckels Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for Dry Water Year Types**

Location & Scenario	Exceedance Probability	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
SPRECKLES_FLOW Baseline 2070CC	0.05	450	1,065	389	210	128	118	73	106	304	128	109	856	349
SPRECKLES_FLOW Proposed Project 2070CC	0.05	482	1,052	385	262	129	118	107	149	562	159	96	932	378
SPRECKLES_FLOW Tunnel-Only Alternative 2070CC	0.05	491	1,044	389	262	129	118	107	211	582	159	103	942	381
SPRECKLES_FLOW Baseline 2070CC	0.25	206	251	136	147	106	46	40	1	5	98	55	252	113
SPRECKLES_FLOW Proposed Project 2070CC	0.25	200	265	134	134	108	49	44	46	66	96	59	231	113
SPRECKLES_FLOW Tunnel-Only Alternative 2070CC	0.25	218	272	137	152	108	47	44	61	105	96	60	240	112
SPRECKLES_FLOW Baseline 2070CC	0.5	109	135	94	89	41	13	1	1	2	20	29	72	41
SPRECKLES_FLOW Proposed Project 2070CC	0.5	119	135	88	89	45	44	39	19	33	52	36	87	48
SPRECKLES_FLOW Tunnel-Only Alternative 2070CC	0.5	122	135	88	89	44	42	24	19	41	51	37	89	49
SPRECKLES_FLOW Baseline 2070CC	0.75	86	87	43	27	1.27	0.43	0.54	0	0	1	18	7	1
SPRECKLES_FLOW Proposed Project 2070CC	0.75	86	96	47	41	36	6	1	0.86	2	15	19	5	17
SPRECKLES_FLOW Tunnel-Only Alternative 2070CC	0.75	83	99	44	41	26	1	0.96	0.87	2	15	19	7	10
SPRECKLES_FLOW Baseline 2070CC	0.95	1	9	29	4	0	0	0	0	0	0	5	0.93	0
SPRECKLES_FLOW Proposed Project 2070CC	0.95	1	19	35	4	0.62	0.43	0.54	0.46	0.70	0.64	5	0.93	0.83
SPRECKLES_FLOW Tunnel-Only Alternative 2070CC	0.95	1	20	34	4	0.62	0.43	0.54	0.46	0.71	0.64	5	0.93	0.84

cfs = cubic feet per second.

**Table H-40. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the Salinas River Lagoon Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for All Water Year Types**

Location & Scenario	Exceedance Probability	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
LAGOON_FLOW Baseline 2070CC	0.05	8,920	12,463	7,245	1,746	594	220	103	95	218	279	777	2,222	2,987
LAGOON_FLOW Proposed Project 2070CC	0.05	8,849	10,854	6,223	1,708	582	212	84	85	222	238	767	2,362	2,967
LAGOON_FLOW Tunnel-Only Alternative 2070CC	0.05	8,814	10,786	6,906	1,810	592	217	84	90	222	236	802	2,353	3,074
LAGOON_FLOW Baseline 2070CC	0.25	2,752	3,085	2,203	589	171	76	69	71	82	125	240	1,026	406
LAGOON_FLOW Proposed Project 2070CC	0.25	2,729	3,141	2,071	559	146	67	33	26	44	120	261	1,046	420
LAGOON_FLOW Tunnel-Only Alternative 2070CC	0.25	2,780	3,268	2,074	564	130	66	33	28	57	120	261	1,050	417
LAGOON_FLOW Baseline 2070CC	0.5	588	1,000	792	290	77	42	16	11	34	50	97	353	95
LAGOON_FLOW Proposed Project 2070CC	0.5	599	1,076	794	282	66	23	12	13	21	54	99	358	90
LAGOON_FLOW Tunnel-Only Alternative 2070CC	0.5	620	1,019	790	298	67	18	11	14	21	54	96	351	91
LAGOON_FLOW Baseline 2070CC	0.75	227	248	238	100	24	7	5	4	7	19	33	140	21
LAGOON_FLOW Proposed Project 2070CC	0.75	222	245	246	101	23	9	8	6	10	25	36	144	19
LAGOON_FLOW Tunnel-Only Alternative 2070CC	0.75	223	247	249	101	27	8	7	6	10	20	40	147	19
LAGOON_FLOW Baseline 2070CC	0.95	20	86	56	9	0	0	0	0	0	1.49	9	14	2
LAGOON_FLOW Proposed Project 2070CC	0.95	20	106	66	21	6	2	2	1.80	3	4	7	12	4
LAGOON_FLOW Tunnel-Only Alternative 2070CC	0.95	20	106	59	21	6	2	2	1.82	3	3	9	13	4

cfs = cubic feet per second.

**Table H-41. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the Salinas River Lagoon Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for Wet Water Year Types**

Location & Scenario	Exceedance Probability	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
LAGOON_FLOW Baseline 2070CC	0.05	11,796	22,263	12,055	2,478	1,019	402	174	95	214	296	879	2,829	8,527
LAGOON_FLOW Proposed Project 2070CC	0.05	11,783	23,457	11,727	2,529	1,082	427	184	101	219	259	864	2,789	8,443
LAGOON_FLOW Tunnel-Only Alternative 2070CC	0.05	11,783	23,416	11,732	2,525	1,091	428	184	100	219	260	888	2,823	8,430
LAGOON_FLOW Baseline 2070CC	0.25	7,122	9,144	4,533	1,539	465	170	75	78	82	173	465	1,612	1,567
LAGOON_FLOW Proposed Project 2070CC	0.25	7,291	8,445	4,522	1,519	441	167	72	42	57	140	473	1,602	1,554
LAGOON_FLOW Tunnel-Only Alternative 2070CC	0.25	7,309	8,422	4,507	1,527	454	169	72	45	57	140	476	1,671	1,601
LAGOON_FLOW Baseline 2070CC	0.5	5,414	5,995	2,784	717	234	99	56	22	57	69	159	603	226
LAGOON_FLOW Proposed Project 2070CC	0.5	5,433	5,375	2,653	679	227	73	23	18	25	110	160	580	227
LAGOON_FLOW Tunnel-Only Alternative 2070CC	0.5	5,320	5,324	2,653	678	227	71	23	18	25	110	161	611	226
LAGOON_FLOW Baseline 2070CC	0.75	2,617	1,681	2,182	526	128	50	13	8	25	31	50	366	68
LAGOON_FLOW Proposed Project 2070CC	0.75	2,626	1,688	2,186	480	112	26	12	13	19	33	51	371	43
LAGOON_FLOW Tunnel-Only Alternative 2070CC	0.75	2,614	1,678	2,185	493	108	26	12	13	19	33	52	353	43
LAGOON_FLOW Baseline 2070CC	0.95	358	1,149	615	246	64	10	9	6	17	4	3	141	8
LAGOON_FLOW Proposed Project 2070CC	0.95	363	1,211	596	234	46	7	8	6	11	4	3	145	8
LAGOON_FLOW Tunnel-Only Alternative 2070CC	0.95	365	1,218	603	241	46	7	8	6	11	4	3	148	8

cfs = cubic feet per second.

**Table H-42. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the Salinas River Lagoon Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for Normal Water Year Types**

Location & Scenario	Exceedance Probability	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
LAGOON_FLOW Baseline 2070CC	0.05	3,513	3,580	3,136	1,573	231	99	92	95	105	212	781	2,219	1,990
LAGOON_FLOW Proposed Project 2070CC	0.05	3,526	3,570	2,678	1,517	211	69	76	75	90	215	783	2,381	1,944
LAGOON_FLOW Tunnel-Only Alternative 2070CC	0.05	3,576	3,679	2,702	1,497	219	69	75	78	90	218	785	2,362	1,986
LAGOON_FLOW Baseline 2070CC	0.25	1,406	1,842	1,378	426	109	69	75	72	85	118	255	1,080	432
LAGOON_FLOW Proposed Project 2070CC	0.25	1,421	1,853	1,348	429	80	48	31	24	40	109	295	1,080	434
LAGOON_FLOW Tunnel-Only Alternative 2070CC	0.25	1,613	1,848	1,388	425	82	45	31	26	40	109	292	1,080	442
LAGOON_FLOW Baseline 2070CC	0.5	609	747	904	290	70	46	38	14	71	54	108	344	92
LAGOON_FLOW Proposed Project 2070CC	0.5	631	745	900	282	54	19	11	11	20	42	107	336	78
LAGOON_FLOW Tunnel-Only Alternative 2070CC	0.5	655	753	910	300	57	18	9	11	20	42	100	343	81
LAGOON_FLOW Baseline 2070CC	0.75	299	392	392	131	34	14	8	7	4	20	42	142	34
LAGOON_FLOW Proposed Project 2070CC	0.75	361	429	416	163	34	9	8	7	7	25	32	139	19
LAGOON_FLOW Tunnel-Only Alternative 2070CC	0.75	360	432	419	180	36	9	7	6	7	19	34	145	19
LAGOON_FLOW Baseline 2070CC	0.95	167	177	180	0	0	0.85	1	1	0.89	5	9	32	2
LAGOON_FLOW Proposed Project 2070CC	0.95	150	180	186	41	9	2	2	1	3	6	9	24	4
LAGOON_FLOW Tunnel-Only Alternative 2070CC	0.95	155	180	188	57	9	2	1.81	1.81	3	5	9	26	3

cfs = cubic feet per second.

**Table H-43. Exceedance Probability for Simulated Flows (cfs) in 2070, Assuming Climate Change, in the Salinas River Lagoon Reach under Baseline 2070CC, Proposed Project 2070CC, and Tunnel-Only Alternative 2070CC Scenarios for Dry Water Year Types**

Location & Scenario	Exceedance Probability	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
LAGOON_FLOW Baseline 2070CC	0.05	502	1,215	440	238	116	81	40	67	363	133	151	986	418
LAGOON_FLOW Proposed Project 2070CC	0.05	533	1,202	435	260	116	81	68	157	601	162	139	1,061	441
LAGOON_FLOW Tunnel-Only Alternative 2070CC	0.05	541	1,195	440	260	117	81	84	217	620	162	145	1,071	445
LAGOON_FLOW Baseline 2070CC	0.25	266	306	204	138	69	10	10	4	17	109	95	345	132
LAGOON_FLOW Proposed Project 2070CC	0.25	277	311	202	127	74	15	13	18	56	112	98	334	139
LAGOON_FLOW Tunnel-Only Alternative 2070CC	0.25	280	317	204	157	76	11	11	31	89	113	99	334	141
LAGOON_FLOW Baseline 2070CC	0.5	183	210	145	66	13	6	4	4	8	34	66	131	41
LAGOON_FLOW Proposed Project 2070CC	0.5	208	221	142	75	17	9	9	9	19	42	82	152	56
LAGOON_FLOW Tunnel-Only Alternative 2070CC	0.5	208	227	140	77	15	8	9	9	21	42	82	153	61
LAGOON_FLOW Baseline 2070CC	0.75	134	115	71	28	4	1.59	2	0	0	3	31	16	4
LAGOON_FLOW Proposed Project 2070CC	0.75	129	130	78	31	8	4	4	4	9	17	48	16	10
LAGOON_FLOW Tunnel-Only Alternative 2070CC	0.75	130	133	78	30	8	4	4	4	9	17	48	16	10
LAGOON_FLOW Baseline 2070CC	0.95	4	25	30	9	0	0	0	0	0	0	17	3	0
LAGOON_FLOW Proposed Project 2070CC	0.95	4	34	39	9	2	1.59	2	1.74	3	3	17	3	3
LAGOON_FLOW Tunnel-Only Alternative 2070CC	0.95	4	36	37	9	2	1.59	2	1.74	3	3	17	3	3

cfs = cubic feet per second.



**Table H-44. Average Annual Flood Control Release (AF per year) in 2070 Assuming Climate Change**

Scenario	Average Water Year Annual Flood Control Release (in acre-feet per year)											
	All Year Types			Wet Years			Normal Years			Dry Years		
	Nacimiento	San Antonio	Combined	Nacimiento	San Antonio	Combined	Nacimiento	San Antonio	Combined	Nacimiento	San Antonio	Combined
Baseline	55,275	2,316	57,591	171,782	6,522	178,304	16,580	1,089	17,669	0	8	8
Baseline 2070CC	91,874	11,374	103,248	275,603	25,983	301,586	37,596	9,484	47,080	0	56	56
	<b>Proposed Project</b>											
Proposed Project	27,877	12,595	40,472	92,318	40,900	133,218	5,005	2,739	7,744	0	0	0
Proposed Project 2070CC	66,453	21,898	88,352	174,118	54,831	228,949	26,923	10,849	37,771	0	48	48
	<b>Tunnel-Only Alternative</b>											
Tunnel-Only Alternative	27,030	18,888	45,918	89,195	49,420	138,615	5,040	11,149	16,189	0	0	0
Tunnel-Only Alternative 2070CC	61,918	33,715	95,633	162,997	71,030	234,027	24,483	25,664	50,147	0	2,426	2,426

## H.8 References

Viessman, W. J., and G. L. Lewis. 2003. *Introduction to Hydrology*. Prentice Hall.

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