



**MEMORANDUM**

To: Brianna Bohonok, Associate Principal, Circlepoint  
From: Ace Malisos, Air Quality and Noise Manager, Kimley-Horn  
Noemi Wyss AICP, Environmental Planner, Kimley-Horn  
Kimley-Horn and Associates, Inc.  
Date: September 8, 2022  
Subject: Alameda County Rail Safety Enhancement Program – Air Quality Analysis  
Oakland ISMND

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**1.0 PURPOSE**

The purpose of this memorandum is to identify the air quality emissions associated with construction and operations of four at-grade rail crossings, located in the City of Oakland (City), California. The four crossings are currently existing and are located in the eastern portion of the City. This analysis has been undertaken to analyze whether the proposed project would result in any significant environmental impacts related to air quality.

**2.0 PROPOSED PROJECT DESCRIPTION**

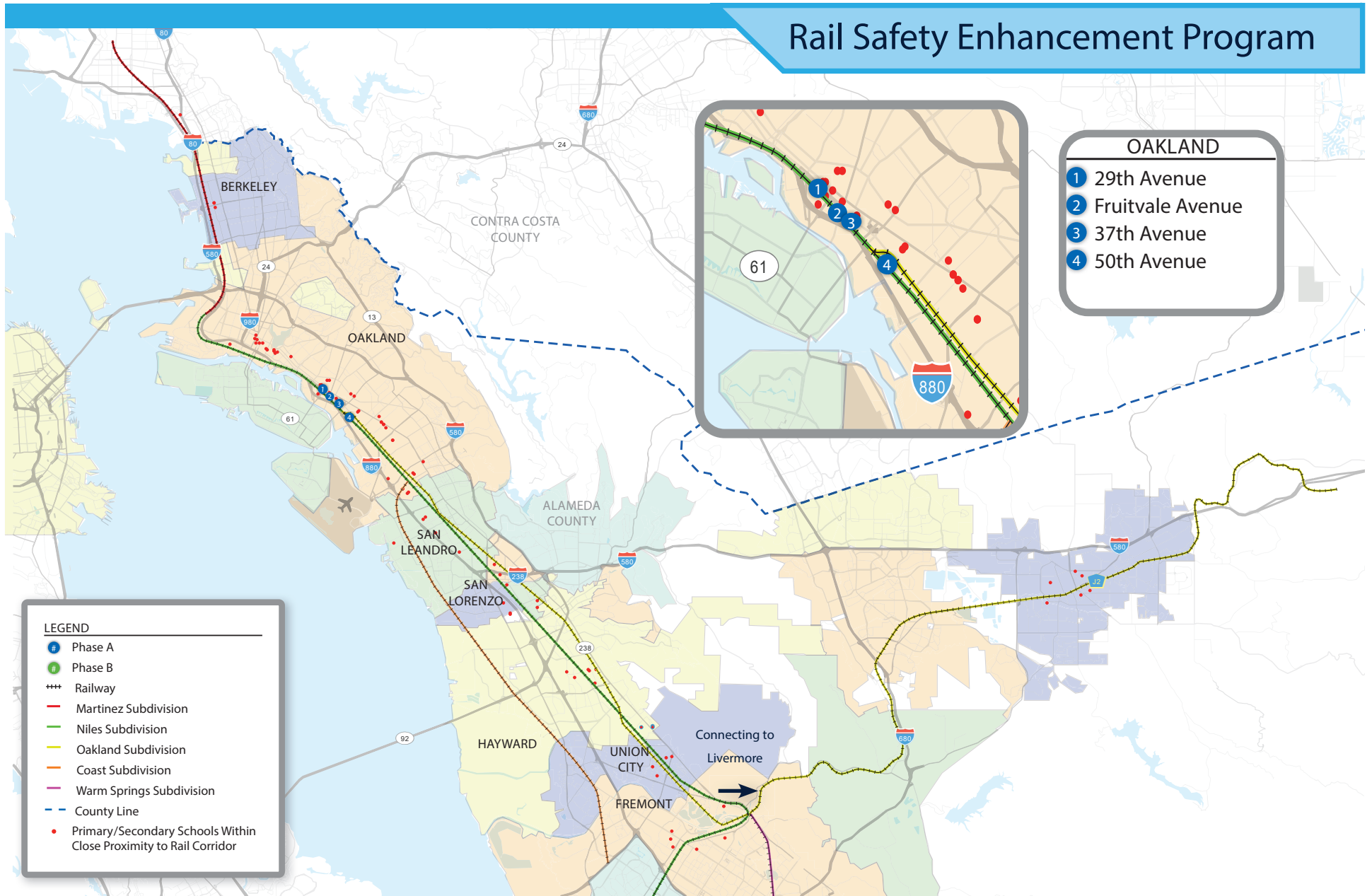
The project site consists of four existing at-grade rail crossings in the City of Oakland, California. Alameda County Transportation Commission (Alameda CTC) is the lead agency under the California Environmental Quality Act (CEQA). All four crossings are in the same general area of east Oakland surrounded predominantly by business, commercial, and light industrial uses. Residential areas are located near 29<sup>th</sup> Avenue and 37<sup>th</sup> Avenue, adjacent to the project site. The crossings are located along Union Pacific Railroad (UPRR) tracks where UPRR tracks intersect with local streets. Each of the crossings is listed from north to south in **Table 1** below, noting the local street intersections. The Map ID number corresponds to crossing location shown on **Figure 1**.

**Table 1: Crossing Locations**

Jurisdiction	Intersection	Map ID
City of Oakland	29 <sup>th</sup> Avenue	1
City of Oakland	Fruitvale Avenue	2
City of Oakland	37 <sup>th</sup> Avenue	3
City of Oakland	50 <sup>th</sup> Avenue	4

Source: Alameda CTC, 2021

# Rail Safety Enhancement Program



Source: Kimley-Horn, 2022

**Figure 1: Project Site Map**  
 Alameda CTC Rail Safety Enhancement Project  
 Memorandum



Not to scale

The four crossings consist of entirely developed area. The project sites are predominantly impervious except for the semi-pervious gravel shoulder next to UPRR tracks. Site conditions vary between crossings. The 29<sup>th</sup> Avenue and Fruitvale Avenue crossings are located on major arterials while the 37<sup>th</sup> Avenue and 50<sup>th</sup> Avenue crossings are located along smaller two-lane streets. Each crossing generally includes a vehicular gate for each direction of travel, warning device, concrete crossing panels, and street lighting. The existing conditions at each crossing location are described in detail in **Table 2**.

**Table 2: Existing Conditions**

Intersection	Description	Map ID
29 <sup>th</sup> Avenue	29 <sup>th</sup> Avenue extends in a northeast direction through this crossing with two lanes of travel in each direction. Latitude High School is located immediately to the east. Continuous sidewalks extend along 29 <sup>th</sup> Avenue on each side. There are single-arm gates in each direction of traffic.	1
Fruitvale Avenue	Fruitvale Avenue extends in a northeast direction through this crossing with two lanes of travel in each direction. Parking lots are located immediately north of this crossing, with vacant parcels to the south. Continuous sidewalks extend along Fruitvale Avenue on each side with Class II bicycle lanes striped on both sides. There are single-arm gates in each direction of traffic.	2
37 <sup>th</sup> Avenue	37 <sup>th</sup> Avenue extends in a northeast direction through this crossing with one lane of travel in each direction. Landscaping associated with Interstate 880 (Nimitz Freeway) is located south of the crossing. Sidewalks are present north of the UPRR tracks along 37 <sup>th</sup> Avenue, but no pedestrian facilities extend across the tracks. There are single-arm gates in each direction of traffic.	3
50 <sup>th</sup> Avenue	50 <sup>th</sup> Avenue extends in a northeast direction through this crossing with one lane of travel in each direction. Sidewalks are present south of the UPRR tracks along 50 <sup>th</sup> Avenue, but no pedestrian facilities extend across the tracks. There are single-arm gates in each direction of traffic.	4
Source: Circlepoint, 2022		

The project consists of rail safety improvements to existing at-grade rail crossings. The improvements are designed to increase safety for all motorists and pedestrians. This includes restricting access to UPRR tracks, improving signage, accessibility improvements, and other safety features. The proposed safety improvements at each crossing are listed in **Table 3**.

**Table 3: Proposed Safety Improvements**

Intersection	Description	Excavation/Grading	Map ID
29 <sup>th</sup> Avenue	<p>The following improvements are proposed:</p> <ul style="list-style-type: none"> <li>Remove portions of existing pavement/concrete</li> <li>Remove existing overhead catenary system pole</li> <li>Install new security access gates/fencing, medians, pavement markings, pavement, roadside signs, ADA detectable pavers, warning devices, and “No Trespassing” signs</li> </ul>	Minor excavation and grading would be required to construct new pavement and curbs and gutters on the project site, to conform new sidewalks to existing, and to create new medians.	1

Intersection	Description	Excavation/Grading	Map ID
Fruitvale Avenue	The following improvements are proposed: <ul style="list-style-type: none"> <li>Remove portions of existing sidewalk and existing pedestrian crossing light</li> <li>Install new pavement markings (including dynamic envelope markings), pavement, security access gates/fencing, delineators, warning devices, and “No Trespassing” signs</li> </ul>	Minor grading would be required to conform new sidewalks to existing.	2
37 <sup>th</sup> Avenue	The following improvements are proposed: <ul style="list-style-type: none"> <li>Remove portions of existing pavement/concrete</li> <li>Replace existing damaged fence</li> <li>Install new security access gates/fencing, medians, pavement markings, roadside signs, ADA detectable pavers, warning devices, and “No Trespassing” and “No Parking” signs</li> </ul>	Minor excavation and grading would be required to construct curbs and gutters on the project site, to conform new sidewalks to existing, and to create new medians.	3
50 <sup>th</sup> Avenue	The following improvements are proposed: <ul style="list-style-type: none"> <li>Remove portions of existing pavement/concrete and regrade surface</li> <li>Remove existing guard rail and signal foundation</li> <li>Install new headwall, curb and gutter, and drainage pipe</li> <li>Install new pavement markings, pavement, security access gates/fencing, warning devices, and “No Trespassing” signs</li> </ul>	Minor excavation and grading would be required to construct new pavement and regrade surface on the project site, install a new headwall, curbs and gutters, and drainage pipe, and to conform new sidewalks to existing.	4
Source: Alameda CTC, 2022			

Construction of the project is anticipated to take approximately one year, beginning in the third quarter of 2023 and concluding in the third quarter of 2024. For the purposes of this analysis, construction is assumed to begin in an earlier year as a conservative approach. Assuming an earlier year is conservative because a later construction year start date would result in lower emissions due to equipment fleet turnover and emission control regulations. Construction would occur in one phase with distinct activities/sub-phases (i.e., demolition, grading, paving). Emissions for each construction activity have been quantified based upon the phase duration and equipment types. Construction at each crossing will generally include:

- Temporary closure of the crossing with an appropriate detour for vehicles and cyclists.
- Removal of outdated or non-functioning crossing control equipment, fencing, signage, pavement, and other materials.
- Installation of new fencing, crossing control equipment, signage, sidewalks and pavement, and other safety features.

The following crossings have unique elements or requirements for their construction:

- 29<sup>th</sup> Avenue – Construct new median, curb and gutter, and pavement along 29<sup>th</sup> Avenue. An existing overhead catenary system pole would be removed adjacent to the southbound track.
- Fruitvale Avenue – Remove existing sidewalk north and south of Fruitvale Avenue. Dynamic envelope markings would be installed on both sides of tracks.

- 37th Avenue – Construct new median and curbs and gutters along 37<sup>th</sup> Avenue. An existing damaged fence along the UPRR ROW on the southbound track will be replaced.
- 50th Avenue– Construct new curbs and gutters along 50<sup>th</sup> Avenue. A new headwall and drainage pipe would be installed, and surface regrading would occur adjacent to the northbound track.

### 3.0 THRESHOLDS AND SIGNIFICANCE CRITERIA

Under the California Environmental Quality Act (CEQA), the Bay Area Air Quality Management District (BAAQMD) is an expert commenting agency on air quality within its jurisdiction or impacting its jurisdiction. Under the Federal Clean Air Act (FCAA), the BAAQMD has adopted Federal attainment plans for O<sub>3</sub> and PM<sub>2.5</sub>. The BAAQMD reviews projects to ensure that they would not: (1) cause or contribute to any new violation of any air quality standard; (2) increase the frequency or severity of any existing violation of any air quality standard; or (3) delay timely attainment of any air quality standard or any required interim emission reductions or other milestones of any Federal attainment plan.

The BAAQMD Options and Justification Report (dated October 2009) establishes thresholds based on substantial evidence, and the thresholds are consistent with the thresholds outlined within the 2010/2011 BAAQMD CEQA Air Quality Guidelines (and current 2017 CEQA Air Quality Guidelines). The thresholds have been developed by the BAAQMD in order to attain State and Federal ambient air quality standards. Therefore, projects below these thresholds would not violate an air quality standard and would not contribute substantially to an existing or projected air quality violation.

The BAAQMD’s CEQA Air Quality Guidelines provides significance thresholds for both construction and operation of projects. Ultimately the lead agency determines the thresholds of significance for impacts. However, if a project proposes development in excess of the established thresholds, as outlined in **Table 4**, a significant air quality impact may occur and additional analysis is warranted to fully assess the significance of impacts.

The project is located in the San Francisco Bay Area Air Basin (Basin) which includes all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties, the southern portion of Sonoma County, and the southwestern portion of Solano County.

**Table 4: Bay Area Air Quality Management District Emissions Thresholds**

Criteria Air Pollutants and Precursors (Regional)	Construction-Related	Operational-Related	
	Average Daily Emissions (pounds/day)	Average Daily Emission (pounds/day)	Annual Average Emission (tons/year)
Reactive Organic Gases (ROG)	54	54	10
Nitrogen Oxides (NO <sub>x</sub> )	54	54	10
Coarse Particulates (PM <sub>10</sub> )	82 (exhaust)	82	15
Fine Particulates (PM <sub>2.5</sub> )	54 (exhaust)	54	10
PM <sub>10</sub> / PM <sub>2.5</sub> (fugitive dust)	Best Management Practices		
Local CO	None	None	
		9.0 ppm (8-hour average) 20.0 ppm (1-hour average)	

Source: Bay Area Air Quality Management District, 2017 CEQA Air Quality Guidelines, 2017.

## 4.0 IMPACT ANALYSIS

The analysis is consistent with CEQA as well as the Federal Railroad Administration (FRA) categorical exclusion checklist requirements.

### 4.1 Construction

Project construction activities would generate short-term emissions of criteria air pollutants. The criteria pollutants of primary concern within the project area include ozone-precursor pollutants (i.e., reactive organic gases [ROG] and nitrogen oxides [NO<sub>x</sub>]) and particulate matter 10 microns in size or less (PM<sub>10</sub>) and particulate matter 2.5 microns in size or less (PM<sub>2.5</sub>). Construction-generated emissions are short term and temporary, lasting only while construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the BAAQMD's thresholds of significance.

Construction results in the temporary generation of emissions during demolition, site preparation, site grading, road paving, motor vehicle exhaust associated with construction equipment and worker trips, and the movement of construction equipment, especially on unpaved surfaces. Emissions of airborne particulate matter are largely dependent on the amount of ground disturbance associated with site preparation activities, as well as weather conditions and the appropriate application of water.

The duration of construction activities associated with the project are estimated to last approximately one year. The project's construction-related emissions were calculated using the BAAQMD-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. Project site demolition is anticipated to begin in the third quarter of 2023. Grading would occur in the first and second quarter of 2024, construction would occur in the second and third quarter of 2024, and paving would occur in the third quarter of 2024 and continue until project completion in the third quarter of 2024.

While the exact construction timeline is unknown; the earliest feasible dates were used in the modeling to be conservative. This approach is conservative given that emissions factors decrease in future years due to regulatory and technological improvements and fleet turnover. See [Appendix A: Air Quality Data](#) for additional information regarding the construction assumptions used in this analysis. **Table 5** displays the maximum daily emissions in pounds per day that are expected to be generated from the construction of the proposed project in comparison to the daily thresholds established by the BAAQMD.

As shown in **Table 5**, construction of the project would not cause exceedances for ROG, NO<sub>x</sub>, PM<sub>2.5</sub>, and PM<sub>10</sub>. The calculated emission results for ROG, NO<sub>x</sub>, PM<sub>2.5</sub>, and PM<sub>10</sub> from CalEEMod demonstrate that the construction of this project would not exceed maximum daily thresholds created by the BAAQMD. The proposed project emissions would not worsen ambient air quality, create additional violations of federal and state standards, or delay the Basin's goal for meeting attainment standards. Construction impacts would be less than significant.

**Table 5: Construction-Related Emissions**

Year	Pollutant (maximum pounds per day) <sup>1</sup>					
	Reactive Organic Gases (ROG)	Nitrogen Oxide (NO <sub>x</sub> )	Exhaust		Fugitive Dust	
			Coarse Particulate Matter (PM <sub>10</sub> )	Fine Particulate Matter (PM <sub>2.5</sub> )	Coarse Particulate Matter (PM <sub>10</sub> )	Fine Particulate Matter (PM <sub>2.5</sub> )
2023	1.74	14.19	16.70	0.03	0.60	0.68
2024	3.74	38.98	26.21	0.06	9.33	1.60
<b>Maximum</b>	<b>3.74</b>	<b>38.98</b>	<b>26.21</b>	<b>0.06</b>	<b>9.33</b>	<b>1.60</b>
BAAQMD Significance Threshold <sup>2, 3</sup>	54	54	82	54	BMPs	BMPs
Exceed BAAQMD Threshold?	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>N/A</b>	<b>N/A</b>
Notes:						
<ol style="list-style-type: none"> <li>Emissions were calculated using CalEEMod. Mitigated emissions include compliance with the BAAQMD's Basic Construction Mitigation Measures Recommended for All Projects. These measures include the following: water exposed surfaces two times daily; cover haul trucks; clean track outs with wet powered vacuum street sweepers; limit speeds on unpaved roads to 15 miles per hour; complete paving as soon as possible after grading; limit idle times to 5 minutes; properly maintain mobile and other construction equipment; and post a publicly visible sign with contact information to register dust complaints and take corrective action within 48 hours.</li> <li>Emission quantities in this table are the sum of all emissions generated by the construction of all four project locations throughout Oakland for each year.</li> <li>Bay Area Air Quality Management District, California Environmental Quality Act Air Quality Guidelines, updated May 2017.</li> <li>BMPs = Best Management Practices. The BAAQMD recommends the implementation of all Basic Construction Mitigation Measures, whether or not construction-related emissions exceed applicable significance thresholds. Implementation of Basic Construction Mitigation measures are considered to mitigate fugitive dust emissions to be less than significant.</li> </ol>						
Source: Refer to the CalEEMod outputs provided in Appendix A, <i>Air Quality Modeling Data</i> .						

**4.2 Operations**

During operation, the improved crossings would function similar to the existing conditions. Vehicular traffic and pedestrians would be able to use the crossings as they do under existing conditions, but with improved safety. Operation of the project would not change the frequency or speed of existing trains along UPRR tracks or effect the volume of vehicles using the crossings. Since no change in vehicle or train trips and no new vehicle trips are generated by the project there would be no impact to air quality as a result of project operation.

**4.3 Cumulative Emissions**

The Basin is designated nonattainment for O<sub>3</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> for State standards and nonattainment for O<sub>3</sub> and PM<sub>2.5</sub> for Federal standards. As discussed above, the project's construction-related and emissions would not have the potential to exceed the BAAQMD significance thresholds for criteria pollutants and the project's operational emissions would not change from those of the existing conditions.

Cumulative Construction Impacts. Since the BAAQMD's thresholds indicate whether an individual project's emissions have the potential to affect cumulative regional air quality, it can be expected that

the project-related construction emissions would not be cumulatively considerable since they would not exceed the thresholds. The BAAQMD recommends Basic Construction Mitigation Measures for all projects whether or not construction-related emissions exceed the thresholds of significance. Compliance with BAAQMD construction-related mitigation requirements are considered to reduce cumulative impacts at a Basin-wide level. As a result, construction emissions associated with the project would not result in a cumulatively considerable contribution to significant cumulative air quality impacts.

Cumulative Operational Impacts. The BAAQMD has not established separate significance thresholds for cumulative operational emissions. The nature of air emissions is largely a cumulative impact. As a result, no single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. The BAAQMD developed the operational thresholds of significance based on the level above which a project's individual emissions would result in a cumulatively considerable contribution to the Basin's existing air quality conditions. Since the project would not result in an increase in operational emissions compared to the existing conditions the project would not cause an increase in the cumulative operational emissions in the Basin.

As shown in **Table 5**, the project's construction emissions would not exceed BAAQMD thresholds. Project operational emissions would not exceed those generated by the existing crossings. As a result, air quality emissions associated with the project would not result in a cumulatively considerable contribution to significant cumulative air quality impacts.



## 5.0 References

1. Bay Area Air Quality Management District (BAAQMD), *Planning Healthy Places*, 2016.
2. Bay Area Air Quality Management District (BAAQMD), *2017 CEQA Air Quality Guidelines*, 2017.
3. Bay Area Air Quality Management District (BAAQMD), *Air Quality Standards and Attainment Status*, 2017.
4. Bay Area Air Quality Management District (BAAQMD), *Clean Air Plan*, 2017.
5. Bay Area Air Quality Management District (BAAQMD), *Current Rules*, 2017.
6. Bay Area Air Quality Management District (BAAQMD), *Final 2017 Clean Air Plan*, 2017.
7. California Air Pollution Control Officers Association (CAPCOA), *CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*, 2008.
8. California Air Pollution Control Officers Association (CAPCOA). *CalEEMod User's Guide*. 2016.
9. California Air Pollution Control Officers Association (CAPCOA), *Health Effects*, 2018.
10. California Air Resources Board (CARB), *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*, 2000.
11. California Air Resources Board (CARB), *Air Quality and Land Use Handbook: A Community Health Perspective*, 2005.
12. California Air Resources Board (CARB), *Current Air Quality Standards*, 2016.
13. United States Environmental Protection Agency (U.S. EPA), *Nonattainment Areas for Criteria Pollutants*, 2018.

**Appendix A**

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**Air Quality Modeling Data**

RSEP Oakland Crossing - Alameda County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**RSEP Oakland Crossing  
Alameda County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	30.13	1000sqft	0.69	30,130.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	63
<b>Climate Zone</b>	4			<b>Operational Year</b>	2024
<b>Utility Company</b>	Pacific Gas and Electric Company				
<b>CO2 Intensity (lb/MWhr)</b>	203.98	<b>CH4 Intensity (lb/MWhr)</b>	0.033	<b>N2O Intensity (lb/MWhr)</b>	0.004

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

- Project Characteristics -
- Land Use - Avereage improvement sf
- Construction Phase - Per construction timeline
- Off-road Equipment - Minimal equipment required for rail crossing improvements
- Off-road Equipment - Minimal equipment requird for rail crossing improvement installation
- Off-road Equipment -
- Off-road Equipment - Minimal equipment required for rail crossing improvements
- Demolition - 200 cy of pavement approximately 400 tons
- Grading -
- Construction Off-road Equipment Mitigation - Per BAAQMD rule compliance

RSEP Oakland Crossing - Alameda County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	6
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	100.00	40.00
tblConstructionPhase	NumDays	10.00	86.00
tblConstructionPhase	NumDays	2.00	100.00
tblConstructionPhase	NumDays	5.00	35.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00

**2.0 Emissions Summary**

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RSEP Oakland Crossing - Alameda County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**2.1 Overall Construction**

**Unmitigated Construction**

	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
Year	tons/yr										MT/yr					
2023	0.0186	0.1524	0.1794	3.4000e-004	6.3200e-003	7.2700e-003	0.0136	1.1900e-003	7.1300e-003	8.3300e-003	0.0000	29.6574	29.6574	2.5100e-003	2.2000e-004	29.7861
2024	0.0580	0.5858	0.4346	9.9000e-004	0.2729	0.0243	0.2971	0.1304	0.0224	0.1527	0.0000	87.1669	87.1669	0.0260	4.2000e-004	87.9413
<b>Maximum</b>	<b>0.0580</b>	<b>0.5858</b>	<b>0.4346</b>	<b>9.9000e-004</b>	<b>0.2729</b>	<b>0.0243</b>	<b>0.2971</b>	<b>0.1304</b>	<b>0.0224</b>	<b>0.1527</b>	<b>0.0000</b>	<b>87.1669</b>	<b>87.1669</b>	<b>0.0260</b>	<b>4.2000e-004</b>	<b>87.9413</b>

**Mitigated Construction**

	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
Year	tons/yr										MT/yr					
2023	0.0186	0.1524	0.1794	3.4000e-004	3.7700e-003	7.2700e-003	0.0110	8.0000e-004	7.1300e-003	7.9300e-003	0.0000	29.6574	29.6574	2.5100e-003	2.2000e-004	29.7860
2024	0.0580	0.5858	0.4346	9.9000e-004	0.1204	0.0243	0.1447	0.0568	0.0224	0.0791	0.0000	87.1668	87.1668	0.0260	4.2000e-004	87.9412
<b>Maximum</b>	<b>0.0580</b>	<b>0.5858</b>	<b>0.4346</b>	<b>9.9000e-004</b>	<b>0.1204</b>	<b>0.0243</b>	<b>0.1447</b>	<b>0.0568</b>	<b>0.0224</b>	<b>0.0791</b>	<b>0.0000</b>	<b>87.1668</b>	<b>87.1668</b>	<b>0.0260</b>	<b>4.2000e-004</b>	<b>87.9412</b>

RSEP Oakland Crossing - Alameda County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	55.51	0.00	49.88	56.25	0.00	45.96	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	9-1-2023	11-30-2023	0.1293	0.1293
2	12-1-2023	2-29-2024	0.2701	0.2701
3	3-1-2024	5-31-2024	0.3024	0.3024
4	6-1-2024	8-31-2024	0.1005	0.1005
		Highest	0.3024	0.3024

**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	2.6000e-003	0.0000	2.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.4000e-004	5.4000e-004	0.0000	0.0000	5.7000e-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>2.6000e-003</b>	<b>0.0000</b>	<b>2.8000e-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>0.0000</b>	<b>5.4000e-004</b>	<b>5.4000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>5.7000e-004</b>

RSEP Oakland Crossing - Alameda County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	2.6000e-003	0.0000	2.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.4000e-004	5.4000e-004	0.0000	0.0000	5.7000e-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>2.6000e-003</b>	<b>0.0000</b>	<b>2.8000e-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>0.0000</b>	<b>5.4000e-004</b>	<b>5.4000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>5.7000e-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	Demolition	Demolition	9/1/2023	12/29/2023	5	86	
2	Grading	Grading	1/1/2024	5/17/2024	5	100	
3	Building Construction	Building Construction	5/20/2024	7/12/2024	5	40	

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4	Paving	Paving	7/15/2024	8/30/2024	5	35
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**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 75**

**Acres of Paving: 0.69**

**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
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	0	4.00	231	0.29
Building Construction	Forklifts	0	6.00	89	0.20
Building Construction	Skid Steer Loaders	1	8.00	65	0.37
Building Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	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
Demolition	2	5.00	0.00	40.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT



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Grading	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	1	13.00	5.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

- Replace Ground Cover
- Water Exposed Area
- Water Unpaved Roads
- Reduce Vehicle Speed on Unpaved Roads
- Clean Paved Roads

**3.2 Demolition - 2023**

**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					4.2800e-003	0.0000	4.2800e-003	6.5000e-004	0.0000	6.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0180	0.1494	0.1740	3.1000e-004		7.2400e-003	7.2400e-003		7.1000e-003	7.1000e-003	0.0000	27.1518	27.1518	2.4400e-003	0.0000	27.2129
<b>Total</b>	<b>0.0180</b>	<b>0.1494</b>	<b>0.1740</b>	<b>3.1000e-004</b>	<b>4.2800e-003</b>	<b>7.2400e-003</b>	<b>0.0115</b>	<b>6.5000e-004</b>	<b>7.1000e-003</b>	<b>7.7500e-003</b>	<b>0.0000</b>	<b>27.1518</b>	<b>27.1518</b>	<b>2.4400e-003</b>	<b>0.0000</b>	<b>27.2129</b>

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**3.2 Demolition - 2023**

**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	2.6300e-003	6.0000e-004	1.0000e-005	3.4000e-004	2.0000e-005	3.6000e-004	9.0000e-005	2.0000e-005	1.1000e-004	0.0000	1.1654	1.1654	2.0000e-005	1.8000e-004	1.2209
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	5.6000e-004	3.9000e-004	4.7900e-003	1.0000e-005	1.7000e-003	1.0000e-005	1.7100e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3402	1.3402	4.0000e-005	4.0000e-005	1.3523
<b>Total</b>	<b>6.0000e-004</b>	<b>3.0200e-003</b>	<b>5.3900e-003</b>	<b>2.0000e-005</b>	<b>2.0400e-003</b>	<b>3.0000e-005</b>	<b>2.0700e-003</b>	<b>5.4000e-004</b>	<b>3.0000e-005</b>	<b>5.7000e-004</b>	<b>0.0000</b>	<b>2.5056</b>	<b>2.5056</b>	<b>6.0000e-005</b>	<b>2.2000e-004</b>	<b>2.5732</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					1.8300e-003	0.0000	1.8300e-003	2.8000e-004	0.0000	2.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0180	0.1494	0.1740	3.1000e-004		7.2400e-003	7.2400e-003		7.1000e-003	7.1000e-003	0.0000	27.1518	27.1518	2.4400e-003	0.0000	27.2129
<b>Total</b>	<b>0.0180</b>	<b>0.1494</b>	<b>0.1740</b>	<b>3.1000e-004</b>	<b>1.8300e-003</b>	<b>7.2400e-003</b>	<b>9.0700e-003</b>	<b>2.8000e-004</b>	<b>7.1000e-003</b>	<b>7.3800e-003</b>	<b>0.0000</b>	<b>27.1518</b>	<b>27.1518</b>	<b>2.4400e-003</b>	<b>0.0000</b>	<b>27.2129</b>

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**3.2 Demolition - 2023**

**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	2.6300e-003	6.0000e-004	1.0000e-005	3.2000e-004	2.0000e-005	3.5000e-004	9.0000e-005	2.0000e-005	1.1000e-004	0.0000	1.1654	1.1654	2.0000e-005	1.8000e-004	1.2209
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	5.6000e-004	3.9000e-004	4.7900e-003	1.0000e-005	1.6100e-003	1.0000e-005	1.6200e-003	4.3000e-004	1.0000e-005	4.4000e-004	0.0000	1.3402	1.3402	4.0000e-005	4.0000e-005	1.3523
<b>Total</b>	<b>6.0000e-004</b>	<b>3.0200e-003</b>	<b>5.3900e-003</b>	<b>2.0000e-005</b>	<b>1.9300e-003</b>	<b>3.0000e-005</b>	<b>1.9700e-003</b>	<b>5.2000e-004</b>	<b>3.0000e-005</b>	<b>5.5000e-004</b>	<b>0.0000</b>	<b>2.5056</b>	<b>2.5056</b>	<b>6.0000e-005</b>	<b>2.2000e-004</b>	<b>2.5732</b>

**3.3 Grading - 2024**

**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					0.2656	0.0000	0.2656	0.1284	0.0000	0.1284	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0457	0.4865	0.2773	7.0000e-004		0.0200	0.0200		0.0184	0.0184	0.0000	61.9000	61.9000	0.0200	0.0000	62.4005
<b>Total</b>	<b>0.0457</b>	<b>0.4865</b>	<b>0.2773</b>	<b>7.0000e-004</b>	<b>0.2656</b>	<b>0.0200</b>	<b>0.2856</b>	<b>0.1284</b>	<b>0.0184</b>	<b>0.1468</b>	<b>0.0000</b>	<b>61.9000</b>	<b>61.9000</b>	<b>0.0200</b>	<b>0.0000</b>	<b>62.4005</b>

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**3.3 Grading - 2024**

**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	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
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	9.8000e-004	6.4000e-004	8.3300e-003	3.0000e-005	3.1600e-003	2.0000e-005	3.1800e-003	8.4000e-004	1.0000e-005	8.6000e-004	0.0000	2.4320	2.4320	7.0000e-005	6.0000e-005	2.4528
<b>Total</b>	<b>9.8000e-004</b>	<b>6.4000e-004</b>	<b>8.3300e-003</b>	<b>3.0000e-005</b>	<b>3.1600e-003</b>	<b>2.0000e-005</b>	<b>3.1800e-003</b>	<b>8.4000e-004</b>	<b>1.0000e-005</b>	<b>8.6000e-004</b>	<b>0.0000</b>	<b>2.4320</b>	<b>2.4320</b>	<b>7.0000e-005</b>	<b>6.0000e-005</b>	<b>2.4528</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					0.1135	0.0000	0.1135	0.0549	0.0000	0.0549	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0457	0.4865	0.2773	7.0000e-004		0.0200	0.0200		0.0184	0.0184	0.0000	61.9000	61.9000	0.0200	0.0000	62.4005
<b>Total</b>	<b>0.0457</b>	<b>0.4865</b>	<b>0.2773</b>	<b>7.0000e-004</b>	<b>0.1135</b>	<b>0.0200</b>	<b>0.1336</b>	<b>0.0549</b>	<b>0.0184</b>	<b>0.0733</b>	<b>0.0000</b>	<b>61.9000</b>	<b>61.9000</b>	<b>0.0200</b>	<b>0.0000</b>	<b>62.4005</b>

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**3.3 Grading - 2024**

**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	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
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	9.8000e-004	6.4000e-004	8.3300e-003	3.0000e-005	3.0000e-003	2.0000e-005	3.0100e-003	8.0000e-004	1.0000e-005	8.2000e-004	0.0000	2.4320	2.4320	7.0000e-005	6.0000e-005	2.4528
<b>Total</b>	<b>9.8000e-004</b>	<b>6.4000e-004</b>	<b>8.3300e-003</b>	<b>3.0000e-005</b>	<b>3.0000e-003</b>	<b>2.0000e-005</b>	<b>3.0100e-003</b>	<b>8.0000e-004</b>	<b>1.0000e-005</b>	<b>8.2000e-004</b>	<b>0.0000</b>	<b>2.4320</b>	<b>2.4320</b>	<b>7.0000e-005</b>	<b>6.0000e-005</b>	<b>2.4528</b>

**3.4 Building Construction - 2024**

**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	1.2500e-003	0.0165	0.0277	4.0000e-005		5.3000e-004	5.3000e-004		4.9000e-004	4.9000e-004	0.0000	3.6390	3.6390	1.1800e-003	0.0000	3.6685
<b>Total</b>	<b>1.2500e-003</b>	<b>0.0165</b>	<b>0.0277</b>	<b>4.0000e-005</b>		<b>5.3000e-004</b>	<b>5.3000e-004</b>		<b>4.9000e-004</b>	<b>4.9000e-004</b>	<b>0.0000</b>	<b>3.6390</b>	<b>3.6390</b>	<b>1.1800e-003</b>	<b>0.0000</b>	<b>3.6685</b>

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**3.4 Building Construction - 2024**

**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	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
Vendor	1.0000e-004	4.3900e-003	1.3000e-003	2.0000e-005	6.6000e-004	3.0000e-005	6.8000e-004	1.9000e-004	3.0000e-005	2.2000e-004	0.0000	1.9046	1.9046	3.0000e-005	2.9000e-004	1.9903
Worker	6.4000e-004	4.2000e-004	5.4100e-003	2.0000e-005	2.0600e-003	1.0000e-005	2.0700e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.5808	1.5808	4.0000e-005	4.0000e-005	1.5943
<b>Total</b>	<b>7.4000e-004</b>	<b>4.8100e-003</b>	<b>6.7100e-003</b>	<b>4.0000e-005</b>	<b>2.7200e-003</b>	<b>4.0000e-005</b>	<b>2.7500e-003</b>	<b>7.4000e-004</b>	<b>4.0000e-005</b>	<b>7.8000e-004</b>	<b>0.0000</b>	<b>3.4853</b>	<b>3.4853</b>	<b>7.0000e-005</b>	<b>3.3000e-004</b>	<b>3.5846</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	1.2500e-003	0.0165	0.0277	4.0000e-005		5.3000e-004	5.3000e-004		4.9000e-004	4.9000e-004	0.0000	3.6390	3.6390	1.1800e-003	0.0000	3.6685
<b>Total</b>	<b>1.2500e-003</b>	<b>0.0165</b>	<b>0.0277</b>	<b>4.0000e-005</b>		<b>5.3000e-004</b>	<b>5.3000e-004</b>		<b>4.9000e-004</b>	<b>4.9000e-004</b>	<b>0.0000</b>	<b>3.6390</b>	<b>3.6390</b>	<b>1.1800e-003</b>	<b>0.0000</b>	<b>3.6685</b>

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**3.4 Building Construction - 2024**

**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	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
Vendor	1.0000e-004	4.3900e-003	1.3000e-003	2.0000e-005	6.3000e-004	3.0000e-005	6.6000e-004	1.8000e-004	3.0000e-005	2.1000e-004	0.0000	1.9046	1.9046	3.0000e-005	2.9000e-004	1.9903
Worker	6.4000e-004	4.2000e-004	5.4100e-003	2.0000e-005	1.9500e-003	1.0000e-005	1.9600e-003	5.2000e-004	1.0000e-005	5.3000e-004	0.0000	1.5808	1.5808	4.0000e-005	4.0000e-005	1.5943
<b>Total</b>	<b>7.4000e-004</b>	<b>4.8100e-003</b>	<b>6.7100e-003</b>	<b>4.0000e-005</b>	<b>2.5800e-003</b>	<b>4.0000e-005</b>	<b>2.6200e-003</b>	<b>7.0000e-004</b>	<b>4.0000e-005</b>	<b>7.4000e-004</b>	<b>0.0000</b>	<b>3.4853</b>	<b>3.4853</b>	<b>7.0000e-005</b>	<b>3.3000e-004</b>	<b>3.5846</b>

**3.5 Paving - 2024**

**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	8.0200e-003	0.0770	0.1109	1.7000e-004		3.6900e-003	3.6900e-003		3.4100e-003	3.4100e-003	0.0000	14.6466	14.6466	4.6000e-003	0.0000	14.7617
Paving	9.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>8.9200e-003</b>	<b>0.0770</b>	<b>0.1109</b>	<b>1.7000e-004</b>		<b>3.6900e-003</b>	<b>3.6900e-003</b>		<b>3.4100e-003</b>	<b>3.4100e-003</b>	<b>0.0000</b>	<b>14.6466</b>	<b>14.6466</b>	<b>4.6000e-003</b>	<b>0.0000</b>	<b>14.7617</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Paving - 2024**

**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	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
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	4.3000e-004	2.8000e-004	3.6400e-003	1.0000e-005	1.3800e-003	1.0000e-005	1.3900e-003	3.7000e-004	1.0000e-005	3.7000e-004	0.0000	1.0640	1.0640	3.0000e-005	3.0000e-005	1.0731
<b>Total</b>	<b>4.3000e-004</b>	<b>2.8000e-004</b>	<b>3.6400e-003</b>	<b>1.0000e-005</b>	<b>1.3800e-003</b>	<b>1.0000e-005</b>	<b>1.3900e-003</b>	<b>3.7000e-004</b>	<b>1.0000e-005</b>	<b>3.7000e-004</b>	<b>0.0000</b>	<b>1.0640</b>	<b>1.0640</b>	<b>3.0000e-005</b>	<b>3.0000e-005</b>	<b>1.0731</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	8.0200e-003	0.0770	0.1109	1.7000e-004		3.6900e-003	3.6900e-003		3.4100e-003	3.4100e-003	0.0000	14.6466	14.6466	4.6000e-003	0.0000	14.7617
Paving	9.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>8.9200e-003</b>	<b>0.0770</b>	<b>0.1109</b>	<b>1.7000e-004</b>		<b>3.6900e-003</b>	<b>3.6900e-003</b>		<b>3.4100e-003</b>	<b>3.4100e-003</b>	<b>0.0000</b>	<b>14.6466</b>	<b>14.6466</b>	<b>4.6000e-003</b>	<b>0.0000</b>	<b>14.7617</b>



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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Paving - 2024**

**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	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
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	4.3000e-004	2.8000e-004	3.6400e-003	1.0000e-005	1.3100e-003	1.0000e-005	1.3200e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.0640	1.0640	3.0000e-005	3.0000e-005	1.0731
<b>Total</b>	<b>4.3000e-004</b>	<b>2.8000e-004</b>	<b>3.6400e-003</b>	<b>1.0000e-005</b>	<b>1.3100e-003</b>	<b>1.0000e-005</b>	<b>1.3200e-003</b>	<b>3.5000e-004</b>	<b>1.0000e-005</b>	<b>3.6000e-004</b>	<b>0.0000</b>	<b>1.0640</b>	<b>1.0640</b>	<b>3.0000e-005</b>	<b>3.0000e-005</b>	<b>1.0731</b>

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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 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 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 Asphalt Surfaces	0.569946	0.056495	0.180011	0.112201	0.020944	0.005169	0.013608	0.012941	0.000792	0.000570	0.024535	0.000337	0.002451





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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other 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 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 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	2.6000e-003	0.0000	2.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.4000e-004	5.4000e-004	0.0000	0.0000	5.7000e-004
Unmitigated	2.6000e-003	0.0000	2.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.4000e-004	5.4000e-004	0.0000	0.0000	5.7000e-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	6.3000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.9500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	2.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.4000e-004	5.4000e-004	0.0000	0.0000	5.7000e-004
<b>Total</b>	<b>2.6100e-003</b>	<b>0.0000</b>	<b>2.8000e-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>5.4000e-004</b>	<b>5.4000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>5.7000e-004</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	6.3000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.9500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	2.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.4000e-004	5.4000e-004	0.0000	0.0000	5.7000e-004
<b>Total</b>	<b>2.6100e-003</b>	<b>0.0000</b>	<b>2.8000e-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>5.4000e-004</b>	<b>5.4000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>5.7000e-004</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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 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>



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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**7.2 Water by Land Use**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other 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

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**8.2 Waste by Land Use**

**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other 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 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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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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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RSEP Oakland Crossing - Alameda County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**RSEP Oakland Crossing**

**Alameda County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	30.13	1000sqft	0.69	30,130.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	63
<b>Climate Zone</b>	4			<b>Operational Year</b>	2024
<b>Utility Company</b>	Pacific Gas and Electric Company				
<b>CO2 Intensity (lb/MWhr)</b>	203.98	<b>CH4 Intensity (lb/MWhr)</b>	0.033	<b>N2O Intensity (lb/MWhr)</b>	0.004

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

- Project Characteristics -
- Land Use - Avereage improvement sf
- Construction Phase - Per construction timeline
- Off-road Equipment - Minimal equipment required for rail crossing improvements
- Off-road Equipment - Minimal equipment requird for rail crossing improvement installation
- Off-road Equipment -
- Off-road Equipment - Minimal equipment required for rail crossing improvements
- Demolition - 200 cy of pavement approximately 400 tons
- Grading -
- Construction Off-road Equipment Mitigation - Per BAAQMD rule compliance

RSEP Oakland Crossing - Alameda County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	6
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	100.00	40.00
tblConstructionPhase	NumDays	10.00	86.00
tblConstructionPhase	NumDays	2.00	100.00
tblConstructionPhase	NumDays	5.00	35.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00

**2.0 Emissions Summary**

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RSEP Oakland Crossing - Alameda County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**2.1 Overall Construction (Maximum Daily Emission)**

**Unmitigated Construction**

	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
Year	lb/day										lb/day					
2023	0.4344	3.5473	4.1751	7.9300e-003	0.1488	0.1691	0.3179	0.0282	0.1659	0.1941	0.0000	760.0598	760.0598	0.0643	5.7300e-003	763.3779
2024	0.9344	9.7438	6.5534	0.0146	5.3777	0.4004	5.7781	2.5860	0.3684	2.9544	0.0000	1,417.9165	1,417.9165	0.4429	0.0182	1,429.4402
<b>Maximum</b>	<b>0.9344</b>	<b>9.7438</b>	<b>6.5534</b>	<b>0.0146</b>	<b>5.3777</b>	<b>0.4004</b>	<b>5.7781</b>	<b>2.5860</b>	<b>0.3684</b>	<b>2.9544</b>	<b>0.0000</b>	<b>1,417.9165</b>	<b>1,417.9165</b>	<b>0.4429</b>	<b>0.0182</b>	<b>1,429.4402</b>

**Mitigated Construction**

	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
Year	lb/day										lb/day					
2023	0.4344	3.5473	4.1751	7.9300e-003	0.0893	0.1691	0.2584	0.0190	0.1659	0.1848	0.0000	760.0598	760.0598	0.0643	5.7300e-003	763.3779
2024	0.9344	9.7438	6.5534	0.0146	2.3331	0.4004	2.7336	1.1147	0.3684	1.4830	0.0000	1,417.9165	1,417.9165	0.4429	0.0182	1,429.4402
<b>Maximum</b>	<b>0.9344</b>	<b>9.7438</b>	<b>6.5534</b>	<b>0.0146</b>	<b>2.3331</b>	<b>0.4004</b>	<b>2.7336</b>	<b>1.1147</b>	<b>0.3684</b>	<b>1.4830</b>	<b>0.0000</b>	<b>1,417.9165</b>	<b>1,417.9165</b>	<b>0.4429</b>	<b>0.0182</b>	<b>1,429.4402</b>

## RSEP Oakland Crossing - Alameda County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	56.17	0.00	50.92	56.64	0.00	47.03	0.00	0.00	0.00	0.00	0.00	0.00

RSEP Oakland Crossing - Alameda County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.0144	3.0000e-005	3.0700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		6.5900e-003	6.5900e-003	2.0000e-005		7.0200e-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>0.0144</b>	<b>3.0000e-005</b>	<b>3.0700e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>6.5900e-003</b>	<b>6.5900e-003</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>7.0200e-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	0.0144	3.0000e-005	3.0700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		6.5900e-003	6.5900e-003	2.0000e-005		7.0200e-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>0.0144</b>	<b>3.0000e-005</b>	<b>3.0700e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>6.5900e-003</b>	<b>6.5900e-003</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>7.0200e-003</b>



RSEP Oakland Crossing - Alameda County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	Demolition	Demolition	9/1/2023	12/29/2023	5	86	
2	Grading	Grading	1/1/2024	5/17/2024	5	100	
3	Building Construction	Building Construction	5/20/2024	7/12/2024	5	40	
4	Paving	Paving	7/15/2024	8/30/2024	5	35	

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

**Acres of Grading (Grading Phase): 75**

**Acres of Paving: 0.69**

**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
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	0	4.00	231	0.29

RSEP Oakland Crossing - Alameda County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Building Construction	Forklifts	0	6.00	89	0.20
Building Construction	Skid Steer Loaders	1	8.00	65	0.37
Building Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	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
Demolition	2	5.00	0.00	40.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	1	13.00	5.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

RSEP Oakland Crossing - Alameda County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.2 Demolition - 2023**

**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					0.0995	0.0000	0.0995	0.0151	0.0000	0.0151			0.0000			0.0000
Off-Road	0.4193	3.4751	4.0457	7.3200e-003		0.1684	0.1684		0.1652	0.1652		696.0408	696.0408	0.0626		697.6066
<b>Total</b>	<b>0.4193</b>	<b>3.4751</b>	<b>4.0457</b>	<b>7.3200e-003</b>	<b>0.0995</b>	<b>0.1684</b>	<b>0.2679</b>	<b>0.0151</b>	<b>0.1652</b>	<b>0.1803</b>		<b>696.0408</b>	<b>696.0408</b>	<b>0.0626</b>		<b>697.6066</b>

**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	9.2000e-004	0.0623	0.0140	2.8000e-004	8.1500e-003	5.2000e-004	8.6700e-003	2.2300e-003	5.0000e-004	2.7300e-003		29.8940	29.8940	6.3000e-004	4.7200e-003	31.3172
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	0.0141	9.8300e-003	0.1154	3.3000e-004	0.0411	2.1000e-004	0.0413	0.0109	1.9000e-004	0.0111		34.1250	34.1250	1.0800e-003	1.0100e-003	34.4540
<b>Total</b>	<b>0.0151</b>	<b>0.0722</b>	<b>0.1294</b>	<b>6.1000e-004</b>	<b>0.0492</b>	<b>7.3000e-004</b>	<b>0.0500</b>	<b>0.0131</b>	<b>6.9000e-004</b>	<b>0.0138</b>		<b>64.0190</b>	<b>64.0190</b>	<b>1.7100e-003</b>	<b>5.7300e-003</b>	<b>65.7713</b>

RSEP Oakland Crossing - Alameda County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.2 Demolition - 2023**

**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					0.0426	0.0000	0.0426	6.4400e-003	0.0000	6.4400e-003			0.0000			0.0000
Off-Road	0.4193	3.4751	4.0457	7.3200e-003		0.1684	0.1684		0.1652	0.1652	0.0000	696.0408	696.0408	0.0626		697.6066
<b>Total</b>	<b>0.4193</b>	<b>3.4751</b>	<b>4.0457</b>	<b>7.3200e-003</b>	<b>0.0426</b>	<b>0.1684</b>	<b>0.2109</b>	<b>6.4400e-003</b>	<b>0.1652</b>	<b>0.1716</b>	<b>0.0000</b>	<b>696.0408</b>	<b>696.0408</b>	<b>0.0626</b>		<b>697.6066</b>

**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	9.2000e-004	0.0623	0.0140	2.8000e-004	7.7800e-003	5.2000e-004	8.3000e-003	2.1400e-003	5.0000e-004	2.6400e-003		29.8940	29.8940	6.3000e-004	4.7200e-003	31.3172
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	0.0141	9.8300e-003	0.1154	3.3000e-004	0.0389	2.1000e-004	0.0391	0.0104	1.9000e-004	0.0106		34.1250	34.1250	1.0800e-003	1.0100e-003	34.4540
<b>Total</b>	<b>0.0151</b>	<b>0.0722</b>	<b>0.1294</b>	<b>6.1000e-004</b>	<b>0.0467</b>	<b>7.3000e-004</b>	<b>0.0474</b>	<b>0.0125</b>	<b>6.9000e-004</b>	<b>0.0132</b>		<b>64.0190</b>	<b>64.0190</b>	<b>1.7100e-003</b>	<b>5.7300e-003</b>	<b>65.7713</b>

RSEP Oakland Crossing - Alameda County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.3 Grading - 2024**

**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					5.3119	0.0000	5.3119	2.5686	0.0000	2.5686			0.0000			0.0000
Off-Road	0.9132	9.7297	5.5468	0.0141		0.4001	0.4001		0.3681	0.3681		1,364.662 3	1,364.662 3	0.4414		1,375.696 2
<b>Total</b>	<b>0.9132</b>	<b>9.7297</b>	<b>5.5468</b>	<b>0.0141</b>	<b>5.3119</b>	<b>0.4001</b>	<b>5.7120</b>	<b>2.5686</b>	<b>0.3681</b>	<b>2.9367</b>		<b>1,364.662 3</b>	<b>1,364.662 3</b>	<b>0.4414</b>		<b>1,375.696 2</b>

**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	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
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	0.0212	0.0140	0.1727	5.2000e-004	0.0657	3.1000e-004	0.0660	0.0174	2.9000e-004	0.0177		53.2543	53.2543	1.5600e-003	1.5100e-003	53.7440
<b>Total</b>	<b>0.0212</b>	<b>0.0140</b>	<b>0.1727</b>	<b>5.2000e-004</b>	<b>0.0657</b>	<b>3.1000e-004</b>	<b>0.0660</b>	<b>0.0174</b>	<b>2.9000e-004</b>	<b>0.0177</b>		<b>53.2543</b>	<b>53.2543</b>	<b>1.5600e-003</b>	<b>1.5100e-003</b>	<b>53.7440</b>

RSEP Oakland Crossing - Alameda County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.3 Grading - 2024**

**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					2.2709	0.0000	2.2709	1.0981	0.0000	1.0981			0.0000			0.0000
Off-Road	0.9132	9.7297	5.5468	0.0141		0.4001	0.4001		0.3681	0.3681	0.0000	1,364.662 3	1,364.662 3	0.4414		1,375.696 2
<b>Total</b>	<b>0.9132</b>	<b>9.7297</b>	<b>5.5468</b>	<b>0.0141</b>	<b>2.2709</b>	<b>0.4001</b>	<b>2.6710</b>	<b>1.0981</b>	<b>0.3681</b>	<b>1.4662</b>	<b>0.0000</b>	<b>1,364.662 3</b>	<b>1,364.662 3</b>	<b>0.4414</b>		<b>1,375.696 2</b>

**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	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
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	0.0212	0.0140	0.1727	5.2000e-004	0.0623	3.1000e-004	0.0626	0.0166	2.9000e-004	0.0169		53.2543	53.2543	1.5600e-003	1.5100e-003	53.7440
<b>Total</b>	<b>0.0212</b>	<b>0.0140</b>	<b>0.1727</b>	<b>5.2000e-004</b>	<b>0.0623</b>	<b>3.1000e-004</b>	<b>0.0626</b>	<b>0.0166</b>	<b>2.9000e-004</b>	<b>0.0169</b>		<b>53.2543</b>	<b>53.2543</b>	<b>1.5600e-003</b>	<b>1.5100e-003</b>	<b>53.7440</b>

RSEP Oakland Crossing - Alameda County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.4 Building Construction - 2024**

**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	0.0623	0.8265	1.3845	2.0700e-003		0.0266	0.0266		0.0244	0.0244		200.5672	200.5672	0.0649		202.1889
<b>Total</b>	<b>0.0623</b>	<b>0.8265</b>	<b>1.3845</b>	<b>2.0700e-003</b>		<b>0.0266</b>	<b>0.0266</b>		<b>0.0244</b>	<b>0.0244</b>		<b>200.5672</b>	<b>200.5672</b>	<b>0.0649</b>		<b>202.1889</b>

**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	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
Vendor	4.8100e-003	0.2243	0.0660	9.8000e-004	0.0339	1.3300e-003	0.0352	9.7600e-003	1.2800e-003	0.0110		105.0758	105.0758	1.4400e-003	0.0158	109.8049
Worker	0.0344	0.0228	0.2806	8.4000e-004	0.1068	5.1000e-004	0.1073	0.0283	4.7000e-004	0.0288		86.5382	86.5382	2.5400e-003	2.4600e-003	87.3339
<b>Total</b>	<b>0.0392</b>	<b>0.2471</b>	<b>0.3466</b>	<b>1.8200e-003</b>	<b>0.1407</b>	<b>1.8400e-003</b>	<b>0.1425</b>	<b>0.0381</b>	<b>1.7500e-003</b>	<b>0.0398</b>		<b>191.6139</b>	<b>191.6139</b>	<b>3.9800e-003</b>	<b>0.0182</b>	<b>197.1388</b>

RSEP Oakland Crossing - Alameda County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.4 Building Construction - 2024**

**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	0.0623	0.8265	1.3845	2.0700e-003		0.0266	0.0266		0.0244	0.0244	0.0000	200.5672	200.5672	0.0649		202.1889
<b>Total</b>	<b>0.0623</b>	<b>0.8265</b>	<b>1.3845</b>	<b>2.0700e-003</b>		<b>0.0266</b>	<b>0.0266</b>		<b>0.0244</b>	<b>0.0244</b>	<b>0.0000</b>	<b>200.5672</b>	<b>200.5672</b>	<b>0.0649</b>		<b>202.1889</b>

**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	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
Vendor	4.8100e-003	0.2243	0.0660	9.8000e-004	0.0324	1.3300e-003	0.0338	9.4000e-003	1.2800e-003	0.0107		105.0758	105.0758	1.4400e-003	0.0158	109.8049
Worker	0.0344	0.0228	0.2806	8.4000e-004	0.1012	5.1000e-004	0.1017	0.0270	4.7000e-004	0.0274		86.5382	86.5382	2.5400e-003	2.4600e-003	87.3339
<b>Total</b>	<b>0.0392</b>	<b>0.2471</b>	<b>0.3466</b>	<b>1.8200e-003</b>	<b>0.1337</b>	<b>1.8400e-003</b>	<b>0.1355</b>	<b>0.0364</b>	<b>1.7500e-003</b>	<b>0.0381</b>		<b>191.6139</b>	<b>191.6139</b>	<b>3.9800e-003</b>	<b>0.0182</b>	<b>197.1388</b>



RSEP Oakland Crossing - Alameda County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Paving - 2024**

**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	0.4582	4.4013	6.3376	9.6700e-003		0.2107	0.2107		0.1947	0.1947		922.5775	922.5775	0.2901		929.8291
Paving	0.0517					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.5098</b>	<b>4.4013</b>	<b>6.3376</b>	<b>9.6700e-003</b>		<b>0.2107</b>	<b>0.2107</b>		<b>0.1947</b>	<b>0.1947</b>		<b>922.5775</b>	<b>922.5775</b>	<b>0.2901</b>		<b>929.8291</b>

**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	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
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	0.0265	0.0176	0.2158	6.5000e-004	0.0822	3.9000e-004	0.0825	0.0218	3.6000e-004	0.0222		66.5678	66.5678	1.9600e-003	1.8900e-003	67.1799
<b>Total</b>	<b>0.0265</b>	<b>0.0176</b>	<b>0.2158</b>	<b>6.5000e-004</b>	<b>0.0822</b>	<b>3.9000e-004</b>	<b>0.0825</b>	<b>0.0218</b>	<b>3.6000e-004</b>	<b>0.0222</b>		<b>66.5678</b>	<b>66.5678</b>	<b>1.9600e-003</b>	<b>1.8900e-003</b>	<b>67.1799</b>

RSEP Oakland Crossing - Alameda County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Paving - 2024**

**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	0.4582	4.4013	6.3376	9.6700e-003		0.2107	0.2107		0.1947	0.1947	0.0000	922.5775	922.5775	0.2901		929.8291
Paving	0.0517					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.5098</b>	<b>4.4013</b>	<b>6.3376</b>	<b>9.6700e-003</b>		<b>0.2107</b>	<b>0.2107</b>		<b>0.1947</b>	<b>0.1947</b>	<b>0.0000</b>	<b>922.5775</b>	<b>922.5775</b>	<b>0.2901</b>		<b>929.8291</b>

**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	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
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	0.0265	0.0176	0.2158	6.5000e-004	0.0779	3.9000e-004	0.0783	0.0207	3.6000e-004	0.0211		66.5678	66.5678	1.9600e-003	1.8900e-003	67.1799
<b>Total</b>	<b>0.0265</b>	<b>0.0176</b>	<b>0.2158</b>	<b>6.5000e-004</b>	<b>0.0779</b>	<b>3.9000e-004</b>	<b>0.0783</b>	<b>0.0207</b>	<b>3.6000e-004</b>	<b>0.0211</b>		<b>66.5678</b>	<b>66.5678</b>	<b>1.9600e-003</b>	<b>1.8900e-003</b>	<b>67.1799</b>

RSEP Oakland Crossing - Alameda County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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 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 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 Asphalt Surfaces	0.569946	0.056495	0.180011	0.112201	0.020944	0.005169	0.013608	0.012941	0.000792	0.000570	0.024535	0.000337	0.002451

RSEP Oakland Crossing - Alameda County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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 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>

RSEP Oakland Crossing - Alameda County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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 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	0.0144	3.0000e-005	3.0700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		6.5900e-003	6.5900e-003	2.0000e-005		7.0200e-003
Unmitigated	0.0144	3.0000e-005	3.0700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		6.5900e-003	6.5900e-003	2.0000e-005		7.0200e-003

RSEP Oakland Crossing - Alameda County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	3.4400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0107					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.8000e-004	3.0000e-005	3.0700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		6.5900e-003	6.5900e-003	2.0000e-005		7.0200e-003
<b>Total</b>	<b>0.0144</b>	<b>3.0000e-005</b>	<b>3.0700e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>6.5900e-003</b>	<b>6.5900e-003</b>	<b>2.0000e-005</b>		<b>7.0200e-003</b>

RSEP Oakland Crossing - Alameda County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	3.4400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0107					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.8000e-004	3.0000e-005	3.0700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		6.5900e-003	6.5900e-003	2.0000e-005		7.0200e-003
<b>Total</b>	<b>0.0144</b>	<b>3.0000e-005</b>	<b>3.0700e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>6.5900e-003</b>	<b>6.5900e-003</b>	<b>2.0000e-005</b>		<b>7.0200e-003</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

RSEP Oakland Crossing - Alameda County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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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RSEP Oakland Crossing - Alameda County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**RSEP Oakland Crossing  
Alameda County, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	30.13	1000sqft	0.69	30,130.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	63
<b>Climate Zone</b>	4			<b>Operational Year</b>	2024
<b>Utility Company</b>	Pacific Gas and Electric Company				
<b>CO2 Intensity (lb/MWhr)</b>	203.98	<b>CH4 Intensity (lb/MWhr)</b>	0.033	<b>N2O Intensity (lb/MWhr)</b>	0.004

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

- Project Characteristics -
- Land Use - Average improvement sf
- Construction Phase - Per construction timeline
- Off-road Equipment - Minimal equipment required for rail crossing improvements
- Off-road Equipment - Minimal equipment required for rail crossing improvement installation
- Off-road Equipment -
- Off-road Equipment - Minimal equipment required for rail crossing improvements
- Demolition - 200 cy of pavement approximately 400 tons
- Grading -
- Construction Off-road Equipment Mitigation - Per BAAQMD rule compliance

RSEP Oakland Crossing - Alameda County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	6
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	100.00	40.00
tblConstructionPhase	NumDays	10.00	86.00
tblConstructionPhase	NumDays	2.00	100.00
tblConstructionPhase	NumDays	5.00	35.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00

**2.0 Emissions Summary**

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RSEP Oakland Crossing - Alameda County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**2.1 Overall Construction (Maximum Daily Emission)**

**Unmitigated Construction**

	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
Year	lb/day										lb/day					
2023	0.4342	3.5419	4.1796	7.9600e-003	0.1488	0.1691	0.3179	0.0282	0.1659	0.1941	0.0000	762.6630	762.6630	0.0642	5.6000e-003	765.9354
2024	0.9339	9.7411	6.5614	0.0147	5.3777	0.4004	5.7781	2.5860	0.3684	2.9544	0.0000	1,422.0207	1,422.0207	0.4427	0.0178	1,433.4787
<b>Maximum</b>	<b>0.9339</b>	<b>9.7411</b>	<b>6.5614</b>	<b>0.0147</b>	<b>5.3777</b>	<b>0.4004</b>	<b>5.7781</b>	<b>2.5860</b>	<b>0.3684</b>	<b>2.9544</b>	<b>0.0000</b>	<b>1,422.0207</b>	<b>1,422.0207</b>	<b>0.4427</b>	<b>0.0178</b>	<b>1,433.4787</b>

**Mitigated Construction**

	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
Year	lb/day										lb/day					
2023	0.4342	3.5419	4.1796	7.9600e-003	0.0893	0.1691	0.2584	0.0190	0.1659	0.1848	0.0000	762.6630	762.6630	0.0642	5.6000e-003	765.9354
2024	0.9339	9.7411	6.5614	0.0147	2.3331	0.4004	2.7336	1.1147	0.3684	1.4830	0.0000	1,422.0207	1,422.0207	0.4427	0.0178	1,433.4787
<b>Maximum</b>	<b>0.9339</b>	<b>9.7411</b>	<b>6.5614</b>	<b>0.0147</b>	<b>2.3331</b>	<b>0.4004</b>	<b>2.7336</b>	<b>1.1147</b>	<b>0.3684</b>	<b>1.4830</b>	<b>0.0000</b>	<b>1,422.0207</b>	<b>1,422.0207</b>	<b>0.4427</b>	<b>0.0178</b>	<b>1,433.4787</b>

## RSEP Oakland Crossing - Alameda County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	56.17	0.00	50.92	56.64	0.00	47.03	0.00	0.00	0.00	0.00	0.00	0.00

RSEP Oakland Crossing - Alameda County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.0144	3.0000e-005	3.0700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		6.5900e-003	6.5900e-003	2.0000e-005		7.0200e-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>0.0144</b>	<b>3.0000e-005</b>	<b>3.0700e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>6.5900e-003</b>	<b>6.5900e-003</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>7.0200e-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	0.0144	3.0000e-005	3.0700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		6.5900e-003	6.5900e-003	2.0000e-005		7.0200e-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>0.0144</b>	<b>3.0000e-005</b>	<b>3.0700e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>6.5900e-003</b>	<b>6.5900e-003</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>7.0200e-003</b>

RSEP Oakland Crossing - Alameda County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	Demolition	Demolition	9/1/2023	12/29/2023	5	86	
2	Grading	Grading	1/1/2024	5/17/2024	5	100	
3	Building Construction	Building Construction	5/20/2024	7/12/2024	5	40	
4	Paving	Paving	7/15/2024	8/30/2024	5	35	

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

**Acres of Grading (Grading Phase): 75**

**Acres of Paving: 0.69**

**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
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	0	4.00	231	0.29

RSEP Oakland Crossing - Alameda County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Building Construction	Forklifts	0	6.00	89	0.20
Building Construction	Skid Steer Loaders	1	8.00	65	0.37
Building Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	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
Demolition	2	5.00	0.00	40.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	1	13.00	5.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

RSEP Oakland Crossing - Alameda County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.2 Demolition - 2023**

**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					0.0995	0.0000	0.0995	0.0151	0.0000	0.0151			0.0000			0.0000
Off-Road	0.4193	3.4751	4.0457	7.3200e-003		0.1684	0.1684		0.1652	0.1652		696.0408	696.0408	0.0626		697.6066
<b>Total</b>	<b>0.4193</b>	<b>3.4751</b>	<b>4.0457</b>	<b>7.3200e-003</b>	<b>0.0995</b>	<b>0.1684</b>	<b>0.2679</b>	<b>0.0151</b>	<b>0.1652</b>	<b>0.1803</b>		<b>696.0408</b>	<b>696.0408</b>	<b>0.0626</b>		<b>697.6066</b>

**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	9.9000e-004	0.0589	0.0138	2.8000e-004	8.1500e-003	5.2000e-004	8.6700e-003	2.2300e-003	5.0000e-004	2.7300e-003		29.8612	29.8612	6.3000e-004	4.7200e-003	31.2829
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	0.0139	7.9100e-003	0.1201	3.6000e-004	0.0411	2.1000e-004	0.0413	0.0109	1.9000e-004	0.0111		36.7611	36.7611	9.4000e-004	8.8000e-004	37.0459
<b>Total</b>	<b>0.0149</b>	<b>0.0668</b>	<b>0.1339</b>	<b>6.4000e-004</b>	<b>0.0492</b>	<b>7.3000e-004</b>	<b>0.0500</b>	<b>0.0131</b>	<b>6.9000e-004</b>	<b>0.0138</b>		<b>66.6223</b>	<b>66.6223</b>	<b>1.5700e-003</b>	<b>5.6000e-003</b>	<b>68.3288</b>



RSEP Oakland Crossing - Alameda County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.2 Demolition - 2023**

**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					0.0426	0.0000	0.0426	6.4400e-003	0.0000	6.4400e-003			0.0000			0.0000
Off-Road	0.4193	3.4751	4.0457	7.3200e-003		0.1684	0.1684		0.1652	0.1652	0.0000	696.0408	696.0408	0.0626		697.6066
<b>Total</b>	<b>0.4193</b>	<b>3.4751</b>	<b>4.0457</b>	<b>7.3200e-003</b>	<b>0.0426</b>	<b>0.1684</b>	<b>0.2109</b>	<b>6.4400e-003</b>	<b>0.1652</b>	<b>0.1716</b>	<b>0.0000</b>	<b>696.0408</b>	<b>696.0408</b>	<b>0.0626</b>		<b>697.6066</b>

**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	9.9000e-004	0.0589	0.0138	2.8000e-004	7.7800e-003	5.2000e-004	8.3000e-003	2.1400e-003	5.0000e-004	2.6400e-003		29.8612	29.8612	6.3000e-004	4.7200e-003	31.2829
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	0.0139	7.9100e-003	0.1201	3.6000e-004	0.0389	2.1000e-004	0.0391	0.0104	1.9000e-004	0.0106		36.7611	36.7611	9.4000e-004	8.8000e-004	37.0459
<b>Total</b>	<b>0.0149</b>	<b>0.0668</b>	<b>0.1339</b>	<b>6.4000e-004</b>	<b>0.0467</b>	<b>7.3000e-004</b>	<b>0.0474</b>	<b>0.0125</b>	<b>6.9000e-004</b>	<b>0.0132</b>		<b>66.6223</b>	<b>66.6223</b>	<b>1.5700e-003</b>	<b>5.6000e-003</b>	<b>68.3288</b>

RSEP Oakland Crossing - Alameda County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.3 Grading - 2024**

**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					5.3119	0.0000	5.3119	2.5686	0.0000	2.5686			0.0000			0.0000
Off-Road	0.9132	9.7297	5.5468	0.0141		0.4001	0.4001		0.3681	0.3681		1,364.662 3	1,364.662 3	0.4414		1,375.696 2
<b>Total</b>	<b>0.9132</b>	<b>9.7297</b>	<b>5.5468</b>	<b>0.0141</b>	<b>5.3119</b>	<b>0.4001</b>	<b>5.7120</b>	<b>2.5686</b>	<b>0.3681</b>	<b>2.9367</b>		<b>1,364.662 3</b>	<b>1,364.662 3</b>	<b>0.4414</b>		<b>1,375.696 2</b>

**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	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
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	0.0208	0.0113	0.1791	5.6000e-004	0.0657	3.1000e-004	0.0660	0.0174	2.9000e-004	0.0177		57.3585	57.3585	1.3700e-003	1.3100e-003	57.7824
<b>Total</b>	<b>0.0208</b>	<b>0.0113</b>	<b>0.1791</b>	<b>5.6000e-004</b>	<b>0.0657</b>	<b>3.1000e-004</b>	<b>0.0660</b>	<b>0.0174</b>	<b>2.9000e-004</b>	<b>0.0177</b>		<b>57.3585</b>	<b>57.3585</b>	<b>1.3700e-003</b>	<b>1.3100e-003</b>	<b>57.7824</b>

RSEP Oakland Crossing - Alameda County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.3 Grading - 2024**

**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					2.2709	0.0000	2.2709	1.0981	0.0000	1.0981			0.0000			0.0000
Off-Road	0.9132	9.7297	5.5468	0.0141		0.4001	0.4001		0.3681	0.3681	0.0000	1,364.662 3	1,364.662 3	0.4414		1,375.696 2
<b>Total</b>	<b>0.9132</b>	<b>9.7297</b>	<b>5.5468</b>	<b>0.0141</b>	<b>2.2709</b>	<b>0.4001</b>	<b>2.6710</b>	<b>1.0981</b>	<b>0.3681</b>	<b>1.4662</b>	<b>0.0000</b>	<b>1,364.662 3</b>	<b>1,364.662 3</b>	<b>0.4414</b>		<b>1,375.696 2</b>

**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	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
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	0.0208	0.0113	0.1791	5.6000e-004	0.0623	3.1000e-004	0.0626	0.0166	2.9000e-004	0.0169		57.3585	57.3585	1.3700e-003	1.3100e-003	57.7824
<b>Total</b>	<b>0.0208</b>	<b>0.0113</b>	<b>0.1791</b>	<b>5.6000e-004</b>	<b>0.0623</b>	<b>3.1000e-004</b>	<b>0.0626</b>	<b>0.0166</b>	<b>2.9000e-004</b>	<b>0.0169</b>		<b>57.3585</b>	<b>57.3585</b>	<b>1.3700e-003</b>	<b>1.3100e-003</b>	<b>57.7824</b>

RSEP Oakland Crossing - Alameda County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.4 Building Construction - 2024**

**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	0.0623	0.8265	1.3845	2.0700e-003		0.0266	0.0266		0.0244	0.0244		200.5672	200.5672	0.0649		202.1889
<b>Total</b>	<b>0.0623</b>	<b>0.8265</b>	<b>1.3845</b>	<b>2.0700e-003</b>		<b>0.0266</b>	<b>0.0266</b>		<b>0.0244</b>	<b>0.0244</b>		<b>200.5672</b>	<b>200.5672</b>	<b>0.0649</b>		<b>202.1889</b>

**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	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
Vendor	5.0600e-003	0.2117	0.0639	9.8000e-004	0.0339	1.3300e-003	0.0352	9.7600e-003	1.2700e-003	0.0110		104.8974	104.8974	1.4600e-003	0.0157	109.6151
Worker	0.0337	0.0184	0.2910	9.0000e-004	0.1068	5.1000e-004	0.1073	0.0283	4.7000e-004	0.0288		93.2075	93.2075	2.2200e-003	2.1300e-003	93.8964
<b>Total</b>	<b>0.0388</b>	<b>0.2300</b>	<b>0.3549</b>	<b>1.8800e-003</b>	<b>0.1407</b>	<b>1.8400e-003</b>	<b>0.1425</b>	<b>0.0381</b>	<b>1.7400e-003</b>	<b>0.0398</b>		<b>198.1049</b>	<b>198.1049</b>	<b>3.6800e-003</b>	<b>0.0178</b>	<b>203.5115</b>

RSEP Oakland Crossing - Alameda County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.4 Building Construction - 2024**

**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	0.0623	0.8265	1.3845	2.0700e-003		0.0266	0.0266		0.0244	0.0244	0.0000	200.5672	200.5672	0.0649		202.1889
<b>Total</b>	<b>0.0623</b>	<b>0.8265</b>	<b>1.3845</b>	<b>2.0700e-003</b>		<b>0.0266</b>	<b>0.0266</b>		<b>0.0244</b>	<b>0.0244</b>	<b>0.0000</b>	<b>200.5672</b>	<b>200.5672</b>	<b>0.0649</b>		<b>202.1889</b>

**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	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
Vendor	5.0600e-003	0.2117	0.0639	9.8000e-004	0.0324	1.3300e-003	0.0338	9.4000e-003	1.2700e-003	0.0107		104.8974	104.8974	1.4600e-003	0.0157	109.6151
Worker	0.0337	0.0184	0.2910	9.0000e-004	0.1012	5.1000e-004	0.1017	0.0270	4.7000e-004	0.0274		93.2075	93.2075	2.2200e-003	2.1300e-003	93.8964
<b>Total</b>	<b>0.0388</b>	<b>0.2300</b>	<b>0.3549</b>	<b>1.8800e-003</b>	<b>0.1337</b>	<b>1.8400e-003</b>	<b>0.1355</b>	<b>0.0364</b>	<b>1.7400e-003</b>	<b>0.0381</b>		<b>198.1049</b>	<b>198.1049</b>	<b>3.6800e-003</b>	<b>0.0178</b>	<b>203.5115</b>

RSEP Oakland Crossing - Alameda County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Paving - 2024**

**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	0.4582	4.4013	6.3376	9.6700e-003		0.2107	0.2107		0.1947	0.1947		922.5775	922.5775	0.2901		929.8291
Paving	0.0517					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.5098</b>	<b>4.4013</b>	<b>6.3376</b>	<b>9.6700e-003</b>		<b>0.2107</b>	<b>0.2107</b>		<b>0.1947</b>	<b>0.1947</b>		<b>922.5775</b>	<b>922.5775</b>	<b>0.2901</b>		<b>929.8291</b>

**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	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
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	0.0260	0.0141	0.2238	7.0000e-004	0.0822	3.9000e-004	0.0825	0.0218	3.6000e-004	0.0222		71.6981	71.6981	1.7100e-003	1.6400e-003	72.2280
<b>Total</b>	<b>0.0260</b>	<b>0.0141</b>	<b>0.2238</b>	<b>7.0000e-004</b>	<b>0.0822</b>	<b>3.9000e-004</b>	<b>0.0825</b>	<b>0.0218</b>	<b>3.6000e-004</b>	<b>0.0222</b>		<b>71.6981</b>	<b>71.6981</b>	<b>1.7100e-003</b>	<b>1.6400e-003</b>	<b>72.2280</b>

RSEP Oakland Crossing - Alameda County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Paving - 2024**

**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	0.4582	4.4013	6.3376	9.6700e-003		0.2107	0.2107		0.1947	0.1947	0.0000	922.5775	922.5775	0.2901		929.8291
Paving	0.0517					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.5098</b>	<b>4.4013</b>	<b>6.3376</b>	<b>9.6700e-003</b>		<b>0.2107</b>	<b>0.2107</b>		<b>0.1947</b>	<b>0.1947</b>	<b>0.0000</b>	<b>922.5775</b>	<b>922.5775</b>	<b>0.2901</b>		<b>929.8291</b>

**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	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
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	0.0260	0.0141	0.2238	7.0000e-004	0.0779	3.9000e-004	0.0783	0.0207	3.6000e-004	0.0211		71.6981	71.6981	1.7100e-003	1.6400e-003	72.2280
<b>Total</b>	<b>0.0260</b>	<b>0.0141</b>	<b>0.2238</b>	<b>7.0000e-004</b>	<b>0.0779</b>	<b>3.9000e-004</b>	<b>0.0783</b>	<b>0.0207</b>	<b>3.6000e-004</b>	<b>0.0211</b>		<b>71.6981</b>	<b>71.6981</b>	<b>1.7100e-003</b>	<b>1.6400e-003</b>	<b>72.2280</b>

RSEP Oakland Crossing - Alameda County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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 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 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 Asphalt Surfaces	0.569946	0.056495	0.180011	0.112201	0.020944	0.005169	0.013608	0.012941	0.000792	0.000570	0.024535	0.000337	0.002451



RSEP Oakland Crossing - Alameda County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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 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>

RSEP Oakland Crossing - Alameda County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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 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	0.0144	3.0000e-005	3.0700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		6.5900e-003	6.5900e-003	2.0000e-005		7.0200e-003
Unmitigated	0.0144	3.0000e-005	3.0700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		6.5900e-003	6.5900e-003	2.0000e-005		7.0200e-003

RSEP Oakland Crossing - Alameda County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	3.4400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0107					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.8000e-004	3.0000e-005	3.0700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		6.5900e-003	6.5900e-003	2.0000e-005		7.0200e-003
<b>Total</b>	<b>0.0144</b>	<b>3.0000e-005</b>	<b>3.0700e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>6.5900e-003</b>	<b>6.5900e-003</b>	<b>2.0000e-005</b>		<b>7.0200e-003</b>

RSEP Oakland Crossing - Alameda County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	3.4400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0107					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.8000e-004	3.0000e-005	3.0700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		6.5900e-003	6.5900e-003	2.0000e-005		7.0200e-003
<b>Total</b>	<b>0.0144</b>	<b>3.0000e-005</b>	<b>3.0700e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>6.5900e-003</b>	<b>6.5900e-003</b>	<b>2.0000e-005</b>		<b>7.0200e-003</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

RSEP Oakland Crossing - Alameda County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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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