

## **Appendix D-4**

### **Attachment C: Air Quality Calculations**

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## Assumptions and Calculations for Short-Term Construction Related Emissions

An air quality and greenhouse gas (GHG) analysis was prepared to evaluate the construction criteria pollutant and GHG emissions associated with compliance with the Proposed Amendments. The purpose of this analysis is to determine if construction activities associated with the Proposed Amendments would result in a significant impact on air quality and GHGs under the California Environmental Quality Act (CEQA).

The Proposed Amendments would require the installation of technologies at ports, harbors and marinas in California. The intent of the Proposed Amendments is to reduce diesel particulate matter (DPM), particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>), nitrogen oxide (NO<sub>x</sub>), reactive organic gas (ROG), and GHGs emitted by commercial harbor craft (CHC). Although the Proposed Amendments would reduce air pollution at ports, harbors and marinas, construction activities associated with the installation of shore-based power systems has the potential to temporarily elevate criteria pollutant and GHG emissions.

Construction criteria pollutant and GHG emissions were quantified using the California Emissions Estimator Model (CalEEMod) version 2020.4.0 developed by the California Air Pollution Officers Association (CAPCOA). Criteria pollutant and GHG emissions estimates for each scenario, as well as assumptions used, are summarized under Sections 1 through 2 below. All CalEEMod outputs can be found in Section 4.

The construction and methods used satisfy the requirements of the Proposed Amendments are site-specific and dependent on many factors such as geography, location, and type of activity. There is considerable uncertainty of the construction methods that would be used for the installation of technologies necessary to comply with the Proposed Amendments. As a result of the uncertainty for each site-specific project, construction criteria pollutant and GHG emissions were modeled under two reasonably foreseeable conservative scenarios:

1. Modification of an existing marina/harbor facility for shore power capability
2. New construction of 1–2-megawatt (MW) charging infrastructure for a zero-emission (ZE) short-run ferry

The modeled construction criteria pollutant and GHG emissions were compared to significance thresholds adopted by California Air Districts that contain marinas or harbors affected by the Proposed Amendments to determine if the construction activities associated with the Proposed Amendments would result in a significant impact on air quality and GHG emissions. As shown in Section 3, modeled criteria pollutant and GHGs emissions would not exceed any of the Air Districts' significance thresholds and are not expected to result in a significant impact under CEQA.

## 1. Modification of an existing marina/harbor facility for shore power capability

### A. Description

For the analysis of construction criteria pollutant and GHG emissions associated with the modification of an existing marina or harbor installing shore power, a hypothetical project was created by California Air Resources Board (CARB) staff. The analysis is a representation of new construction of shore power infrastructure located on a typical California marina or harbor. Some marinas and harbors in California already provide shore power for vessels and construction at these facilities would be considered to be minimal in comparison to the construction of an entirely new charging infrastructure.

Shore power is required for all harbor craft when visiting a facility that receives over the visit threshold per year; CARB staff anticipates nearly all facilities with harbor craft visiting to be subject to shore power requirements. To comply with the Proposed Amendments, the construction of shore power infrastructure may be needed. Approximately 75% of the 276 affected CHC facilities already use shore power in at least some capacity. CARB staff anticipates that approximately half of the remaining 25% of facilities (ports, marinas and harbors) across California (35 facilities total) would install marina or harbor shore power infrastructure by January 1, 2024 in response to the Proposed Amendments. CARB staff further anticipates that the other approximately 241 facilities that are currently equipped for at least some level of shore power capacity would undertake some level of further shore power capacity expansions. CARB staff estimate that approximately three-quarters of harbor craft are already equipped with on-vessel shore power capabilities, and therefore, many marinas and harbor across California already have installed shore power systems. This scenario provides a conservative estimate of construction related criteria pollutant and GHG emissions by assuming the marina or harbor will need to install all new infrastructure.

Figure D-4a shows an undisclosed location in California used as a representation of a marina/harbor location where an installation may occur. Figure D-4a displays the closest California electrical substation according to the California Energy Commission (CEC).<sup>1</sup> The red line represents the assumed conduit line required for the construction project. Using Google Earth, the line's distance is measured to be approximately 3,573 feet (ft). The line direction follows existing roads and avoids private properties. It is reasonable to assume power from the substation will need to be stepped down (from high voltage [115 kV] to a lower voltage [250 V]) and new electrical conduit lines will be installed underground a location near the marina/harbor.

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<sup>1</sup> California Energy Commission, California Electric Infrastructure App, 2021, last accessed August 10, 2021, <https://cecgis-caenergy.opendata.arcgis.com/apps/california-electric-infrastructure-app/explore>.

Figure D-4a: Marina/Harbor Shore Power Scenario<sup>2</sup>



## B. Modeling Assumptions

By using completed projects and projects still under development as examples, and by consulting with industry experts, staff developed the construction schedule shown in Table D-4a.<sup>3,4</sup> As shown, it was assumed that construction would consist of three phases: site preparation, trenching, and system installations. To approximate worst-case construction on- and off-road emissions factors, it was assumed for this analysis that construction would begin the year 2021. Actual emissions from construction equipment are expected to become cleaner over time as more stringent emissions reductions will be required from existing and newly adopted Regulations.

Table D-4a: Construction Schedule

Phase	Start Date	End Date	Total Days	Work Days
Site Preparation	January 4, 2021	January 25, 2021	22	16
Trenching <sup>5</sup>	January 26, 2021	February 22, 2021	28	20
System Installations	February 23, 2021	April 5, 2021	42	30

<sup>2</sup> Google Earth Pro, ZE Ferry Google Earth Image

<sup>3</sup> Pacific Tugboat Service, Shore Power Installation, 2012

<sup>4</sup> Chris Dolan, The Docks Expo, Planning for Power at a Marina – from Equipment to Layout to Costs, December 6, 2018, last accessed August 10, 2021, <https://docksexpo.com/wp-content/uploads/2018/12/The-Dock-Expo-Chris-Dolan-12-6-18.pdf>.

<sup>5</sup> Trenching assumed to be 3,573 at 200 ft per day.

The assumed quantity, hours of use, horsepower and load factors for each off-road equipment used during construction can be found in Tables D-4b through D-4d. The hours of use (i.e., hours per day), horsepower and load factors are based on defaults obtained from CalEEMod, and the number and type of off-road construction equipment are based on approximations by CARB staff.

The assumed daily one-way vendor and worker trips and total one-way haul trips per construction phase can be found in Table D-4e. The trip lengths are based on the U.S. Department of Transportation’s estimated average commuter trip length. Trip frequency approximations were derived by CARB staff based on the type of equipment and materials that would be needed to construct marina/harbor shore power infrastructure. Examples of infrastructure needed for shore power would include items such as, power cables, step-down transformer, wires, circuits, power pedestals, etc.<sup>6</sup>

**Table D-4b: Phase 1: Site Prep – Construction Equipment**

Equipment	Unit Amount	Hours/Day	Horse Power (HP)
Graders	1	6	187
Tractors/Loaders/Backhoes	1	6	97

**Table D-4c: Phase 2 - Trenching**

Equipment	Unit Amount	Hours/Day	Horse Power (HP)
Trenchers	2	6	78
Tractors/Loaders/Backhoes	1	8	97
Plate Compactors	1	8	8
Generator Sets	1	8	84
Concrete/Industrial Saws	1	8	81
Cement and Mortar Mixers	1	8	9
Bore/Drill Rigs	1	8	221

**Table D-4d: Phase 3 - Installation**

Equipment	Unit Amount	Hours/Day	Horse Power (HP)
Tractors/Loaders/Backhoes	1	8	97
Air Compressor	1	8	78
Forklifts	1	8	89
Generator Sets	1	8	84

<sup>6</sup> Pacific Tugboat Service, Shore Power Installation, 2012



**Table D-4e: Construction Worker and Haul Trips:**

Phase	Daily One-Way Worker Trips	Daily One-Way Vendor Trips	Total One-Way Haul Trips	Worker Trip Length (miles) <sup>7</sup>	Vendor Trip Length (miles)	Hauling Trip Length (miles)
Site Prep	10	0	5	15	15	15
Trenching	10	0	4	15	15	15
Installation	10	0	10	15	15	15

## 2. New construction of 1–2-MW charging infrastructure for a ZE short-run ferry

### A. Description

For the analysis of construction emissions associated with ZE short run ferries, a representative project was created by CARB staff. The analysis is a depiction of new construction of 1–2-MW charging infrastructure required for the operation of a ZE short-run ferry. To comply with the Proposed Amendments, the construction of rapid charging and shore power infrastructure may be needed. CARB staff has identified 16 short-run ferries operating seven locations in California that will need to transition to ZE operations by 2026. The Proposed Amendments would also establish requirements for new build excursion vessels to be capable of partial zero-emission operations, also would establish pathways for vessel owners/operators to introduce additional ZE vessel operations into their fleets by the end of 2034. This scenario provides a conservative estimate of construction related-emissions infrastructure to support the operation of ZE ferries and new ZE excursion vessels.

Figure D-4b shows an undisclosed location in California used as a representation of a remote ferry location where an installation may occur. This location was selected as the most conservative project example due to its isolated nature. In general, the majority of California’s ZE ferry and ZE excursion vessel operations will be located in developed areas and assumed construction emissions will be less than those for remote locations.

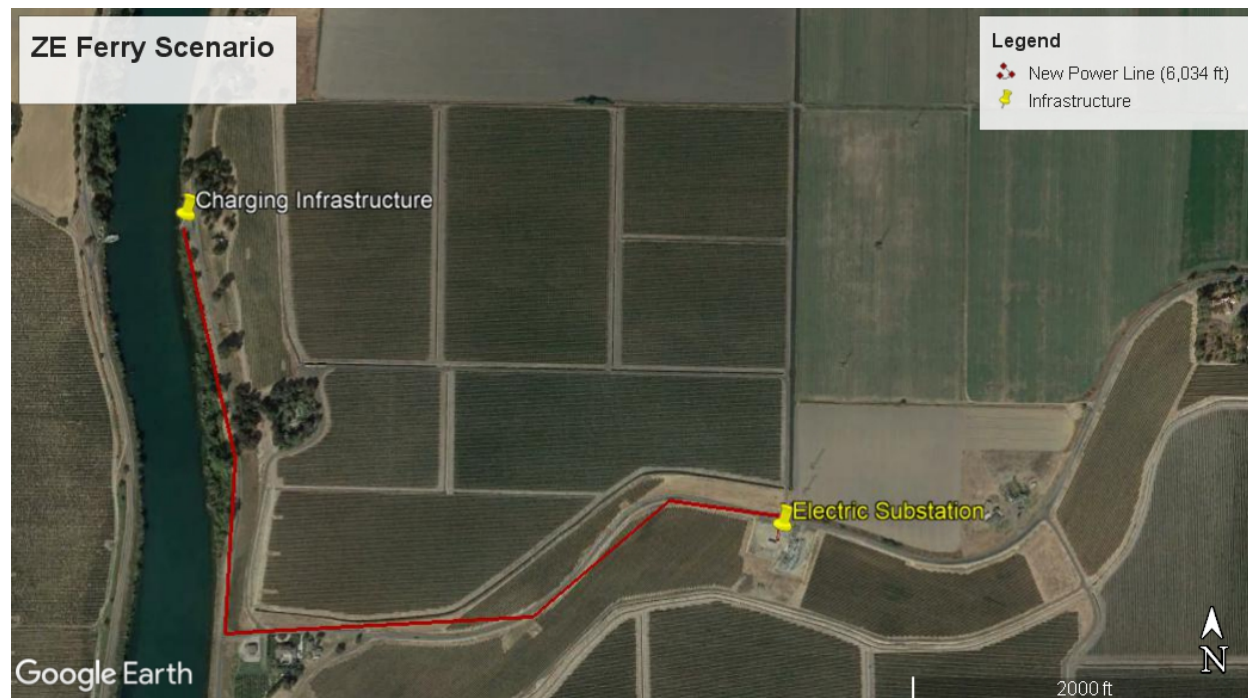
Figure D-4b displays the closest California electrical substation according to the CEC.<sup>8</sup> The red line represents the assumed conduit line required for the construction project. Using Google Earth, the line’s distance is measured to be approximately 6,034 ft. The line direction follows existing roads and avoids private properties. It is reasonable to

<sup>7</sup> U.S. Department of Transportation, Summary of Travel Trends: 2017 National Household Travel Survey, 2017, last accessed August 10, 2021, [https://www.fhwa.dot.gov/policyinformation/documents/2017\\_nhts\\_summary\\_travel\\_trends.pdf](https://www.fhwa.dot.gov/policyinformation/documents/2017_nhts_summary_travel_trends.pdf).

<sup>8</sup> California Energy Commission, California Electric Infrastructure App, 2021, last accessed August 10, 2021, <https://cecgis-caenergy.opendata.arcgis.com/apps/california-electric-infrastructure-app/explore>.

assume power from the substation will need to be stepped down (from high voltage [115 kV] to a lower voltage [6.6 kV]) and new electrical conduit lines will be installed underground to the location of the rapid charging and shore power infrastructure.

**Figure D-4b: New Construction of 1–2-MW Charging Infrastructure<sup>9</sup>**



## B. Modeling Assumptions

By using completed projects and projects still under development as examples, and by consulting with industry experts, staff developed the construction schedule shown in Table D-4f.<sup>10,11</sup> As shown, it was assumed that construction would consist of three phases: site preparation, trenching and system installation. To approximate worst-case construction on- and off-road emission factors, it was assumed for this analysis that construction would begin the year 2021. Actual emissions from construction equipment are expected to become cleaner over time as more stringent emissions reductions are required from existing and newly adopted regulations.

<sup>9</sup> Google Earth Pro, Marina Dock Google Earth Image

<sup>10</sup> Washington State Ferries, System Electrification Plan, December 2020, last accessed August 10, 2021, <https://wsdot.wa.gov/sites/default/files/2021/01/13/WSF-SystemElectrificationPlan-December2020.pdf>.

<sup>11</sup> Skagit County Public Works Mount Vernon, Washington, Guemes Island Ferry Replacement Preliminary Design Report, February 12, 2021, last accessed August 10, 2021, <https://www.skagitcounty.net/PublicWorksFerryReplacement/Documents/042120Update/01%20-%20Preliminary%20Design%20Report.pdf>.

**Table D-4f: Construction Schedule**

Phase	Start Date	End Date	Total Days	Work Days
Site Preparation	January 4, 2021	January 25, 2021	22	16
Trenching <sup>12</sup>	January 26, 2021	March 8, 2021	42	30
System Installation	March 9, 2021	May 10, 2021	63	45

The assumed quantity, hours of use, horsepower and load factors for off-road equipment used during the construction can be found in Tables D-4g through D-4i. The hours of use (i.e., hours per day), horsepower and load factors are based on CalEEMod defaults, and the number and type of off-road construction equipment are based on approximations by CARB staff.

The assumed daily one-way vendor and worker trips and total one-way haul trips per construction phase can be found in Table B-10. The trip lengths are based on the U.S. Department of Transportation’s estimated average commuter trip length and doubled to represent a remote location. Trip frequency approximations were derived by CARB staff based on the type of equipment and materials that would be needed to construct 1-2 MW charging and shore power infrastructure. Examples of the infrastructure needed for ZE charging of a ferry would be items such as, power cables, step-down transformer, battery management system, shore power connection cables and shore power circuit protectors.<sup>13</sup>

**Table D-4g: Phase 1: Site Prep – Construction Equipment**

Equipment	Unit Amount	Hours/Day	Horse Power (HP)
Graders	1	6	187
Tractors/Loaders/Backhoes	1	6	97

**Table D-4h: Phase 2 - Trenching**

Equipment	Unit Amount	Hours/Day	Horse Power (HP)
Trenchers	2	6	78
Tractors/Loaders/Backhoes	1	8	97
Plate Compactors	1	8	8
Generator Sets	1	8	84
Concrete/Industrial Saws	1	8	81
Cement and Mortar Mixers	1	8	9
Bore/Drill Rigs	1	8	221

<sup>12</sup> Trenching assumed to be 6,034 at 200 ft per day.

<sup>13</sup> Skagit County Public Works Mount Vernon, Washington, Guemes Island Ferry Replacement Preliminary Design Report, February 12, 2021, last accessed August 10, 2021, <https://www.skagitcounty.net/PublicWorksFerryReplacement/Documents/042120Update/01%20-%20Preliminary%20Design%20Report.pdf>.

**Table D-4i: Phase 3 - Installation**

Equipment	Unit Amount	Hours/Day	Horse Power (HP)
Tractors/Loaders/Backhoes	1	8	97
Air Compressor	1	8	78
Forklifts	1	8	89
Generator Sets	1	8	84

**Table D-4j: Construction Worker and Haul Trips**

Phase	Daily One-Way Worker Trips	Daily One-Way Vendor Trips	Total One-Way Haul Trips	Worker Trip Length <sup>14</sup> (miles)	Vendor Trip Length (miles)	Hauling Trip Length (miles)
Site Prep	10	0	5	30	30	30
Trenching	20	0	4	30	30	30
Installation	10	0	10	30	30	30

### 3. Modeled Emissions Compared to Local Air District Significance Thresholds

Under CEQA, to determine the significance of environmental effects, each public agency is encouraged to develop and publish thresholds of significance as part of their environmental review process. A threshold of significance is an identifiable quantitative, qualitative, or performance level of a particular environmental effect. Compliance with the threshold of significance means the environmental effects resulting from the project, or here the Proposed Amendments, normally will be determined to be less than significant. Noncompliance with the threshold of significance, means the environmental effects will commonly be determined to be significant by the lead agency. In the following tables, CARB staff has compared published thresholds of significance for Air Districts where the Proposed Amendments may be in effect (i.e., locations of marinas and harbors).

Implementation of the Proposed Amendments would require the modification and construction of infrastructure throughout California. Areas projected to most impacted by the Proposed Amendments are Lake Tahoe, Northern Central Coast, North Coast, Sacramento Valley, San Diego County, San Francisco Bay, San Joaquin Valley, South Central Coast and South Coast. The air districts located within these areas and their

<sup>14</sup> U.S. Department of Transportation, Summary of Travel Trends: 2017 National Household Travel Survey, 2017, last accessed August 10, 2021, [https://www.fhwa.dot.gov/policyinformation/documents/2017\\_nhts\\_summary\\_travel\\_trends.pdf](https://www.fhwa.dot.gov/policyinformation/documents/2017_nhts_summary_travel_trends.pdf).

associate criteria pollutant and GHG CEQA significance thresholds are summarized in Table D-4k. See footnote in the table for defined acronyms for units

**Table D-4k: Criteria Pollutant and Greenhouse Gas Significance Thresholds**

Air District	ROG	NOx	CO	SO2	PM10	PM2.5	CO2e
Placer County APCD <sup>15</sup>	82 ppd	82 ppd	None	None	82 ppd	None	None
El Dorado County AQMD <sup>16</sup>	82 ppd	82 ppd	None	None	82 ppd	None	None
Mendocino County AQMD <sup>17</sup>	54 appd	54 appd	None	None	82 appd	54 appd	none
Sacramento Metropolitan AQMD <sup>18</sup>	None	85 ppd	None	None	80 ppd/ 15 tpy	82 ppd/ 15 tpy	1100 mtpy
San Diego APCD <sup>19</sup>	None	250 ppd	550 ppd	250 ppd	100 ppd	67 ppd	none
Bay Area AQMD <sup>20</sup>	54 appd	54 appd	None	None	82 appd	54 appd	None
San Joaquin Valley APCD <sup>21</sup>	10 tpy	10 tpy	100 tpy	27 tpy	15 tpy	15 tpy	None

<sup>15</sup> Placer County APCD, 2017 CEQA Handbook, Chapter 2 Thresholds of Significance, 2017, last accessed August 10, 2021, <https://www.placer.ca.gov/DocumentCenter/View/2047/Chapter-2-Thresholds-of-Significance-PDF>.

<sup>16</sup> El Dorado County APCD, CEQA Guide First Edition, Chapter 3 Thresholds of Significance, February 2002, last accessed August 10, 2021, [https://www.edcgov.us/Government/AirQualityManagement/documents/Chapter3\\_RF6.pdf](https://www.edcgov.us/Government/AirQualityManagement/documents/Chapter3_RF6.pdf).

<sup>17</sup> Mendocino County AQMD, Adopted Air Quality CEQA Thresholds of Significance, June 2, 2010, last accessed August 10, 2021, [http://www.co.mendocino.ca.us/aqmd/pdf\\_files/MCAQMDCEQARecomendations.pdf](http://www.co.mendocino.ca.us/aqmd/pdf_files/MCAQMDCEQARecomendations.pdf).

<sup>18</sup> Sacramento Metropolitan AQMD, SMAQMD Thresholds of Significance Table, April 2020, last accessed August 10, 2021, <http://www.airquality.org/LandUseTransportation/Documents/CH2ThresholdsTable4-2020.pdf>.

<sup>19</sup> San Diego AQMD, Rule 20.2 New Source Review Non-Major Stationary Sources, last accessed August 10, 2021, [https://www.sandiegocounty.gov/content/dam/sdc/apcd/PDF/Rules\\_and\\_Regulations/Permits/APCD\\_R\\_20.2.pdf](https://www.sandiegocounty.gov/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Permits/APCD_R_20.2.pdf).

<sup>20</sup> Bay Area AQMD, CEQA Air Quality Guidelines, May 2017, last accessed August 10, 2021, [https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa\\_guidelines\\_may2017-pdf.pdf?la=en&rev=0d2d971e661d41f28a56953f1776bdde](https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en&rev=0d2d971e661d41f28a56953f1776bdde).

<sup>21</sup> San Joaquin Valley APCD, Air Quality Thresholds of Significance, March 19, 2015, last accessed August 10, 2021, <http://www.valleyair.org/transportation/0714-GAMAQI-Criteria-Pollutant-Thresholds-of-Significance.pdf>.

Proposed Amendments to the Commercial Harbor Craft Regulation  
Draft Environmental Analysis

Air District	ROG	NOx	CO	SO2	PM10	PM2.5	CO2e
Monterey Bay Unified APCD <sup>22</sup>	None	137 ppd	550 ppd	150 ppd	82 ppd	none	None
San Luis Obispo County APCD <sup>23</sup>	137 ppd	137 ppd	None	None	7 ppd	7 ppd	None
Santa Barbara County APCD <sup>24</sup>	25 tpy	25 tpy	25 tpy	25 tpy	25 tpy	25 tpy	None
Ventura County APCD <sup>25</sup>	25 ppd	25 ppd	None	None	None	None	None
South Coast AQMD <sup>26</sup>	75 ppd	100 ppd	550 ppd	150 ppd	150 ppd	55 ppd	10,000 mtpy

Notes:

appd = Average Pounds Per Day

ppd = Pounds Per Day

tpy = Tons Per Year

mtpy = Metric Tons Per Year

ROG = Reactive Organic Gases

NOx = Nitrogen Oxides

CO = Carbon Monoxide

SO2 = Sulfur Dioxide

PM10 = Particulate Matter 10 micrometers and smaller in diameter

PM2.5 = Particulate Matter 2.5 micrometers and smaller in diameter

The modeled criteria pollutant and GHG emissions associated with construction activities required under the Proposed Amendment were compared to the most stringent CEQA significance thresholds. As shown in Tables D-4l through D-4o, the

<sup>22</sup> Monterey Bay Unified APCD, CEQA Air Quality Guidelines, 2008, last accessed August 10, 2021, [https://www.mbard.org/files/f665829d1/CEQA\\_full+%281%29.pdf](https://www.mbard.org/files/f665829d1/CEQA_full+%281%29.pdf).

<sup>23</sup> San Luis Obispo County APCD, CEQA Air Quality Handbook A Guide for Assessing the Air Quality Impacts for Projects Subject to CEQA Review, April 2012, last accessed August 11, 2021, [https://storage.googleapis.com/slocleanair-org/images/cms/upload/files/CEQA\\_Handbook\\_2012\\_v2%20%28Updated%20MemoTable1-1\\_July2021%29\\_LinkedwithMemo.pdf](https://storage.googleapis.com/slocleanair-org/images/cms/upload/files/CEQA_Handbook_2012_v2%20%28Updated%20MemoTable1-1_July2021%29_LinkedwithMemo.pdf).

<sup>24</sup> Santa Barbara County APCD, Scope and Content of Air Quality Sections in Environmental Documents, June 2017, last accessed August 11, 2021, <https://www.ourair.org/wp-content/uploads/ScopeContentJune2017-LimitedUpdate.pdf>.

<sup>25</sup> Ventura County APCD, Ventura County Air Quality Assessment Guidelines, October 2003, last accessed August 11, 2021, <http://www.vcapcd.org/pubs/Planning/VCAQGuidelines.pdf>.

<sup>26</sup> South Coast AQMD, South Coast AQMD Air Quality Significance Thresholds, April 2019, last accessed August 11, 2021, <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2>.

new construction of infrastructure for a 1–2-MW charging system for a ZE short-run ferry would not be expected to emit criteria pollutant and GHG emissions that would not exceed any of the significance thresholds adopted by Air Districts that contains a location where a short-run ferry or excursion vessel currently operates.

**Table D-4l: Construction Criteria Emission Rates for Marina/Harbor Shore Power Scenario**

Category	ROG	NOx	CO	SO2	PM10	PM2.5
Average Daily (appd)	1	10	10	< 1	< 1	< 1
Peak Daily (ppd)	2	17	17	< 1	1	< 1
Annual (tpy)	< 1	< 1	< 1	< 1	< 1	< 1
Most Stringent Significance Threshold	54 appd 25 ppd 10 tpy	54 appd 25 ppd 10 tpy	550 ppd 25 tpy	150 ppd 25 tpy	7 ppd 15 tpy	7 ppd 15 tpy
Exceed Threshold (Yes or No)?	No	No	No	No	No	No

Notes:

appd = Average Pounds Per Day

ppd = Pounds Per Day

tpy = Tons Per Year

ROG = Reactive Organic Gases

NOx = Nitrogen Oxides

CO = Carbon Monoxide

SO2 = Sulfur Dioxide

PM10 = Particulate Matter 10 micrometers and smaller in diameter

PM2.5 = Particulate Matter 2.5 micrometers and smaller in diameter

**Table D-4m: Construction Greenhouse Gas Emission Rates for Marina/Harbor Shore Power Scenario**

Category	CO2	CH4	N2O	CO2e
Construction GHG (mtpy)	56	< 1	< 1	56
Amortized Emissions (mtpy)	2	< 1	< 1	2
Most Stringent Significance Threshold (mtpy)	1,100			
Exceed Threshold (Yes or No)?	No			

Notes:

mtpy = Metric Tons Per Year

CO<sub>2</sub> = Carbon Dioxide

CH<sub>4</sub> = Methane

N<sub>2</sub>O = Nitrous Oxide

**Table D-4n: Construction Criteria Emission Rates for New Construction of 1–2-MW Charging Infrastructure Scenario**

Category	ROG	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Average Daily (appd)	1	11	12	< 1	< 1	< 1
Peak Daily (ppd)	2	17	18	< 1	1	1
Annual (tpy)	< 1	< 1	< 1	< 1	< 1	< 1
Most Stringent Significance Threshold	54 appd 25 ppd 10 tpy	54 appd 25 ppd 10 tpy	550 ppd 25 tpy	150 ppd 25 tpy	7 ppd 15 tpy	7 ppd 15 tpy
Exceed Threshold (Yes or No)?	No	No	No	No	No	No

Notes:

appd = Average Pounds Per Day

ppd = Pounds Per Day

tpy = Tons Per Year

ROG = Reactive Organic Gases

NO<sub>x</sub> = Nitrogen Oxides

CO = Carbon Monoxide

SO<sub>2</sub> = Sulfur Dioxide

PM<sub>10</sub> = Particulate Matter 10 micrometers and smaller in diameter

PM<sub>2.5</sub> = Particulate Matter 2.5 micrometers and smaller in diameter

**Table D-4o: Construction Greenhouse Gas Emission Rates for New Construction of 1-2 MW Charging Infrastructure Scenario**

Category	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2e</sub>
Construction GHG (mtpy)	88	< 1	< 1	88
Amortized Emissions (mtpy)	3	< 1	< 1	3
Most Stringent Significance Threshold (mtpy)	1,100			
Exceed Threshold (Yes or No)?	No			

Notes:

mtpy = Metric Tons Per Year



CO<sub>2</sub> = Carbon Dioxide  
CH<sub>4</sub> = Methane  
N<sub>2</sub>O = Nitrous Oxide

#### **4. CalEEMod Outputs and Assumptions**

Please see attachment that begins on the following page.

Modification of Existing Marine/Harbor Facility - Statewide , Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Modification of Existing Marine/Harbor Facility  
Statewide , Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	5.00	Acre	5.00	217,800.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	54
<b>Climate Zone</b>	4			<b>Operational Year</b>	2030
<b>Utility Company</b>	Alameda Municipal Power				
<b>CO2 Intensity (lb/MWhr)</b>	0	<b>CH4 Intensity (lb/MWhr)</b>	0	<b>N2O Intensity (lb/MWhr)</b>	0

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - Construction emissions only.

Land Use -

Construction Phase - Assumed construction would occur from January 4, 2021 through April 5, 2021.

Off-road Equipment - Assumed construction unit amount and hours/day.

Off-road Equipment - Assumed construction unit amount and hours/day.

Off-road Equipment - Assumed construction unit amount and hours/day.

Trips and VMT - Assumed worker, vendor and hauling trips and trip lengths.

Grading - Assumed no grading.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	30.00
tblConstructionPhase	NumDays	5.00	16.00

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblGrading	AcresOfGrading	6.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblTripsAndVMT	HaulingTripLength	20.00	15.00
tblTripsAndVMT	HaulingTripLength	20.00	15.00
tblTripsAndVMT	HaulingTripLength	20.00	15.00
tblTripsAndVMT	HaulingTripNumber	0.00	5.00
tblTripsAndVMT	HaulingTripNumber	0.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripLength	7.30	15.00
tblTripsAndVMT	VendorTripLength	7.30	15.00
tblTripsAndVMT	VendorTripLength	7.30	15.00
tblTripsAndVMT	VendorTripNumber	36.00	0.00
tblTripsAndVMT	WorkerTripLength	10.80	15.00
tblTripsAndVMT	WorkerTripLength	10.80	15.00
tblTripsAndVMT	WorkerTripLength	10.80	15.00
tblTripsAndVMT	WorkerTripNumber	5.00	10.00
tblTripsAndVMT	WorkerTripNumber	20.00	10.00
tblTripsAndVMT	WorkerTripNumber	91.00	10.00

**2.0 Emissions Summary**

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-4-2021	4-3-2021	0.3744	0.3744
2	4-4-2021	7-3-2021	0.0067	0.0067
		Highest	0.3744	0.3744

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0217	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.0000e-005	9.0000e-005	0.0000	0.0000	1.0000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0217</b>	<b>0.0000</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>9.0000e-005</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-004</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**2.2 Overall Operational**

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0217	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.0000e-005	9.0000e-005	0.0000	0.0000	1.0000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0217</b>	<b>0.0000</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>9.0000e-005</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-004</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
<b>Percent Reduction</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/4/2021	1/25/2021	5	16	
2	Trenching	Trenching	1/26/2021	2/22/2021	5	20	
3	System Installation	Building Construction	2/23/2021	4/5/2021	5	30	

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 5**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	6.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Trenching	Bore/Drill Rigs	1	8.00	221	0.50
Trenching	Cement and Mortar Mixers	1	8.00	9	0.56
Trenching	Concrete/Industrial Saws	1	8.00	81	0.73
Trenching	Generator Sets	1	8.00	84	0.74
Trenching	Plate Compactors	1	8.00	8	0.43
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Trenching	Trenchers	2	6.00	78	0.50
System Installation	Air Compressors	1	8.00	78	0.48
System Installation	Forklifts	1	8.00	89	0.20
System Installation	Generator Sets	1	8.00	84	0.74
System Installation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	10.00	0.00	5.00	15.00	15.00	15.00	LD_Mix	HDT_Mix	HHDT
Trenching	8	10.00	0.00	4.00	15.00	15.00	15.00	LD_Mix	HDT_Mix	HHDT
System Installation	4	10.00	0.00	10.00	15.00	15.00	15.00	LD_Mix	HDT_Mix	HHDT

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.1 Mitigation Measures Construction**

**3.2 Site Preparation - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.8400e-003	0.0469	0.0242	6.0000e-005		1.8000e-003	1.8000e-003		1.6500e-003	1.6500e-003	0.0000	5.1306	5.1306	1.6600e-003	0.0000	5.1721
<b>Total</b>	<b>3.8400e-003</b>	<b>0.0469</b>	<b>0.0242</b>	<b>6.0000e-005</b>	<b>0.0000</b>	<b>1.8000e-003</b>	<b>1.8000e-003</b>	<b>0.0000</b>	<b>1.6500e-003</b>	<b>1.6500e-003</b>	<b>0.0000</b>	<b>5.1306</b>	<b>5.1306</b>	<b>1.6600e-003</b>	<b>0.0000</b>	<b>5.1721</b>



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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.2 Site Preparation - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	3.5000e-004	8.0000e-005	0.0000	3.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1167	0.1167	0.0000	2.0000e-005	0.1223
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	2.6000e-004	3.0900e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.9000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7424	0.7424	2.0000e-005	2.0000e-005	0.7495
<b>Total</b>	<b>3.3000e-004</b>	<b>6.1000e-004</b>	<b>3.1700e-003</b>	<b>1.0000e-005</b>	<b>9.1000e-004</b>	<b>1.0000e-005</b>	<b>9.3000e-004</b>	<b>2.4000e-004</b>	<b>1.0000e-005</b>	<b>2.5000e-004</b>	<b>0.0000</b>	<b>0.8592</b>	<b>0.8592</b>	<b>2.0000e-005</b>	<b>4.0000e-005</b>	<b>0.8718</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.8400e-003	0.0469	0.0242	6.0000e-005		1.8000e-003	1.8000e-003		1.6500e-003	1.6500e-003	0.0000	5.1306	5.1306	1.6600e-003	0.0000	5.1721
<b>Total</b>	<b>3.8400e-003</b>	<b>0.0469</b>	<b>0.0242</b>	<b>6.0000e-005</b>	<b>0.0000</b>	<b>1.8000e-003</b>	<b>1.8000e-003</b>	<b>0.0000</b>	<b>1.6500e-003</b>	<b>1.6500e-003</b>	<b>0.0000</b>	<b>5.1306</b>	<b>5.1306</b>	<b>1.6600e-003</b>	<b>0.0000</b>	<b>5.1721</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.2 Site Preparation - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	3.5000e-004	8.0000e-005	0.0000	3.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1167	0.1167	0.0000	2.0000e-005	0.1223
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	2.6000e-004	3.0900e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.9000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7424	0.7424	2.0000e-005	2.0000e-005	0.7495
<b>Total</b>	<b>3.3000e-004</b>	<b>6.1000e-004</b>	<b>3.1700e-003</b>	<b>1.0000e-005</b>	<b>9.1000e-004</b>	<b>1.0000e-005</b>	<b>9.3000e-004</b>	<b>2.4000e-004</b>	<b>1.0000e-005</b>	<b>2.5000e-004</b>	<b>0.0000</b>	<b>0.8592</b>	<b>0.8592</b>	<b>2.0000e-005</b>	<b>4.0000e-005</b>	<b>0.8718</b>

**3.3 Trenching - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0186	0.1701	0.1612	3.2000e-004		9.5100e-003	9.5100e-003		9.0400e-003	9.0400e-003	0.0000	27.2522	27.2522	5.6800e-003	0.0000	27.3942
<b>Total</b>	<b>0.0186</b>	<b>0.1701</b>	<b>0.1612</b>	<b>3.2000e-004</b>		<b>9.5100e-003</b>	<b>9.5100e-003</b>		<b>9.0400e-003</b>	<b>9.0400e-003</b>	<b>0.0000</b>	<b>27.2522</b>	<b>27.2522</b>	<b>5.6800e-003</b>	<b>0.0000</b>	<b>27.3942</b>

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**3.3 Trenching - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.8000e-004	7.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0934	0.0934	0.0000	1.0000e-005	0.0978
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	3.3000e-004	3.8600e-003	1.0000e-005	1.1000e-003	1.0000e-005	1.1100e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	0.9281	0.9281	3.0000e-005	3.0000e-005	0.9369
<b>Total</b>	<b>4.1000e-004</b>	<b>6.1000e-004</b>	<b>3.9300e-003</b>	<b>1.0000e-005</b>	<b>1.1300e-003</b>	<b>1.0000e-005</b>	<b>1.1400e-003</b>	<b>3.0000e-004</b>	<b>1.0000e-005</b>	<b>3.1000e-004</b>	<b>0.0000</b>	<b>1.0214</b>	<b>1.0214</b>	<b>3.0000e-005</b>	<b>4.0000e-005</b>	<b>1.0347</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0186	0.1701	0.1612	3.2000e-004		9.5100e-003	9.5100e-003		9.0400e-003	9.0400e-003	0.0000	27.2522	27.2522	5.6800e-003	0.0000	27.3941
<b>Total</b>	<b>0.0186</b>	<b>0.1701</b>	<b>0.1612</b>	<b>3.2000e-004</b>		<b>9.5100e-003</b>	<b>9.5100e-003</b>		<b>9.0400e-003</b>	<b>9.0400e-003</b>	<b>0.0000</b>	<b>27.2522</b>	<b>27.2522</b>	<b>5.6800e-003</b>	<b>0.0000</b>	<b>27.3941</b>

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**3.3 Trenching - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.8000e-004	7.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0934	0.0934	0.0000	1.0000e-005	0.0978
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	3.3000e-004	3.8600e-003	1.0000e-005	1.1000e-003	1.0000e-005	1.1100e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	0.9281	0.9281	3.0000e-005	3.0000e-005	0.9369
<b>Total</b>	<b>4.1000e-004</b>	<b>6.1000e-004</b>	<b>3.9300e-003</b>	<b>1.0000e-005</b>	<b>1.1300e-003</b>	<b>1.0000e-005</b>	<b>1.1400e-003</b>	<b>3.0000e-004</b>	<b>1.0000e-005</b>	<b>3.1000e-004</b>	<b>0.0000</b>	<b>1.0214</b>	<b>1.0214</b>	<b>3.0000e-005</b>	<b>4.0000e-005</b>	<b>1.0347</b>

**3.4 System Installation - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0145	0.1242	0.1430	2.3000e-004		7.3300e-003	7.3300e-003		7.1000e-003	7.1000e-003	0.0000	19.6936	19.6936	2.7600e-003	0.0000	19.7625
<b>Total</b>	<b>0.0145</b>	<b>0.1242</b>	<b>0.1430</b>	<b>2.3000e-004</b>		<b>7.3300e-003</b>	<b>7.3300e-003</b>		<b>7.1000e-003</b>	<b>7.1000e-003</b>	<b>0.0000</b>	<b>19.6936</b>	<b>19.6936</b>	<b>2.7600e-003</b>	<b>0.0000</b>	<b>19.7625</b>

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**3.4 System Installation - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	7.1000e-004	1.6000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2334	0.2334	1.0000e-005	4.0000e-005	0.2446
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	5.0000e-004	5.7900e-003	2.0000e-005	1.6600e-003	1.0000e-005	1.6700e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3921	1.3921	4.0000e-005	4.0000e-005	1.4053
<b>Total</b>	<b>6.2000e-004</b>	<b>1.2100e-003</b>	<b>5.9500e-003</b>	<b>2.0000e-005</b>	<b>1.7200e-003</b>	<b>2.0000e-005</b>	<b>1.7400e-003</b>	<b>4.6000e-004</b>	<b>2.0000e-005</b>	<b>4.8000e-004</b>	<b>0.0000</b>	<b>1.6255</b>	<b>1.6255</b>	<b>5.0000e-005</b>	<b>8.0000e-005</b>	<b>1.6499</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0145	0.1242	0.1430	2.3000e-004		7.3300e-003	7.3300e-003		7.1000e-003	7.1000e-003	0.0000	19.6935	19.6935	2.7600e-003	0.0000	19.7625
<b>Total</b>	<b>0.0145</b>	<b>0.1242</b>	<b>0.1430</b>	<b>2.3000e-004</b>		<b>7.3300e-003</b>	<b>7.3300e-003</b>		<b>7.1000e-003</b>	<b>7.1000e-003</b>	<b>0.0000</b>	<b>19.6935</b>	<b>19.6935</b>	<b>2.7600e-003</b>	<b>0.0000</b>	<b>19.7625</b>

Modification of Existing Marine/Harbor Facility - Statewide , Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 System Installation - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	7.1000e-004	1.6000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2334	0.2334	1.0000e-005	4.0000e-005	0.2446
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	5.0000e-004	5.7900e-003	2.0000e-005	1.6600e-003	1.0000e-005	1.6700e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3921	1.3921	4.0000e-005	4.0000e-005	1.4053
<b>Total</b>	<b>6.2000e-004</b>	<b>1.2100e-003</b>	<b>5.9500e-003</b>	<b>2.0000e-005</b>	<b>1.7200e-003</b>	<b>2.0000e-005</b>	<b>1.7400e-003</b>	<b>4.6000e-004</b>	<b>2.0000e-005</b>	<b>4.8000e-004</b>	<b>0.0000</b>	<b>1.6255</b>	<b>1.6255</b>	<b>5.0000e-005</b>	<b>8.0000e-005</b>	<b>1.6499</b>

Modification of Existing Marine/Harbor Facility - Statewide , Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.543438	0.060776	0.184542	0.125993	0.024133	0.006619	0.012016	0.011244	0.000789	0.000455	0.025773	0.000920	0.003302

Modification of Existing Marine/Harbor Facility - Statewide , Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000





Modification of Existing Marine/Harbor Facility - Statewide , Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.3 Energy by Land Use - Electricity**

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0217	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.0000e-005	9.0000e-005	0.0000	0.0000	1.0000e-004
Unmitigated	0.0217	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.0000e-005	9.0000e-005	0.0000	0.0000	1.0000e-004

**6.2 Area by SubCategory**

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	7.5700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0141					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.0000e-005	9.0000e-005	0.0000	0.0000	1.0000e-004
<b>Total</b>	<b>0.0217</b>	<b>0.0000</b>	<b>5.0000e-005</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>9.0000e-005</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-004</b>

Modification of Existing Marine/Harbor Facility - Statewide , Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	7.5700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0141					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.0000e-005	9.0000e-005	0.0000	0.0000	1.0000e-004
<b>Total</b>	<b>0.0217</b>	<b>0.0000</b>	<b>5.0000e-005</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>9.0000e-005</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-004</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

Modification of Existing Marine/Harbor Facility - Statewide , Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

**7.2 Water by Land Use**

**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

Modification of Existing Marine/Harbor Facility - Statewide , Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**7.2 Water by Land Use**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

Modification of Existing Marine/Harbor Facility - Statewide , Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**8.2 Waste by Land Use**

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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Modification of Existing Marine/Harbor Facility - Statewide , Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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Modification of Existing Marine/Harbor Facility - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Modification of Existing Marine/Harbor Facility  
Statewide , Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	5.00	Acre	5.00	217,800.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	54
<b>Climate Zone</b>	4			<b>Operational Year</b>	2030
<b>Utility Company</b>	Alameda Municipal Power				
<b>CO2 Intensity (lb/MWhr)</b>	0	<b>CH4 Intensity (lb/MWhr)</b>	0	<b>N2O Intensity (lb/MWhr)</b>	0

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - Construction emissions only.

Land Use -

Construction Phase - Assumed construction would occur from January 4, 2021 through April 5, 2021.

Off-road Equipment - Assumed construction unit amount and hours/day.

Off-road Equipment - Assumed construction unit amount and hours/day.

Off-road Equipment - Assumed construction unit amount and hours/day.

Trips and VMT - Assumed worker, vendor and hauling trips and trip lengths.

Grading - Assumed no grading.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	30.00
tblConstructionPhase	NumDays	5.00	16.00

Modification of Existing Marine/Harbor Facility - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblGrading	AcresOfGrading	6.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblTripsAndVMT	HaulingTripLength	20.00	15.00
tblTripsAndVMT	HaulingTripLength	20.00	15.00
tblTripsAndVMT	HaulingTripLength	20.00	15.00
tblTripsAndVMT	HaulingTripNumber	0.00	5.00
tblTripsAndVMT	HaulingTripNumber	0.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripLength	7.30	15.00
tblTripsAndVMT	VendorTripLength	7.30	15.00
tblTripsAndVMT	VendorTripLength	7.30	15.00
tblTripsAndVMT	VendorTripNumber	36.00	0.00
tblTripsAndVMT	WorkerTripLength	10.80	15.00
tblTripsAndVMT	WorkerTripLength	10.80	15.00
tblTripsAndVMT	WorkerTripLength	10.80	15.00
tblTripsAndVMT	WorkerTripNumber	5.00	10.00
tblTripsAndVMT	WorkerTripNumber	20.00	10.00
tblTripsAndVMT	WorkerTripNumber	91.00	10.00

**2.0 Emissions Summary**

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Modification of Existing Marine/Harbor Facility - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.1187	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.0900e-003	1.0900e-003	0.0000		1.1600e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.1187</b>	<b>0.0000</b>	<b>5.1000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>1.0900e-003</b>	<b>1.0900e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.1600e-003</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.1187	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.0900e-003	1.0900e-003	0.0000		1.1600e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.1187</b>	<b>0.0000</b>	<b>5.1000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>1.0900e-003</b>	<b>1.0900e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.1600e-003</b>

Modification of Existing Marine/Harbor Facility - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/4/2021	1/25/2021	5	16	
2	Trenching	Trenching	1/26/2021	2/22/2021	5	20	
3	System Installation	Building Construction	2/23/2021	4/5/2021	5	30	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 5**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	6.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Trenching	Bore/Drill Rigs	1	8.00	221	0.50
Trenching	Cement and Mortar Mixers	1	8.00	9	0.56
Trenching	Concrete/Industrial Saws	1	8.00	81	0.73
Trenching	Generator Sets	1	8.00	84	0.74
Trenching	Plate Compactors	1	8.00	8	0.43
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Modification of Existing Marine/Harbor Facility - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Trenching	Trenchers	2	6.00	78	0.50
System Installation	Air Compressors	1	8.00	78	0.48
System Installation	Forklifts	1	8.00	89	0.20
System Installation	Generator Sets	1	8.00	84	0.74
System Installation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	10.00	0.00	5.00	15.00	15.00	15.00	LD_Mix	HDT_Mix	HHDT
Trenching	8	10.00	0.00	4.00	15.00	15.00	15.00	LD_Mix	HDT_Mix	HHDT
System Installation	4	10.00	0.00	10.00	15.00	15.00	15.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

**3.2 Site Preparation - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4802	5.8653	3.0206	7.3000e-003		0.2246	0.2246		0.2066	0.2066		706.9381	706.9381	0.2286		712.6541
<b>Total</b>	<b>0.4802</b>	<b>5.8653</b>	<b>3.0206</b>	<b>7.3000e-003</b>	<b>0.0000</b>	<b>0.2246</b>	<b>0.2246</b>	<b>0.0000</b>	<b>0.2066</b>	<b>0.2066</b>		<b>706.9381</b>	<b>706.9381</b>	<b>0.2286</b>		<b>712.6541</b>

Modification of Existing Marine/Harbor Facility - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.2 Site Preparation - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.5000e-003	0.0423	0.0102	1.5000e-004	4.1000e-003	5.9000e-004	4.6900e-003	1.1300e-003	5.6000e-004	1.6900e-003		16.0798	16.0798	4.4000e-004	2.5400e-003	16.8474
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0423	0.0297	0.4264	1.0700e-003	0.1141	6.8000e-004	0.1147	0.0303	6.3000e-004	0.0309		108.4294	108.4294	3.0400e-003	2.8000e-003	109.3405
<b>Total</b>	<b>0.0438</b>	<b>0.0720</b>	<b>0.4366</b>	<b>1.2200e-003</b>	<b>0.1182</b>	<b>1.2700e-003</b>	<b>0.1194</b>	<b>0.0314</b>	<b>1.1900e-003</b>	<b>0.0326</b>		<b>124.5092</b>	<b>124.5092</b>	<b>3.4800e-003</b>	<b>5.3400e-003</b>	<b>126.1879</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4802	5.8653	3.0206	7.3000e-003		0.2246	0.2246		0.2066	0.2066	0.0000	706.9381	706.9381	0.2286		712.6541
<b>Total</b>	<b>0.4802</b>	<b>5.8653</b>	<b>3.0206</b>	<b>7.3000e-003</b>	<b>0.0000</b>	<b>0.2246</b>	<b>0.2246</b>	<b>0.0000</b>	<b>0.2066</b>	<b>0.2066</b>	<b>0.0000</b>	<b>706.9381</b>	<b>706.9381</b>	<b>0.2286</b>		<b>712.6541</b>

Modification of Existing Marine/Harbor Facility - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.2 Site Preparation - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.5000e-003	0.0423	0.0102	1.5000e-004	4.1000e-003	5.9000e-004	4.6900e-003	1.1300e-003	5.6000e-004	1.6900e-003		16.0798	16.0798	4.4000e-004	2.5400e-003	16.8474
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0423	0.0297	0.4264	1.0700e-003	0.1141	6.8000e-004	0.1147	0.0303	6.3000e-004	0.0309		108.4294	108.4294	3.0400e-003	2.8000e-003	109.3405
<b>Total</b>	<b>0.0438</b>	<b>0.0720</b>	<b>0.4366</b>	<b>1.2200e-003</b>	<b>0.1182</b>	<b>1.2700e-003</b>	<b>0.1194</b>	<b>0.0314</b>	<b>1.1900e-003</b>	<b>0.0326</b>		<b>124.5092</b>	<b>124.5092</b>	<b>3.4800e-003</b>	<b>5.3400e-003</b>	<b>126.1879</b>

**3.3 Trenching - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8602	17.0102	16.1213	0.0316		0.9509	0.9509		0.9040	0.9040		3,004.0412	3,004.0412	0.6259		3,019.6894
<b>Total</b>	<b>1.8602</b>	<b>17.0102</b>	<b>16.1213</b>	<b>0.0316</b>		<b>0.9509</b>	<b>0.9509</b>		<b>0.9040</b>	<b>0.9040</b>		<b>3,004.0412</b>	<b>3,004.0412</b>	<b>0.6259</b>		<b>3,019.6894</b>



Modification of Existing Marine/Harbor Facility - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.3 Trenching - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.6000e-004	0.0271	6.5100e-003	1.0000e-004	2.6300e-003	3.8000e-004	3.0000e-003	7.2000e-004	3.6000e-004	1.0800e-003		10.2910	10.2910	2.8000e-004	1.6300e-003	10.7823
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0423	0.0297	0.4264	1.0700e-003	0.1141	6.8000e-004	0.1147	0.0303	6.3000e-004	0.0309		108.4294	108.4294	3.0400e-003	2.8000e-003	109.3405
<b>Total</b>	<b>0.0433</b>	<b>0.0568</b>	<b>0.4329</b>	<b>1.1700e-003</b>	<b>0.1167</b>	<b>1.0600e-003</b>	<b>0.1177</b>	<b>0.0310</b>	<b>9.9000e-004</b>	<b>0.0320</b>		<b>118.7205</b>	<b>118.7205</b>	<b>3.3200e-003</b>	<b>4.4300e-003</b>	<b>120.1229</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8602	17.0102	16.1213	0.0316		0.9509	0.9509		0.9040	0.9040	0.0000	3,004.0412	3,004.0412	0.6259		3,019.6894
<b>Total</b>	<b>1.8602</b>	<b>17.0102</b>	<b>16.1213</b>	<b>0.0316</b>		<b>0.9509</b>	<b>0.9509</b>		<b>0.9040</b>	<b>0.9040</b>	<b>0.0000</b>	<b>3,004.0412</b>	<b>3,004.0412</b>	<b>0.6259</b>		<b>3,019.6894</b>

Modification of Existing Marine/Harbor Facility - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.3 Trenching - 2021**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.6000e-004	0.0271	6.5100e-003	1.0000e-004	2.6300e-003	3.8000e-004	3.0000e-003	7.2000e-004	3.6000e-004	1.0800e-003		10.2910	10.2910	2.8000e-004	1.6300e-003	10.7823
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0423	0.0297	0.4264	1.0700e-003	0.1141	6.8000e-004	0.1147	0.0303	6.3000e-004	0.0309		108.4294	108.4294	3.0400e-003	2.8000e-003	109.3405
<b>Total</b>	<b>0.0433</b>	<b>0.0568</b>	<b>0.4329</b>	<b>1.1700e-003</b>	<b>0.1167</b>	<b>1.0600e-003</b>	<b>0.1177</b>	<b>0.0310</b>	<b>9.9000e-004</b>	<b>0.0320</b>		<b>118.7205</b>	<b>118.7205</b>	<b>3.3200e-003</b>	<b>4.4300e-003</b>	<b>120.1229</b>

**3.4 System Installation - 2021**

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9659	8.2769	9.5362	0.0152		0.4887	0.4887		0.4730	0.4730		1,447.2295	1,447.2295	0.2027		1,452.2980
<b>Total</b>	<b>0.9659</b>	<b>8.2769</b>	<b>9.5362</b>	<b>0.0152</b>		<b>0.4887</b>	<b>0.4887</b>		<b>0.4730</b>	<b>0.4730</b>		<b>1,447.2295</b>	<b>1,447.2295</b>	<b>0.2027</b>		<b>1,452.2980</b>

Modification of Existing Marine/Harbor Facility - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 System Installation - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.6000e-003	0.0452	0.0109	1.6000e-004	4.3800e-003	6.3000e-004	5.0000e-003	1.2000e-003	6.0000e-004	1.8000e-003		17.1517	17.1517	4.7000e-004	2.7100e-003	17.9706
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0423	0.0297	0.4264	1.0700e-003	0.1141	6.8000e-004	0.1147	0.0303	6.3000e-004	0.0309		108.4294	108.4294	3.0400e-003	2.8000e-003	109.3405
<b>Total</b>	<b>0.0439</b>	<b>0.0748</b>	<b>0.4372</b>	<b>1.2300e-003</b>	<b>0.1184</b>	<b>1.3100e-003</b>	<b>0.1197</b>	<b>0.0315</b>	<b>1.2300e-003</b>	<b>0.0327</b>		<b>125.5812</b>	<b>125.5812</b>	<b>3.5100e-003</b>	<b>5.5100e-003</b>	<b>127.3111</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9659	8.2769	9.5362	0.0152		0.4887	0.4887		0.4730	0.4730	0.0000	1,447.2295	1,447.2295	0.2027		1,452.2980
<b>Total</b>	<b>0.9659</b>	<b>8.2769</b>	<b>9.5362</b>	<b>0.0152</b>		<b>0.4887</b>	<b>0.4887</b>		<b>0.4730</b>	<b>0.4730</b>	<b>0.0000</b>	<b>1,447.2295</b>	<b>1,447.2295</b>	<b>0.2027</b>		<b>1,452.2980</b>

Modification of Existing Marine/Harbor Facility - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 System Installation - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.6000e-003	0.0452	0.0109	1.6000e-004	4.3800e-003	6.3000e-004	5.0000e-003	1.2000e-003	6.0000e-004	1.8000e-003		17.1517	17.1517	4.7000e-004	2.7100e-003	17.9706
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0423	0.0297	0.4264	1.0700e-003	0.1141	6.8000e-004	0.1147	0.0303	6.3000e-004	0.0309		108.4294	108.4294	3.0400e-003	2.8000e-003	109.3405
<b>Total</b>	<b>0.0439</b>	<b>0.0748</b>	<b>0.4372</b>	<b>1.2300e-003</b>	<b>0.1184</b>	<b>1.3100e-003</b>	<b>0.1197</b>	<b>0.0315</b>	<b>1.2300e-003</b>	<b>0.0327</b>		<b>125.5812</b>	<b>125.5812</b>	<b>3.5100e-003</b>	<b>5.5100e-003</b>	<b>127.3111</b>

Modification of Existing Marine/Harbor Facility - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.543438	0.060776	0.184542	0.125993	0.024133	0.006619	0.012016	0.011244	0.000789	0.000455	0.025773	0.000920	0.003302

Modification of Existing Marine/Harbor Facility - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

Modification of Existing Marine/Harbor Facility - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.2 Energy by Land Use - NaturalGas**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.1187	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.0900e-003	1.0900e-003	0.0000		1.1600e-003
Unmitigated	0.1187	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.0900e-003	1.0900e-003	0.0000		1.1600e-003

Modification of Existing Marine/Harbor Facility - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**6.2 Area by SubCategory**

**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0415					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0771					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-005	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.0900e-003	1.0900e-003	0.0000		1.1600e-003
<b>Total</b>	<b>0.1187</b>	<b>0.0000</b>	<b>5.1000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>1.0900e-003</b>	<b>1.0900e-003</b>	<b>0.0000</b>		<b>1.1600e-003</b>



Modification of Existing Marine/Harbor Facility - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0415					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0771					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-005	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.0900e-003	1.0900e-003	0.0000		1.1600e-003
<b>Total</b>	<b>0.1187</b>	<b>0.0000</b>	<b>5.1000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>1.0900e-003</b>	<b>1.0900e-003</b>	<b>0.0000</b>		<b>1.1600e-003</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

Modification of Existing Marine/Harbor Facility - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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Modification of Existing Marine/Harbor Facility - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Modification of Existing Marine/Harbor Facility**

**Statewide , Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	5.00	Acre	5.00	217,800.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	54
<b>Climate Zone</b>	4			<b>Operational Year</b>	2030
<b>Utility Company</b>	Alameda Municipal Power				
<b>CO2 Intensity (lb/MWhr)</b>	0	<b>CH4 Intensity (lb/MWhr)</b>	0	<b>N2O Intensity (lb/MWhr)</b>	0

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - Construction emissions only.

Land Use -

Construction Phase - Assumed construction would occur from January 4, 2021 through April 5, 2021.

Off-road Equipment - Assumed construction unit amount and hours/day.

Off-road Equipment - Assumed construction unit amount and hours/day.

Off-road Equipment - Assumed construction unit amount and hours/day.

Trips and VMT - Assumed worker, vendor and hauling trips and trip lengths.

Grading - Assumed no grading.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	30.00
tblConstructionPhase	NumDays	5.00	16.00

Modification of Existing Marine/Harbor Facility - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblGrading	AcresOfGrading	6.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblTripsAndVMT	HaulingTripLength	20.00	15.00
tblTripsAndVMT	HaulingTripLength	20.00	15.00
tblTripsAndVMT	HaulingTripLength	20.00	15.00
tblTripsAndVMT	HaulingTripNumber	0.00	5.00
tblTripsAndVMT	HaulingTripNumber	0.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripLength	7.30	15.00
tblTripsAndVMT	VendorTripLength	7.30	15.00
tblTripsAndVMT	VendorTripLength	7.30	15.00
tblTripsAndVMT	VendorTripNumber	36.00	0.00
tblTripsAndVMT	WorkerTripLength	10.80	15.00
tblTripsAndVMT	WorkerTripLength	10.80	15.00
tblTripsAndVMT	WorkerTripLength	10.80	15.00
tblTripsAndVMT	WorkerTripNumber	5.00	10.00
tblTripsAndVMT	WorkerTripNumber	20.00	10.00
tblTripsAndVMT	WorkerTripNumber	91.00	10.00

**2.0 Emissions Summary**

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Modification of Existing Marine/Harbor Facility - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.1187	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.0900e-003	1.0900e-003	0.0000		1.1600e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.1187</b>	<b>0.0000</b>	<b>5.1000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>1.0900e-003</b>	<b>1.0900e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.1600e-003</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.1187	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.0900e-003	1.0900e-003	0.0000		1.1600e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.1187</b>	<b>0.0000</b>	<b>5.1000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>1.0900e-003</b>	<b>1.0900e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.1600e-003</b>

Modification of Existing Marine/Harbor Facility - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/4/2021	1/25/2021	5	16	
2	Trenching	Trenching	1/26/2021	2/22/2021	5	20	
3	System Installation	Building Construction	2/23/2021	4/5/2021	5	30	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 5**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	6.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Trenching	Bore/Drill Rigs	1	8.00	221	0.50
Trenching	Cement and Mortar Mixers	1	8.00	9	0.56
Trenching	Concrete/Industrial Saws	1	8.00	81	0.73
Trenching	Generator Sets	1	8.00	84	0.74
Trenching	Plate Compactors	1	8.00	8	0.43
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Modification of Existing Marine/Harbor Facility - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Trenching	Trenchers	2	6.00	78	0.50
System Installation	Air Compressors	1	8.00	78	0.48
System Installation	Forklifts	1	8.00	89	0.20
System Installation	Generator Sets	1	8.00	84	0.74
System Installation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	10.00	0.00	5.00	15.00	15.00	15.00	LD_Mix	HDT_Mix	HHDT
Trenching	8	10.00	0.00	4.00	15.00	15.00	15.00	LD_Mix	HDT_Mix	HHDT
System Installation	4	10.00	0.00	10.00	15.00	15.00	15.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

**3.2 Site Preparation - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4802	5.8653	3.0206	7.3000e-003		0.2246	0.2246		0.2066	0.2066		706.9381	706.9381	0.2286		712.6541
<b>Total</b>	<b>0.4802</b>	<b>5.8653</b>	<b>3.0206</b>	<b>7.3000e-003</b>	<b>0.0000</b>	<b>0.2246</b>	<b>0.2246</b>	<b>0.0000</b>	<b>0.2066</b>	<b>0.2066</b>		<b>706.9381</b>	<b>706.9381</b>	<b>0.2286</b>		<b>712.6541</b>



Modification of Existing Marine/Harbor Facility - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.2 Site Preparation - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.4600e-003	0.0447	0.0104	1.5000e-004	4.1000e-003	5.9000e-004	4.6900e-003	1.1300e-003	5.6000e-004	1.6900e-003		16.0876	16.0876	4.3000e-004	2.5400e-003	16.8556
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0433	0.0341	0.3805	1.0000e-003	0.1141	6.8000e-004	0.1147	0.0303	6.3000e-004	0.0309		100.6439	100.6439	3.1600e-003	3.0700e-003	101.6387
<b>Total</b>	<b>0.0447</b>	<b>0.0788</b>	<b>0.3909</b>	<b>1.1500e-003</b>	<b>0.1182</b>	<b>1.2700e-003</b>	<b>0.1194</b>	<b>0.0314</b>	<b>1.1900e-003</b>	<b>0.0326</b>		<b>116.7315</b>	<b>116.7315</b>	<b>3.5900e-003</b>	<b>5.6100e-003</b>	<b>118.4943</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4802	5.8653	3.0206	7.3000e-003		0.2246	0.2246		0.2066	0.2066	0.0000	706.9381	706.9381	0.2286		712.6541
<b>Total</b>	<b>0.4802</b>	<b>5.8653</b>	<b>3.0206</b>	<b>7.3000e-003</b>	<b>0.0000</b>	<b>0.2246</b>	<b>0.2246</b>	<b>0.0000</b>	<b>0.2066</b>	<b>0.2066</b>	<b>0.0000</b>	<b>706.9381</b>	<b>706.9381</b>	<b>0.2286</b>		<b>712.6541</b>

Modification of Existing Marine/Harbor Facility - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.2 Site Preparation - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.4600e-003	0.0447	0.0104	1.5000e-004	4.1000e-003	5.9000e-004	4.6900e-003	1.1300e-003	5.6000e-004	1.6900e-003		16.0876	16.0876	4.3000e-004	2.5400e-003	16.8556
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0433	0.0341	0.3805	1.0000e-003	0.1141	6.8000e-004	0.1147	0.0303	6.3000e-004	0.0309		100.6439	100.6439	3.1600e-003	3.0700e-003	101.6387
<b>Total</b>	<b>0.0447</b>	<b>0.0788</b>	<b>0.3909</b>	<b>1.1500e-003</b>	<b>0.1182</b>	<b>1.2700e-003</b>	<b>0.1194</b>	<b>0.0314</b>	<b>1.1900e-003</b>	<b>0.0326</b>		<b>116.7315</b>	<b>116.7315</b>	<b>3.5900e-003</b>	<b>5.6100e-003</b>	<b>118.4943</b>

**3.3 Trenching - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8602	17.0102	16.1213	0.0316		0.9509	0.9509		0.9040	0.9040		3,004.0412	3,004.0412	0.6259		3,019.6894
<b>Total</b>	<b>1.8602</b>	<b>17.0102</b>	<b>16.1213</b>	<b>0.0316</b>		<b>0.9509</b>	<b>0.9509</b>		<b>0.9040</b>	<b>0.9040</b>		<b>3,004.0412</b>	<b>3,004.0412</b>	<b>0.6259</b>		<b>3,019.6894</b>

Modification of Existing Marine/Harbor Facility - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.3 Trenching - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.4000e-004	0.0286	6.6600e-003	1.0000e-004	2.6300e-003	3.8000e-004	3.0000e-003	7.2000e-004	3.6000e-004	1.0800e-003		10.2961	10.2961	2.8000e-004	1.6300e-003	10.7876
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0433	0.0341	0.3805	1.0000e-003	0.1141	6.8000e-004	0.1147	0.0303	6.3000e-004	0.0309		100.6439	100.6439	3.1600e-003	3.0700e-003	101.6387
<b>Total</b>	<b>0.0442</b>	<b>0.0627</b>	<b>0.3871</b>	<b>1.1000e-003</b>	<b>0.1167</b>	<b>1.0600e-003</b>	<b>0.1177</b>	<b>0.0310</b>	<b>9.9000e-004</b>	<b>0.0320</b>		<b>110.9400</b>	<b>110.9400</b>	<b>3.4400e-003</b>	<b>4.7000e-003</b>	<b>112.4263</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8602	17.0102	16.1213	0.0316		0.9509	0.9509		0.9040	0.9040	0.0000	3,004.0412	3,004.0412	0.6259		3,019.6894
<b>Total</b>	<b>1.8602</b>	<b>17.0102</b>	<b>16.1213</b>	<b>0.0316</b>		<b>0.9509</b>	<b>0.9509</b>		<b>0.9040</b>	<b>0.9040</b>	<b>0.0000</b>	<b>3,004.0412</b>	<b>3,004.0412</b>	<b>0.6259</b>		<b>3,019.6894</b>

Modification of Existing Marine/Harbor Facility - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.3 Trenching - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.4000e-004	0.0286	6.6600e-003	1.0000e-004	2.6300e-003	3.8000e-004	3.0000e-003	7.2000e-004	3.6000e-004	1.0800e-003		10.2961	10.2961	2.8000e-004	1.6300e-003	10.7876
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0433	0.0341	0.3805	1.0000e-003	0.1141	6.8000e-004	0.1147	0.0303	6.3000e-004	0.0309		100.6439	100.6439	3.1600e-003	3.0700e-003	101.6387
<b>Total</b>	<b>0.0442</b>	<b>0.0627</b>	<b>0.3871</b>	<b>1.1000e-003</b>	<b>0.1167</b>	<b>1.0600e-003</b>	<b>0.1177</b>	<b>0.0310</b>	<b>9.9000e-004</b>	<b>0.0320</b>		<b>110.9400</b>	<b>110.9400</b>	<b>3.4400e-003</b>	<b>4.7000e-003</b>	<b>112.4263</b>

**3.4 System Installation - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9659	8.2769	9.5362	0.0152		0.4887	0.4887		0.4730	0.4730		1,447.2295	1,447.2295	0.2027		1,452.2980
<b>Total</b>	<b>0.9659</b>	<b>8.2769</b>	<b>9.5362</b>	<b>0.0152</b>		<b>0.4887</b>	<b>0.4887</b>		<b>0.4730</b>	<b>0.4730</b>		<b>1,447.2295</b>	<b>1,447.2295</b>	<b>0.2027</b>		<b>1,452.2980</b>

Modification of Existing Marine/Harbor Facility - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 System Installation - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.5600e-003	0.0477	0.0111	1.6000e-004	4.3800e-003	6.3000e-004	5.0000e-003	1.2000e-003	6.0000e-004	1.8000e-003		17.1602	17.1602	4.6000e-004	2.7100e-003	17.9793
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0433	0.0341	0.3805	1.0000e-003	0.1141	6.8000e-004	0.1147	0.0303	6.3000e-004	0.0309		100.6439	100.6439	3.1600e-003	3.0700e-003	101.6387
<b>Total</b>	<b>0.0448</b>	<b>0.0818</b>	<b>0.3916</b>	<b>1.1600e-003</b>	<b>0.1184</b>	<b>1.3100e-003</b>	<b>0.1197</b>	<b>0.0315</b>	<b>1.2300e-003</b>	<b>0.0327</b>		<b>117.8040</b>	<b>117.8040</b>	<b>3.6200e-003</b>	<b>5.7800e-003</b>	<b>119.6180</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9659	8.2769	9.5362	0.0152		0.4887	0.4887		0.4730	0.4730	0.0000	1,447.2295	1,447.2295	0.2027		1,452.2980
<b>Total</b>	<b>0.9659</b>	<b>8.2769</b>	<b>9.5362</b>	<b>0.0152</b>		<b>0.4887</b>	<b>0.4887</b>		<b>0.4730</b>	<b>0.4730</b>	<b>0.0000</b>	<b>1,447.2295</b>	<b>1,447.2295</b>	<b>0.2027</b>		<b>1,452.2980</b>

Modification of Existing Marine/Harbor Facility - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 System Installation - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.5600e-003	0.0477	0.0111	1.6000e-004	4.3800e-003	6.3000e-004	5.0000e-003	1.2000e-003	6.0000e-004	1.8000e-003		17.1602	17.1602	4.6000e-004	2.7100e-003	17.9793
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0433	0.0341	0.3805	1.0000e-003	0.1141	6.8000e-004	0.1147	0.0303	6.3000e-004	0.0309		100.6439	100.6439	3.1600e-003	3.0700e-003	101.6387
<b>Total</b>	<b>0.0448</b>	<b>0.0818</b>	<b>0.3916</b>	<b>1.1600e-003</b>	<b>0.1184</b>	<b>1.3100e-003</b>	<b>0.1197</b>	<b>0.0315</b>	<b>1.2300e-003</b>	<b>0.0327</b>		<b>117.8040</b>	<b>117.8040</b>	<b>3.6200e-003</b>	<b>5.7800e-003</b>	<b>119.6180</b>

Modification of Existing Marine/Harbor Facility - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.543438	0.060776	0.184542	0.125993	0.024133	0.006619	0.012016	0.011244	0.000789	0.000455	0.025773	0.000920	0.003302

Modification of Existing Marine/Harbor Facility - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>



Modification of Existing Marine/Harbor Facility - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.2 Energy by Land Use - NaturalGas**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.1187	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.0900e-003	1.0900e-003	0.0000		1.1600e-003
Unmitigated	0.1187	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.0900e-003	1.0900e-003	0.0000		1.1600e-003

Modification of Existing Marine/Harbor Facility - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**6.2 Area by SubCategory**

**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0415					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0771					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-005	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.0900e-003	1.0900e-003	0.0000		1.1600e-003
<b>Total</b>	<b>0.1187</b>	<b>0.0000</b>	<b>5.1000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>1.0900e-003</b>	<b>1.0900e-003</b>	<b>0.0000</b>		<b>1.1600e-003</b>

Modification of Existing Marine/Harbor Facility - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0415					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0771					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-005	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.0900e-003	1.0900e-003	0.0000		1.1600e-003
<b>Total</b>	<b>0.1187</b>	<b>0.0000</b>	<b>5.1000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>1.0900e-003</b>	<b>1.0900e-003</b>	<b>0.0000</b>		<b>1.1600e-003</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

Modification of Existing Marine/Harbor Facility - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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New Construction of 1-2 MW Charging Infrastructure - Statewide , Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**New Construction of 1-2 MW Charging Infrastructure  
Statewide , Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	5.00	Acre	5.00	217,800.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	54
<b>Climate Zone</b>	4			<b>Operational Year</b>	2030
<b>Utility Company</b>	Alameda Municipal Power				
<b>CO2 Intensity (lb/MWhr)</b>	0	<b>CH4 Intensity (lb/MWhr)</b>	0	<b>N2O Intensity (lb/MWhr)</b>	0

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - Construction emissions only.

Land Use -

Construction Phase - Assumed construction would occur from January 4, 2021 through May 5, 2021.

Off-road Equipment - Assumed construction unit amount and hours/day.

Off-road Equipment - Assumed construction unit amount and hours/day.

Off-road Equipment - Assumed construction unit amount and hours/day.

Grading - Assumed no grading.

Trips and VMT - Assumed worker, vendor and hauling trips and trip lengths.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	16.00
tblConstructionPhase	NumDays	230.00	45.00

New Construction of 1-2 MW Charging Infrastructure - Statewide , Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblGrading	AcresOfGrading	6.00	0.00
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.20	0.20
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripNumber	0.00	5.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripLength	7.30	30.00
tblTripsAndVMT	VendorTripLength	7.30	30.00

New Construction of 1-2 MW Charging Infrastructure - Statewide , Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tbITripsAndVMT	VendorTripLength	7.30	30.00
tbITripsAndVMT	VendorTripNumber	36.00	0.00
tbITripsAndVMT	WorkerTripLength	10.80	30.00
tbITripsAndVMT	WorkerTripLength	10.80	30.00
tbITripsAndVMT	WorkerTripLength	10.80	30.00
tbITripsAndVMT	WorkerTripNumber	5.00	10.00
tbITripsAndVMT	WorkerTripNumber	91.00	10.00

**2.0 Emissions Summary**

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New Construction of 1-2 MW Charging Infrastructure - Statewide , Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-4-2021	4-3-2021	0.4268	0.4268
2	4-4-2021	7-3-2021	0.1245	0.1245
		Highest	0.4268	0.4268

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0217	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.0000e-005	9.0000e-005	0.0000	0.0000	1.0000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0217</b>	<b>0.0000</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>9.0000e-005</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-004</b>

New Construction of 1-2 MW Charging Infrastructure - Statewide , Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**2.2 Overall Operational**

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0217	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.0000e-005	9.0000e-005	0.0000	0.0000	1.0000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0217</b>	<b>0.0000</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>9.0000e-005</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-004</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
<b>Percent Reduction</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/4/2021	1/25/2021	5	16	
2	Trenching	Trenching	1/26/2021	3/8/2021	5	30	
3	System Installation	Building Construction	3/9/2021	5/10/2021	5	45	

New Construction of 1-2 MW Charging Infrastructure - Statewide , Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 5**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	6.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Trenching	Trenchers	2	6.00	78	0.50
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Trenching	Plate Compactors	1	8.00	8	0.43
Trenching	Generator Sets	1	8.00	84	0.74
Trenching	Concrete/Industrial Saws	1	8.00	81	0.73
Trenching	Cement and Mortar Mixers	1	8.00	9	0.56
Trenching	Bore/Drill Rigs	1	8.00	221	0.50
System Installation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
System Installation	Air Compressors	1	8.00	78	0.48
System Installation	Forklifts	1	8.00	89	0.20
System Installation	Generator Sets	1	8.00	84	0.74

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Trenching	8	20.00	0.00	4.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT
System Installation	4	10.00	0.00	10.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	10.00	0.00	5.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT

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**3.1 Mitigation Measures Construction**

**3.2 Site Preparation - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.8400e-003	0.0469	0.0242	6.0000e-005		1.8000e-003	1.8000e-003		1.6500e-003	1.6500e-003	0.0000	5.1306	5.1306	1.6600e-003	0.0000	5.1721
<b>Total</b>	<b>3.8400e-003</b>	<b>0.0469</b>	<b>0.0242</b>	<b>6.0000e-005</b>	<b>0.0000</b>	<b>1.8000e-003</b>	<b>1.8000e-003</b>	<b>0.0000</b>	<b>1.6500e-003</b>	<b>1.6500e-003</b>	<b>0.0000</b>	<b>5.1306</b>	<b>5.1306</b>	<b>1.6600e-003</b>	<b>0.0000</b>	<b>5.1721</b>

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**3.2 Site Preparation - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	6.6000e-004	1.3000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2263	0.2263	1.0000e-005	4.0000e-005	0.2371
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3000e-004	4.8000e-004	5.7200e-003	2.0000e-005	1.7700e-003	1.0000e-005	1.7800e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.4700	1.4700	3.0000e-005	4.0000e-005	1.4824
<b>Total</b>	<b>5.5000e-004</b>	<b>1.1400e-003</b>	<b>5.8500e-003</b>	<b>2.0000e-005</b>	<b>1.8300e-003</b>	<b>2.0000e-005</b>	<b>1.8500e-003</b>	<b>4.9000e-004</b>	<b>2.0000e-005</b>	<b>5.1000e-004</b>	<b>0.0000</b>	<b>1.6963</b>	<b>1.6963</b>	<b>4.0000e-005</b>	<b>8.0000e-005</b>	<b>1.7195</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.8400e-003	0.0469	0.0242	6.0000e-005		1.8000e-003	1.8000e-003		1.6500e-003	1.6500e-003	0.0000	5.1306	5.1306	1.6600e-003	0.0000	5.1721
<b>Total</b>	<b>3.8400e-003</b>	<b>0.0469</b>	<b>0.0242</b>	<b>6.0000e-005</b>	<b>0.0000</b>	<b>1.8000e-003</b>	<b>1.8000e-003</b>	<b>0.0000</b>	<b>1.6500e-003</b>	<b>1.6500e-003</b>	<b>0.0000</b>	<b>5.1306</b>	<b>5.1306</b>	<b>1.6600e-003</b>	<b>0.0000</b>	<b>5.1721</b>

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**3.2 Site Preparation - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	6.6000e-004	1.3000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2263	0.2263	1.0000e-005	4.0000e-005	0.2371
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3000e-004	4.8000e-004	5.7200e-003	2.0000e-005	1.7700e-003	1.0000e-005	1.7800e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.4700	1.4700	3.0000e-005	4.0000e-005	1.4824
<b>Total</b>	<b>5.5000e-004</b>	<b>1.1400e-003</b>	<b>5.8500e-003</b>	<b>2.0000e-005</b>	<b>1.8300e-003</b>	<b>2.0000e-005</b>	<b>1.8500e-003</b>	<b>4.9000e-004</b>	<b>2.0000e-005</b>	<b>5.1000e-004</b>	<b>0.0000</b>	<b>1.6963</b>	<b>1.6963</b>	<b>4.0000e-005</b>	<b>8.0000e-005</b>	<b>1.7195</b>

**3.3 Trenching - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0279	0.2552	0.2418	4.7000e-004		0.0143	0.0143		0.0136	0.0136	0.0000	40.8783	40.8783	8.5200e-003	0.0000	41.0912
<b>Total</b>	<b>0.0279</b>	<b>0.2552</b>	<b>0.2418</b>	<b>4.7000e-004</b>		<b>0.0143</b>	<b>0.0143</b>		<b>0.0136</b>	<b>0.0136</b>	<b>0.0000</b>	<b>40.8783</b>	<b>40.8783</b>	<b>8.5200e-003</b>	<b>0.0000</b>	<b>41.0912</b>

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**3.3 Trenching - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	5.3000e-004	1.0000e-004	0.0000	5.0000e-005	1.0000e-005	6.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1811	0.1811	0.0000	3.0000e-005	0.1897
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9700e-003	1.8000e-003	0.0215	6.0000e-005	6.6200e-003	4.0000e-005	6.6600e-003	1.7600e-003	4.0000e-005	1.8000e-003	0.0000	5.5126	5.5126	1.3000e-004	1.5000e-004	5.5591
<b>Total</b>	<b>1.9900e-003</b>	<b>2.3300e-003</b>	<b>0.0216</b>	<b>6.0000e-005</b>	<b>6.6700e-003</b>	<b>5.0000e-005</b>	<b>6.7200e-003</b>	<b>1.7700e-003</b>	<b>5.0000e-005</b>	<b>1.8200e-003</b>	<b>0.0000</b>	<b>5.6936</b>	<b>5.6936</b>	<b>1.3000e-004</b>	<b>1.8000e-004</b>	<b>5.7488</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0279	0.2552	0.2418	4.7000e-004		0.0143	0.0143		0.0136	0.0136	0.0000	40.8783	40.8783	8.5200e-003	0.0000	41.0912
<b>Total</b>	<b>0.0279</b>	<b>0.2552</b>	<b>0.2418</b>	<b>4.7000e-004</b>		<b>0.0143</b>	<b>0.0143</b>		<b>0.0136</b>	<b>0.0136</b>	<b>0.0000</b>	<b>40.8783</b>	<b>40.8783</b>	<b>8.5200e-003</b>	<b>0.0000</b>	<b>41.0912</b>

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**3.3 Trenching - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	5.3000e-004	1.0000e-004	0.0000	5.0000e-005	1.0000e-005	6.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1811	0.1811	0.0000	3.0000e-005	0.1897
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9700e-003	1.8000e-003	0.0215	6.0000e-005	6.6200e-003	4.0000e-005	6.6600e-003	1.7600e-003	4.0000e-005	1.8000e-003	0.0000	5.5126	5.5126	1.3000e-004	1.5000e-004	5.5591
<b>Total</b>	<b>1.9900e-003</b>	<b>2.3300e-003</b>	<b>0.0216</b>	<b>6.0000e-005</b>	<b>6.6700e-003</b>	<b>5.0000e-005</b>	<b>6.7200e-003</b>	<b>1.7700e-003</b>	<b>5.0000e-005</b>	<b>1.8200e-003</b>	<b>0.0000</b>	<b>5.6936</b>	<b>5.6936</b>	<b>1.3000e-004</b>	<b>1.8000e-004</b>	<b>5.7488</b>

**3.4 System Installation - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0217	0.1862	0.2145	3.4000e-004		0.0110	0.0110		0.0106	0.0106	0.0000	29.5306	29.5306	4.1400e-003	0.0000	29.6339
<b>Total</b>	<b>0.0217</b>	<b>0.1862</b>	<b>0.2145</b>	<b>3.4000e-004</b>		<b>0.0110</b>	<b>0.0110</b>		<b>0.0106</b>	<b>0.0106</b>	<b>0.0000</b>	<b>29.5306</b>	<b>29.5306</b>	<b>4.1400e-003</b>	<b>0.0000</b>	<b>29.6339</b>



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**3.4 System Installation - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	1.3200e-003	2.5000e-004	0.0000	1.3000e-004	2.0000e-005	1.5000e-004	4.0000e-005	2.0000e-005	5.0000e-005	0.0000	0.4526	0.4526	1.0000e-005	7.0000e-005	0.4742
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4800e-003	1.3500e-003	0.0161	5.0000e-005	4.9700e-003	3.0000e-005	4.9900e-003	1.3200e-003	3.0000e-005	1.3500e-003	0.0000	4.1344	4.1344	9.0000e-005	1.1000e-004	4.1693
<b>Total</b>	<b>1.5200e-003</b>	<b>2.6700e-003</b>	<b>0.0164</b>	<b>5.0000e-005</b>	<b>5.1000e-003</b>	<b>5.0000e-005</b>	<b>5.1400e-003</b>	<b>1.3600e-003</b>	<b>5.0000e-005</b>	<b>1.4000e-003</b>	<b>0.0000</b>	<b>4.5871</b>	<b>4.5871</b>	<b>1.0000e-004</b>	<b>1.8000e-004</b>	<b>4.6436</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0217	0.1862	0.2145	3.4000e-004		0.0110	0.0110		0.0106	0.0106	0.0000	29.5305	29.5305	4.1400e-003	0.0000	29.6339
<b>Total</b>	<b>0.0217</b>	<b>0.1862</b>	<b>0.2145</b>	<b>3.4000e-004</b>		<b>0.0110</b>	<b>0.0110</b>		<b>0.0106</b>	<b>0.0106</b>	<b>0.0000</b>	<b>29.5305</b>	<b>29.5305</b>	<b>4.1400e-003</b>	<b>0.0000</b>	<b>29.6339</b>

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**3.4 System Installation - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	1.3200e-003	2.5000e-004	0.0000	1.3000e-004	2.0000e-005	1.5000e-004	4.0000e-005	2.0000e-005	5.0000e-005	0.0000	0.4526	0.4526	1.0000e-005	7.0000e-005	0.4742
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4800e-003	1.3500e-003	0.0161	5.0000e-005	4.9700e-003	3.0000e-005	4.9900e-003	1.3200e-003	3.0000e-005	1.3500e-003	0.0000	4.1344	4.1344	9.0000e-005	1.1000e-004	4.1693
<b>Total</b>	<b>1.5200e-003</b>	<b>2.6700e-003</b>	<b>0.0164</b>	<b>5.0000e-005</b>	<b>5.1000e-003</b>	<b>5.0000e-005</b>	<b>5.1400e-003</b>	<b>1.3600e-003</b>	<b>5.0000e-005</b>	<b>1.4000e-003</b>	<b>0.0000</b>	<b>4.5871</b>	<b>4.5871</b>	<b>1.0000e-004</b>	<b>1.8000e-004</b>	<b>4.6436</b>

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**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.543438	0.060776	0.184542	0.125993	0.024133	0.006619	0.012016	0.011244	0.000789	0.000455	0.025773	0.000920	0.003302

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**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000



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**5.3 Energy by Land Use - Electricity**

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0217	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.0000e-005	9.0000e-005	0.0000	0.0000	1.0000e-004
Unmitigated	0.0217	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.0000e-005	9.0000e-005	0.0000	0.0000	1.0000e-004

**6.2 Area by SubCategory**

**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	7.5700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0141					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.0000e-005	9.0000e-005	0.0000	0.0000	1.0000e-004
<b>Total</b>	<b>0.0217</b>	<b>0.0000</b>	<b>5.0000e-005</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>9.0000e-005</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-004</b>

New Construction of 1-2 MW Charging Infrastructure - Statewide , Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	7.5700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0141					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.0000e-005	9.0000e-005	0.0000	0.0000	1.0000e-004
<b>Total</b>	<b>0.0217</b>	<b>0.0000</b>	<b>5.0000e-005</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>9.0000e-005</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-004</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**



New Construction of 1-2 MW Charging Infrastructure - Statewide , Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

**7.2 Water by Land Use**

**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

New Construction of 1-2 MW Charging Infrastructure - Statewide , Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**7.2 Water by Land Use**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

New Construction of 1-2 MW Charging Infrastructure - Statewide , Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**8.2 Waste by Land Use**

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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New Construction of 1-2 MW Charging Infrastructure - Statewide , Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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New Construction of 1-2 MW Charging Infrastructure - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**New Construction of 1-2 MW Charging Infrastructure**

**Statewide , Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	5.00	Acre	5.00	217,800.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	54
<b>Climate Zone</b>	4			<b>Operational Year</b>	2030
<b>Utility Company</b>	Alameda Municipal Power				
<b>CO2 Intensity (lb/MWhr)</b>	0	<b>CH4 Intensity (lb/MWhr)</b>	0	<b>N2O Intensity (lb/MWhr)</b>	0

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - Construction emissions only.

Land Use -

Construction Phase - Assumed construction would occur from January 4, 2021 through May 5, 2021.

Off-road Equipment - Assumed construction unit amount and hours/day.

Off-road Equipment - Assumed construction unit amount and hours/day.

Off-road Equipment - Assumed construction unit amount and hours/day.

Grading - Assumed no grading.

Trips and VMT - Assumed worker, vendor and hauling trips and trip lengths.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	16.00
tblConstructionPhase	NumDays	230.00	45.00

New Construction of 1-2 MW Charging Infrastructure - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblGrading	AcresOfGrading	6.00	0.00
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.20	0.20
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripNumber	0.00	5.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripLength	7.30	30.00
tblTripsAndVMT	VendorTripLength	7.30	30.00

New Construction of 1-2 MW Charging Infrastructure - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tbITripsAndVMT	VendorTripLength	7.30	30.00
tbITripsAndVMT	VendorTripNumber	36.00	0.00
tbITripsAndVMT	WorkerTripLength	10.80	30.00
tbITripsAndVMT	WorkerTripLength	10.80	30.00
tbITripsAndVMT	WorkerTripLength	10.80	30.00
tbITripsAndVMT	WorkerTripNumber	5.00	10.00
tbITripsAndVMT	WorkerTripNumber	91.00	10.00

**2.0 Emissions Summary**

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New Construction of 1-2 MW Charging Infrastructure - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.1187	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.0900e-003	1.0900e-003	0.0000		1.1600e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.1187</b>	<b>0.0000</b>	<b>5.1000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>1.0900e-003</b>	<b>1.0900e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.1600e-003</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.1187	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.0900e-003	1.0900e-003	0.0000		1.1600e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.1187</b>	<b>0.0000</b>	<b>5.1000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>1.0900e-003</b>	<b>1.0900e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.1600e-003</b>

New Construction of 1-2 MW Charging Infrastructure - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/4/2021	1/25/2021	5	16	
2	Trenching	Trenching	1/26/2021	3/8/2021	5	30	
3	System Installation	Building Construction	3/9/2021	5/10/2021	5	45	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 5**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	6.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Trenching	Trenchers	2	6.00	78	0.50
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Trenching	Plate Compactors	1	8.00	8	0.43
Trenching	Generator Sets	1	8.00	84	0.74
Trenching	Concrete/Industrial Saws	1	8.00	81	0.73
Trenching	Cement and Mortar Mixers	1	8.00	9	0.56

New Construction of 1-2 MW Charging Infrastructure - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Trenching	Bore/Drill Rigs	1	8.00	221	0.50
System Installation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
System Installation	Air Compressors	1	8.00	78	0.48
System Installation	Forklifts	1	8.00	89	0.20
System Installation	Generator Sets	1	8.00	84	0.74

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Trenching	8	20.00	0.00	4.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT
System Installation	4	10.00	0.00	10.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	10.00	0.00	5.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

**3.2 Site Preparation - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4802	5.8653	3.0206	7.3000e-003		0.2246	0.2246		0.2066	0.2066		706.9381	706.9381	0.2286		712.6541
<b>Total</b>	<b>0.4802</b>	<b>5.8653</b>	<b>3.0206</b>	<b>7.3000e-003</b>	<b>0.0000</b>	<b>0.2246</b>	<b>0.2246</b>	<b>0.0000</b>	<b>0.2066</b>	<b>0.2066</b>		<b>706.9381</b>	<b>706.9381</b>	<b>0.2286</b>		<b>712.6541</b>

New Construction of 1-2 MW Charging Infrastructure - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.2 Site Preparation - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.6100e-003	0.0786	0.0157	2.9000e-004	8.2000e-003	1.1600e-003	9.3700e-003	2.2500e-003	1.1100e-003	3.3600e-003		31.1794	31.1794	8.5000e-004	4.9200e-003	32.6681
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0674	0.0539	0.8049	2.1300e-003	0.2280	1.3200e-003	0.2293	0.0605	1.2100e-003	0.0617		214.7902	214.7902	4.7600e-003	4.9600e-003	216.3886
<b>Total</b>	<b>0.0700</b>	<b>0.1324</b>	<b>0.8206</b>	<b>2.4200e-003</b>	<b>0.2362</b>	<b>2.4800e-003</b>	<b>0.2387</b>	<b>0.0627</b>	<b>2.3200e-003</b>	<b>0.0650</b>		<b>245.9696</b>	<b>245.9696</b>	<b>5.6100e-003</b>	<b>9.8800e-003</b>	<b>249.0566</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4802	5.8653	3.0206	7.3000e-003		0.2246	0.2246		0.2066	0.2066	0.0000	706.9381	706.9381	0.2286		712.6541
<b>Total</b>	<b>0.4802</b>	<b>5.8653</b>	<b>3.0206</b>	<b>7.3000e-003</b>	<b>0.0000</b>	<b>0.2246</b>	<b>0.2246</b>	<b>0.0000</b>	<b>0.2066</b>	<b>0.2066</b>	<b>0.0000</b>	<b>706.9381</b>	<b>706.9381</b>	<b>0.2286</b>		<b>712.6541</b>

New Construction of 1-2 MW Charging Infrastructure - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.2 Site Preparation - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.6100e-003	0.0786	0.0157	2.9000e-004	8.2000e-003	1.1600e-003	9.3700e-003	2.2500e-003	1.1100e-003	3.3600e-003		31.1794	31.1794	8.5000e-004	4.9200e-003	32.6681
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0674	0.0539	0.8049	2.1300e-003	0.2280	1.3200e-003	0.2293	0.0605	1.2100e-003	0.0617		214.7902	214.7902	4.7600e-003	4.9600e-003	216.3886
<b>Total</b>	<b>0.0700</b>	<b>0.1324</b>	<b>0.8206</b>	<b>2.4200e-003</b>	<b>0.2362</b>	<b>2.4800e-003</b>	<b>0.2387</b>	<b>0.0627</b>	<b>2.3200e-003</b>	<b>0.0650</b>		<b>245.9696</b>	<b>245.9696</b>	<b>5.6100e-003</b>	<b>9.8800e-003</b>	<b>249.0566</b>

**3.3 Trenching - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8602	17.0102	16.1213	0.0316		0.9509	0.9509		0.9040	0.9040		3,004.0412	3,004.0412	0.6259		3,019.6894
<b>Total</b>	<b>1.8602</b>	<b>17.0102</b>	<b>16.1213</b>	<b>0.0316</b>		<b>0.9509</b>	<b>0.9509</b>		<b>0.9040</b>	<b>0.9040</b>		<b>3,004.0412</b>	<b>3,004.0412</b>	<b>0.6259</b>		<b>3,019.6894</b>

New Construction of 1-2 MW Charging Infrastructure - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.3 Trenching - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1200e-003	0.0335	6.7100e-003	1.2000e-004	3.5000e-003	5.0000e-004	4.0000e-003	9.6000e-004	4.7000e-004	1.4300e-003		13.3032	13.3032	3.6000e-004	2.1000e-003	13.9384
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1348	0.1078	1.6098	4.2500e-003	0.4560	2.6300e-003	0.4587	0.1209	2.4200e-003	0.1233		429.5804	429.5804	9.5100e-003	9.9300e-003	432.7771
<b>Total</b>	<b>0.1359</b>	<b>0.1413</b>	<b>1.6165</b>	<b>4.3700e-003</b>	<b>0.4595</b>	<b>3.1300e-003</b>	<b>0.4627</b>	<b>0.1219</b>	<b>2.8900e-003</b>	<b>0.1248</b>		<b>442.8836</b>	<b>442.8836</b>	<b>9.8700e-003</b>	<b>0.0120</b>	<b>446.7155</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8602	17.0102	16.1213	0.0316		0.9509	0.9509		0.9040	0.9040	0.0000	3,004.0412	3,004.0412	0.6259		3,019.6894
<b>Total</b>	<b>1.8602</b>	<b>17.0102</b>	<b>16.1213</b>	<b>0.0316</b>		<b>0.9509</b>	<b>0.9509</b>		<b>0.9040</b>	<b>0.9040</b>	<b>0.0000</b>	<b>3,004.0412</b>	<b>3,004.0412</b>	<b>0.6259</b>		<b>3,019.6894</b>

New Construction of 1-2 MW Charging Infrastructure - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.3 Trenching - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1200e-003	0.0335	6.7100e-003	1.2000e-004	3.5000e-003	5.0000e-004	4.0000e-003	9.6000e-004	4.7000e-004	1.4300e-003		13.3032	13.3032	3.6000e-004	2.1000e-003	13.9384
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1348	0.1078	1.6098	4.2500e-003	0.4560	2.6300e-003	0.4587	0.1209	2.4200e-003	0.1233		429.5804	429.5804	9.5100e-003	9.9300e-003	432.7771
<b>Total</b>	<b>0.1359</b>	<b>0.1413</b>	<b>1.6165</b>	<b>4.3700e-003</b>	<b>0.4595</b>	<b>3.1300e-003</b>	<b>0.4627</b>	<b>0.1219</b>	<b>2.8900e-003</b>	<b>0.1248</b>		<b>442.8836</b>	<b>442.8836</b>	<b>9.8700e-003</b>	<b>0.0120</b>	<b>446.7155</b>

**3.4 System Installation - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9658	8.2751	9.5329	0.0152		0.4886	0.4886		0.4730	0.4730		1,446.7498	1,446.7498	0.2026		1,451.8144
<b>Total</b>	<b>0.9658</b>	<b>8.2751</b>	<b>9.5329</b>	<b>0.0152</b>		<b>0.4886</b>	<b>0.4886</b>		<b>0.4730</b>	<b>0.4730</b>		<b>1,446.7498</b>	<b>1,446.7498</b>	<b>0.2026</b>		<b>1,451.8144</b>

New Construction of 1-2 MW Charging Infrastructure - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 System Installation - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.8600e-003	0.0559	0.0112	2.1000e-004	5.8300e-003	8.3000e-004	6.6600e-003	1.6000e-003	7.9000e-004	2.3900e-003		22.1720	22.1720	6.1000e-004	3.5000e-003	23.2306
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0674	0.0539	0.8049	2.1300e-003	0.2280	1.3200e-003	0.2293	0.0605	1.2100e-003	0.0617		214.7902	214.7902	4.7600e-003	4.9600e-003	216.3886
<b>Total</b>	<b>0.0693</b>	<b>0.1097</b>	<b>0.8161</b>	<b>2.3400e-003</b>	<b>0.2338</b>	<b>2.1500e-003</b>	<b>0.2360</b>	<b>0.0621</b>	<b>2.0000e-003</b>	<b>0.0641</b>		<b>236.9622</b>	<b>236.9622</b>	<b>5.3700e-003</b>	<b>8.4600e-003</b>	<b>239.6192</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9658	8.2751	9.5329	0.0152		0.4886	0.4886		0.4730	0.4730	0.0000	1,446.7498	1,446.7498	0.2026		1,451.8144
<b>Total</b>	<b>0.9658</b>	<b>8.2751</b>	<b>9.5329</b>	<b>0.0152</b>		<b>0.4886</b>	<b>0.4886</b>		<b>0.4730</b>	<b>0.4730</b>	<b>0.0000</b>	<b>1,446.7498</b>	<b>1,446.7498</b>	<b>0.2026</b>		<b>1,451.8144</b>



New Construction of 1-2 MW Charging Infrastructure - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 System Installation - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.8600e-003	0.0559	0.0112	2.1000e-004	5.8300e-003	8.3000e-004	6.6600e-003	1.6000e-003	7.9000e-004	2.3900e-003		22.1720	22.1720	6.1000e-004	3.5000e-003	23.2306
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0674	0.0539	0.8049	2.1300e-003	0.2280	1.3200e-003	0.2293	0.0605	1.2100e-003	0.0617		214.7902	214.7902	4.7600e-003	4.9600e-003	216.3886
<b>Total</b>	<b>0.0693</b>	<b>0.1097</b>	<b>0.8161</b>	<b>2.3400e-003</b>	<b>0.2338</b>	<b>2.1500e-003</b>	<b>0.2360</b>	<b>0.0621</b>	<b>2.0000e-003</b>	<b>0.0641</b>		<b>236.9622</b>	<b>236.9622</b>	<b>5.3700e-003</b>	<b>8.4600e-003</b>	<b>239.6192</b>

New Construction of 1-2 MW Charging Infrastructure - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.543438	0.060776	0.184542	0.125993	0.024133	0.006619	0.012016	0.011244	0.000789	0.000455	0.025773	0.000920	0.003302

New Construction of 1-2 MW Charging Infrastructure - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

New Construction of 1-2 MW Charging Infrastructure - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.2 Energy by Land Use - NaturalGas**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.1187	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.0900e-003	1.0900e-003	0.0000		1.1600e-003
Unmitigated	0.1187	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.0900e-003	1.0900e-003	0.0000		1.1600e-003

New Construction of 1-2 MW Charging Infrastructure - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**6.2 Area by SubCategory**

**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0415					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0771					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-005	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.0900e-003	1.0900e-003	0.0000		1.1600e-003
<b>Total</b>	<b>0.1187</b>	<b>0.0000</b>	<b>5.1000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>1.0900e-003</b>	<b>1.0900e-003</b>	<b>0.0000</b>		<b>1.1600e-003</b>

New Construction of 1-2 MW Charging Infrastructure - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0415					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0771					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-005	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.0900e-003	1.0900e-003	0.0000		1.1600e-003
<b>Total</b>	<b>0.1187</b>	<b>0.0000</b>	<b>5.1000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>1.0900e-003</b>	<b>1.0900e-003</b>	<b>0.0000</b>		<b>1.1600e-003</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

New Construction of 1-2 MW Charging Infrastructure - Statewide , Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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New Construction of 1-2 MW Charging Infrastructure - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**New Construction of 1-2 MW Charging Infrastructure  
Statewide , Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	5.00	Acre	5.00	217,800.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	54
<b>Climate Zone</b>	4			<b>Operational Year</b>	2030
<b>Utility Company</b>	Alameda Municipal Power				
<b>CO2 Intensity (lb/MWhr)</b>	0	<b>CH4 Intensity (lb/MWhr)</b>	0	<b>N2O Intensity (lb/MWhr)</b>	0

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - Construction emissions only.

Land Use -

Construction Phase - Assumed construction would occur from January 4, 2021 through May 5, 2021.

Off-road Equipment - Assumed construction unit amount and hours/day.

Off-road Equipment - Assumed construction unit amount and hours/day.

Off-road Equipment - Assumed construction unit amount and hours/day.

Grading - Assumed no grading.

Trips and VMT - Assumed worker, vendor and hauling trips and trip lengths.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	16.00
tblConstructionPhase	NumDays	230.00	45.00



New Construction of 1-2 MW Charging Infrastructure - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblGrading	AcresOfGrading	6.00	0.00
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.20	0.20
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripNumber	0.00	5.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripLength	7.30	30.00
tblTripsAndVMT	VendorTripLength	7.30	30.00

New Construction of 1-2 MW Charging Infrastructure - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tbITripsAndVMT	VendorTripLength	7.30	30.00
tbITripsAndVMT	VendorTripNumber	36.00	0.00
tbITripsAndVMT	WorkerTripLength	10.80	30.00
tbITripsAndVMT	WorkerTripLength	10.80	30.00
tbITripsAndVMT	WorkerTripLength	10.80	30.00
tbITripsAndVMT	WorkerTripNumber	5.00	10.00
tbITripsAndVMT	WorkerTripNumber	91.00	10.00

**2.0 Emissions Summary**

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New Construction of 1-2 MW Charging Infrastructure - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.1187	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.0900e-003	1.0900e-003	0.0000		1.1600e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.1187</b>	<b>0.0000</b>	<b>5.1000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>1.0900e-003</b>	<b>1.0900e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.1600e-003</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.1187	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.0900e-003	1.0900e-003	0.0000		1.1600e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.1187</b>	<b>0.0000</b>	<b>5.1000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>1.0900e-003</b>	<b>1.0900e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.1600e-003</b>

New Construction of 1-2 MW Charging Infrastructure - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/4/2021	1/25/2021	5	16	
2	Trenching	Trenching	1/26/2021	3/8/2021	5	30	
3	System Installation	Building Construction	3/9/2021	5/10/2021	5	45	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 5**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	6.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Trenching	Trenchers	2	6.00	78	0.50
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Trenching	Plate Compactors	1	8.00	8	0.43
Trenching	Generator Sets	1	8.00	84	0.74
Trenching	Concrete/Industrial Saws	1	8.00	81	0.73
Trenching	Cement and Mortar Mixers	1	8.00	9	0.56

New Construction of 1-2 MW Charging Infrastructure - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Trenching	Bore/Drill Rigs	1	8.00	221	0.50
System Installation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
System Installation	Air Compressors	1	8.00	78	0.48
System Installation	Forklifts	1	8.00	89	0.20
System Installation	Generator Sets	1	8.00	84	0.74

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Trenching	8	20.00	0.00	4.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT
System Installation	4	10.00	0.00	10.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	10.00	0.00	5.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

**3.2 Site Preparation - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4802	5.8653	3.0206	7.3000e-003		0.2246	0.2246		0.2066	0.2066		706.9381	706.9381	0.2286		712.6541
<b>Total</b>	<b>0.4802</b>	<b>5.8653</b>	<b>3.0206</b>	<b>7.3000e-003</b>	<b>0.0000</b>	<b>0.2246</b>	<b>0.2246</b>	<b>0.0000</b>	<b>0.2066</b>	<b>0.2066</b>		<b>706.9381</b>	<b>706.9381</b>	<b>0.2286</b>		<b>712.6541</b>

New Construction of 1-2 MW Charging Infrastructure - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.2 Site Preparation - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.5800e-003	0.0830	0.0160	2.9000e-004	8.2000e-003	1.1600e-003	9.3700e-003	2.2500e-003	1.1100e-003	3.3600e-003		31.1873	31.1873	8.5000e-004	4.9300e-003	32.6763
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0722	0.0620	0.6979	1.9700e-003	0.2280	1.3200e-003	0.2293	0.0605	1.2100e-003	0.0617		199.2405	199.2405	4.6700e-003	5.4400e-003	200.9792
<b>Total</b>	<b>0.0747</b>	<b>0.1449</b>	<b>0.7139</b>	<b>2.2600e-003</b>	<b>0.2362</b>	<b>2.4800e-003</b>	<b>0.2387</b>	<b>0.0627</b>	<b>2.3200e-003</b>	<b>0.0650</b>		<b>230.4278</b>	<b>230.4278</b>	<b>5.5200e-003</b>	<b>0.0104</b>	<b>233.6556</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4802	5.8653	3.0206	7.3000e-003		0.2246	0.2246		0.2066	0.2066	0.0000	706.9381	706.9381	0.2286		712.6541
<b>Total</b>	<b>0.4802</b>	<b>5.8653</b>	<b>3.0206</b>	<b>7.3000e-003</b>	<b>0.0000</b>	<b>0.2246</b>	<b>0.2246</b>	<b>0.0000</b>	<b>0.2066</b>	<b>0.2066</b>	<b>0.0000</b>	<b>706.9381</b>	<b>706.9381</b>	<b>0.2286</b>		<b>712.6541</b>

New Construction of 1-2 MW Charging Infrastructure - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.2 Site Preparation - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.5800e-003	0.0830	0.0160	2.9000e-004	8.2000e-003	1.1600e-003	9.3700e-003	2.2500e-003	1.1100e-003	3.3600e-003		31.1873	31.1873	8.5000e-004	4.9300e-003	32.6763
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0722	0.0620	0.6979	1.9700e-003	0.2280	1.3200e-003	0.2293	0.0605	1.2100e-003	0.0617		199.2405	199.2405	4.6700e-003	5.4400e-003	200.9792
<b>Total</b>	<b>0.0747</b>	<b>0.1449</b>	<b>0.7139</b>	<b>2.2600e-003</b>	<b>0.2362</b>	<b>2.4800e-003</b>	<b>0.2387</b>	<b>0.0627</b>	<b>2.3200e-003</b>	<b>0.0650</b>		<b>230.4278</b>	<b>230.4278</b>	<b>5.5200e-003</b>	<b>0.0104</b>	<b>233.6556</b>

**3.3 Trenching - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8602	17.0102	16.1213	0.0316		0.9509	0.9509		0.9040	0.9040		3,004.0412	3,004.0412	0.6259		3,019.6894
<b>Total</b>	<b>1.8602</b>	<b>17.0102</b>	<b>16.1213</b>	<b>0.0316</b>		<b>0.9509</b>	<b>0.9509</b>		<b>0.9040</b>	<b>0.9040</b>		<b>3,004.0412</b>	<b>3,004.0412</b>	<b>0.6259</b>		<b>3,019.6894</b>



New Construction of 1-2 MW Charging Infrastructure - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.3 Trenching - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1000e-003	0.0354	6.8100e-003	1.2000e-004	3.5000e-003	5.0000e-004	4.0000e-003	9.6000e-004	4.7000e-004	1.4300e-003		13.3066	13.3066	3.6000e-004	2.1000e-003	13.9419
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1443	0.1239	1.3958	3.9400e-003	0.4560	2.6300e-003	0.4587	0.1209	2.4200e-003	0.1233		398.4810	398.4810	9.3300e-003	0.0109	401.9585
<b>Total</b>	<b>0.1454</b>	<b>0.1593</b>	<b>1.4026</b>	<b>4.0600e-003</b>	<b>0.4595</b>	<b>3.1300e-003</b>	<b>0.4627</b>	<b>0.1219</b>	<b>2.8900e-003</b>	<b>0.1248</b>		<b>411.7875</b>	<b>411.7875</b>	<b>9.6900e-003</b>	<b>0.0130</b>	<b>415.9004</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8602	17.0102	16.1213	0.0316		0.9509	0.9509		0.9040	0.9040	0.0000	3,004.0412	3,004.0412	0.6259		3,019.6894
<b>Total</b>	<b>1.8602</b>	<b>17.0102</b>	<b>16.1213</b>	<b>0.0316</b>		<b>0.9509</b>	<b>0.9509</b>		<b>0.9040</b>	<b>0.9040</b>	<b>0.0000</b>	<b>3,004.0412</b>	<b>3,004.0412</b>	<b>0.6259</b>		<b>3,019.6894</b>

New Construction of 1-2 MW Charging Infrastructure - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.3 Trenching - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1000e-003	0.0354	6.8100e-003	1.2000e-004	3.5000e-003	5.0000e-004	4.0000e-003	9.6000e-004	4.7000e-004	1.4300e-003		13.3066	13.3066	3.6000e-004	2.1000e-003	13.9419
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1443	0.1239	1.3958	3.9400e-003	0.4560	2.6300e-003	0.4587	0.1209	2.4200e-003	0.1233		398.4810	398.4810	9.3300e-003	0.0109	401.9585
<b>Total</b>	<b>0.1454</b>	<b>0.1593</b>	<b>1.4026</b>	<b>4.0600e-003</b>	<b>0.4595</b>	<b>3.1300e-003</b>	<b>0.4627</b>	<b>0.1219</b>	<b>2.8900e-003</b>	<b>0.1248</b>		<b>411.7875</b>	<b>411.7875</b>	<b>9.6900e-003</b>	<b>0.0130</b>	<b>415.9004</b>

**3.4 System Installation - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9658	8.2751	9.5329	0.0152		0.4886	0.4886		0.4730	0.4730		1,446.7498	1,446.7498	0.2026		1,451.8144
<b>Total</b>	<b>0.9658</b>	<b>8.2751</b>	<b>9.5329</b>	<b>0.0152</b>		<b>0.4886</b>	<b>0.4886</b>		<b>0.4730</b>	<b>0.4730</b>		<b>1,446.7498</b>	<b>1,446.7498</b>	<b>0.2026</b>		<b>1,451.8144</b>

New Construction of 1-2 MW Charging Infrastructure - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 System Installation - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.8300e-003	0.0590	0.0114	2.1000e-004	5.8300e-003	8.3000e-004	6.6600e-003	1.6000e-003	7.9000e-004	2.3900e-003		22.1776	22.1776	6.0000e-004	3.5000e-003	23.2365
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0722	0.0620	0.6979	1.9700e-003	0.2280	1.3200e-003	0.2293	0.0605	1.2100e-003	0.0617		199.2405	199.2405	4.6700e-003	5.4400e-003	200.9792
<b>Total</b>	<b>0.0740</b>	<b>0.1210</b>	<b>0.7092</b>	<b>2.1800e-003</b>	<b>0.2338</b>	<b>2.1500e-003</b>	<b>0.2360</b>	<b>0.0621</b>	<b>2.0000e-003</b>	<b>0.0641</b>		<b>221.4181</b>	<b>221.4181</b>	<b>5.2700e-003</b>	<b>8.9400e-003</b>	<b>224.2157</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9658	8.2751	9.5329	0.0152		0.4886	0.4886		0.4730	0.4730	0.0000	1,446.7498	1,446.7498	0.2026		1,451.8144
<b>Total</b>	<b>0.9658</b>	<b>8.2751</b>	<b>9.5329</b>	<b>0.0152</b>		<b>0.4886</b>	<b>0.4886</b>		<b>0.4730</b>	<b>0.4730</b>	<b>0.0000</b>	<b>1,446.7498</b>	<b>1,446.7498</b>	<b>0.2026</b>		<b>1,451.8144</b>

New Construction of 1-2 MW Charging Infrastructure - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 System Installation - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.8300e-003	0.0590	0.0114	2.1000e-004	5.8300e-003	8.3000e-004	6.6600e-003	1.6000e-003	7.9000e-004	2.3900e-003		22.1776	22.1776	6.0000e-004	3.5000e-003	23.2365
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0722	0.0620	0.6979	1.9700e-003	0.2280	1.3200e-003	0.2293	0.0605	1.2100e-003	0.0617		199.2405	199.2405	4.6700e-003	5.4400e-003	200.9792
<b>Total</b>	<b>0.0740</b>	<b>0.1210</b>	<b>0.7092</b>	<b>2.1800e-003</b>	<b>0.2338</b>	<b>2.1500e-003</b>	<b>0.2360</b>	<b>0.0621</b>	<b>2.0000e-003</b>	<b>0.0641</b>		<b>221.4181</b>	<b>221.4181</b>	<b>5.2700e-003</b>	<b>8.9400e-003</b>	<b>224.2157</b>

New Construction of 1-2 MW Charging Infrastructure - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.543438	0.060776	0.184542	0.125993	0.024133	0.006619	0.012016	0.011244	0.000789	0.000455	0.025773	0.000920	0.003302

New Construction of 1-2 MW Charging Infrastructure - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

New Construction of 1-2 MW Charging Infrastructure - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.1187	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.0900e-003	1.0900e-003	0.0000		1.1600e-003
Unmitigated	0.1187	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.0900e-003	1.0900e-003	0.0000		1.1600e-003

New Construction of 1-2 MW Charging Infrastructure - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**6.2 Area by SubCategory**

**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0415					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0771					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-005	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.0900e-003	1.0900e-003	0.0000		1.1600e-003
<b>Total</b>	<b>0.1187</b>	<b>0.0000</b>	<b>5.1000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>1.0900e-003</b>	<b>1.0900e-003</b>	<b>0.0000</b>		<b>1.1600e-003</b>



New Construction of 1-2 MW Charging Infrastructure - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0415					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0771					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-005	0.0000	5.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.0900e-003	1.0900e-003	0.0000		1.1600e-003
<b>Total</b>	<b>0.1187</b>	<b>0.0000</b>	<b>5.1000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>1.0900e-003</b>	<b>1.0900e-003</b>	<b>0.0000</b>		<b>1.1600e-003</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

New Construction of 1-2 MW Charging Infrastructure - Statewide , Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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