

# **APPENDIX C**

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## **AIR QUALITY SUPPORTING INFORMATION**

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# Supporting Air Quality Assumptions and Calculations

## ***Air Emission Calculation Methodology***

Project construction and operation were analyzed. Construction emissions were estimated for off-road equipment, on-road trucks for material delivery and equipment hauling, and worker commute trips. Operational emissions were estimated for area sources, energy sources, stationary sources, onroad vehicles, offroad equipment, solid waste disposal, and water/wastewater conveyance.

Regulatory models used to estimate air quality impacts included:

California Emissions Estimator Model<sup>1</sup> (CalEEMod) Version 2020.4.0 is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with both construction and operations from a variety of land use projects. The model quantifies direct emissions from construction and operation activities (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use.

The CalEEMod emissions inventory includes an estimation of criteria pollutant emissions such as carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), volatile organic compounds (VOC) as reactive organic gases (ROG), particulate matter less than 10 micrometers (coarse or PM<sub>10</sub>), and particulate matter less than 2.5 micrometers (fine or PM<sub>2.5</sub>), as well as GHG emissions.

## **Construction Emissions Assumptions**

### **Phase I**

Phase I development would occur over 6.8 acres of the Project site. Phase I would include construction of the funeral home and entry plaza, the single-story “Pavilion” building, the access road, the parking lot, and landscaping east of Arroyo Las Positas. Phase I grading of the Project site would be balanced and would not require soil import or export. Construction would require approximately 30 working days of site preparation, 90 working days of grading, 30 working days of utilities/trenching, 270 working days of building construction, 30 working days of paving, and 30 working days of architectural coating). While Phase I construction is expected to occur over five years, this air quality analysis assumes construction would commence in

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<sup>1</sup>California Air Pollution Control Officers Association (CAPCOA). 2021. *California Emissions Estimator Model User's Guide Version 2020.4.0*. May 2021. <http://www.caleemod.com/>

January 2023 and be complete by September 2024 (approximately 21 months). **Table 1** provides the estimated construction schedule for Phase I:

**TABLE 1 -- ESTIMATED PHASE I CONSTRUCTION SCHEDULE**

Phase	Description	Start	End	Working Days
1	Site Preparation	01/02/2023	02/10/2023	30
2	Grading	02/11/2023	06/16/2023	90
3	Trenching/Utilities	05/07/2023	06/16/2023	30
4	Building Construction	06/17/2023	06/28/2024	270
5	Paving	06/29/2024	08/09/2024	30
6	Architectural Coating	08/10/2024	09/20/2024	30

SOURCE: CalEEMod Version 2020.4.0

## Phase II

Phase II development would occur over 40.3 acres of the Project site. Phase II construction would include construction of the burial lots, new wetland features, lakes and landscaping west of Arroyo Las Positas. Phase II grading of the Project site would be balanced and would not require soil import or export. Construction would require approximately 60 working days of site preparation, 180 working days of grading, 60 working days of utilities/trenching, 270 working days of building construction, 60 working days of paving, and 60 working days of architectural coating). While Phase II construction is expected to occur over approximately 100 years, this air quality analysis assumes construction would commence in January 2027 and be complete by June 2029 (approximately 29 months). **Table 2** provides the estimated construction schedule for Phase II:

**TABLE 2 -- ESTIMATED PHASE II CONSTRUCTION SCHEDULE**

Phase	Description	Start	End	Working Days
1	Site Preparation	01/04/2027	03/26/2027	60
2	Grading	03/27/2027	12/03/2027	180
3	Trenching/Utilities	09/11/2027	12/03/2027	60
4	Building Construction	12/04/2027	12/15/2028	270
5	Paving	12/16/2027	03/09/2029	60
6	Architectural Coating	03/10/2029	06/01/2029	60

SOURCE: CalEEMod Version 2020.4.0

Project construction would not require on-road haul trucks for soil import/export since the Project site would be balanced. Phase I construction was estimated to consume a total of approximately 43,000 gallons of diesel fuel and 9,400 gallons of gasoline. Phase II construction was estimated to consume a total of approximately 151,000 gallons of diesel and approximately 50,000 gallons of gasoline. Construction equipment assumed by phase is provided in **Table 3** for Phase I construction and in **Table 4** for Phase II construction.

**TABLE 3 -- ESTIMATED PHASE I CONSTRUCTION EQUIPMENT USAGE**

Phase	Equipment	Amount	Daily Hours	HP	Load Factor
Site Preparation	Graders	1	8	187	0.41
Site Preparation	Scrapers	1	8	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7	97	0.37
Grading	Graders	1	8	187	0.41
Grading	Rubber Tired Dozers	1	8	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7	97	0.37
Utilities	Trenchers	1	8	78	0.50
Utilities	Tractors/Loaders/Backhoes	1	7	97	0.37
Utilities	Excavators	1	8	158	0.38
Building Construction	Cranes	1	8	231	0.29
Building Construction	Forklifts	2	7	89	0.20
Building Construction	Generator Sets	1	8	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6	97	0.37
Building Construction	Welders	3	8	46	0.45
Paving	Cement and Mortar Mixers	1	8	9	0.56
Paving	Pavers	1	8	130	0.42
Paving	Paving Equipment	1	8	132	0.36
Paving	Rollers	2	8	80	0.38
Paving	Tractors/Loaders/Backhoes	1	6	97	0.37
Architectural Coating	Air Compressors	1	6	78	0.48

SOURCE: CalEEMod Version 2020.4.0

**TABLE 4 -- ESTIMATED PHASE II CONSTRUCTION EQUIPMENT USAGE**

Phase	Equipment	Amount	Daily Hours	HP	Load Factor
Site Preparation	Rubber Tired Dozers	3	8	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8	97	0.37
Grading	Excavators	2	8	158	0.38
Grading	Graders	1	8	187	0.41
Grading	Rubber Tired Dozers	1	8	247	0.40
Grading	Scrapers	2	8	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8	97	0.37
Utilities	Trenchers	1	8	78	0.50
Utilities	Tractors/Loaders/Backhoes	1	7	97	0.37
Utilities	Excavators	1	8	158	0.38
Building Construction	Cranes	1	7	231	0.29
Building Construction	Forklifts	3	8	89	0.20
Building Construction	Generator Sets	1	8	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7	97	0.37
Building Construction	Welders	1	8	46	0.45
Paving	Pavers	2	8	130	0.42

Paving	Paving Equipment	2	8	132	0.36
Paving	Rollers	2	8	80	0.38
Architectural Coating	Air Compressors	1	6	78	0.48

SOURCE: CalEEMod Version 2020.4.0

## Operational Emissions Assumptions

Project operational emissions were conservatively analyzed for full buildout of the Project for operational year 2025. Project operations would generate emissions of criteria pollutants and/or GHG emissions from motor vehicles, onsite equipment (biodiesel fueled tractors), landscaping equipment, area sources (e.g., solvents and cleaners), energy use, solid waste disposal, and water/wastewater conveyance. Operational emissions would also be generated through use of the natural gas fired incinerator for the crematorium and the natural gas fired emergency generator (201 horsepower). It was assumed that 1,000 bodies per year would be incinerated through the crematorium operations and that the emergency generator would be limited to 50 hours per year for testing per BAAQMD Rules and Regulations. PM2.5 emissions from the crematorium were estimated using San Diego Air Pollution Control District emission factors for cremation.<sup>2</sup> The Project would generate approximately 100 one-way daily trips.<sup>3</sup>

The Project would require two biodiesel tractors for burials, which were estimated to be used approximately two hours on a given day. Landscaping equipment for the Project would be all electric. The Project would also include 30 electric vehicle (EV) charging stalls and a 3 megawatt (MW) photovoltaic (PV) solar system. Without accounting for electricity savings from solar, the Project is estimated to consume approximately 162,000 kWh of electricity and 523,600,000 British thermal unit (BTU) of natural gas per year. The Project is also estimated to consume approximately 6,300 gallons of gasoline per year from motor vehicles.

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<sup>2</sup> Environmental Permitting Specialists. 2021. *Health Risk Assessment, Monte Vista Memorial Gardens, Livermore, CA.* July 29, 2021.

<sup>3</sup> PHA Transportation Consultants. 2021. *Focused Traffic Study.* May 20, 2021.

## **Attachments**

### ***CalEEMod Emissions Outputs***

- Phase I Annual (36 pages)
- Phase I Summer Daily (29 pages)
- Phase I Winter Daily (29 pages)
- Phase II Annual (38 pages)
- Phase II Summer Daily (31 pages)
- Phase II Winter Daily (31 pages)

### ***Health Risk Assessment (49 pages)***

MVMG Phase 1 - Alameda County, Annual

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

**MVMG Phase 1  
Alameda County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	19.62	1000sqft	0.36	19,623.00	0
Other Non-Asphalt Surfaces	0.90	Acre	0.90	39,204.00	0
Parking Lot	91.00	Space	1.70	36,400.00	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>	2025
<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 - 16,181 SF funeral home, 3,442 SF pavillion, 91 space parking lot and 0.9 acre entry plaza  
 Construction Phase - Per Applicant's construction schedule  
 Off-road Equipment -  
 Off-road Equipment - Assumed additional equipment for utility trenching  
 Grading - Phase 1 6.8 acres  
 Vehicle Trips - PHA Transportation Consultants, 2021. 100 trips per day.  
 Construction Off-road Equipment Mitigation - BAAQMD standard dust measures  
 Area Mitigation -  
 Energy Mitigation - 3 MW system - based on 2,146 MWh per year per MW



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

Operational Off-Road Equipment - 2 bio-diesel tractors for burials

Stationary Sources - Emergency Generators and Fire Pumps - 150KW (201 HP) emergency generator (natural gas) - assumed one hour per day for testing/ limited to 50 hours per year per BAAQMD.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	220.00	270.00
tblConstructionPhase	NumDays	6.00	90.00
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	3.00	30.00
tblGrading	AcresOfGrading	90.00	6.80
tblGrading	AcresOfGrading	45.00	6.80
tblLandUse	LandUseSquareFeet	19,620.00	19,623.00
tblLandUse	LotAcreage	0.45	0.36
tblLandUse	LotAcreage	0.82	1.70
tblOperationalOffRoadEquipment	OperFuelType	Diesel	Bio-diesel
tblOperationalOffRoadEquipment	OperHorsePower	97.00	212.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	2.00
tblOperationalOffRoadEquipment	OperLoadFactor	0.37	0.43
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	201.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	1.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleTrips	ST_TR	5.99	5.10
tblVehicleTrips	SU_TR	27.63	5.10
tblVehicleTrips	WD_TR	6.95	5.10

**2.0 Emissions Summary**

MVMG Phase 1 - 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	0.2198	1.9660	1.7431	3.6700e-003	0.3132	0.0842	0.3974	0.1592	0.0791	0.2383	0.0000	317.4450	317.4450	0.0700	3.8500e-003	320.3425
2024	0.2477	1.0237	1.1941	2.3400e-003	0.0301	0.0422	0.0723	8.1700e-003	0.0403	0.0484	0.0000	199.8288	199.8288	0.0335	3.4400e-003	201.6923
<b>Maximum</b>	<b>0.2477</b>	<b>1.9660</b>	<b>1.7431</b>	<b>3.6700e-003</b>	<b>0.3132</b>	<b>0.0842</b>	<b>0.3974</b>	<b>0.1592</b>	<b>0.0791</b>	<b>0.2383</b>	<b>0.0000</b>	<b>317.4450</b>	<b>317.4450</b>	<b>0.0700</b>	<b>3.8500e-003</b>	<b>320.3425</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	0.2198	1.9660	1.7431	3.6700e-003	0.1601	0.0842	0.2444	0.0769	0.0791	0.1560	0.0000	317.4447	317.4447	0.0700	3.8500e-003	320.3422
2024	0.2477	1.0237	1.1941	2.3400e-003	0.0301	0.0422	0.0723	8.1700e-003	0.0403	0.0484	0.0000	199.8287	199.8287	0.0335	3.4400e-003	201.6921
<b>Maximum</b>	<b>0.2477</b>	<b>1.9660</b>	<b>1.7431</b>	<b>3.6700e-003</b>	<b>0.1601</b>	<b>0.0842</b>	<b>0.2444</b>	<b>0.0769</b>	<b>0.0791</b>	<b>0.1560</b>	<b>0.0000</b>	<b>317.4447</b>	<b>317.4447</b>	<b>0.0700</b>	<b>3.8500e-003</b>	<b>320.3422</b>

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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
Percent Reduction	0.00	0.00	0.00	0.00	44.58	0.00	32.58	49.21	0.00	28.72	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	1-2-2023	4-1-2023	0.5062	0.5062
2	4-2-2023	7-1-2023	0.6168	0.6168
3	7-2-2023	10-1-2023	0.5324	0.5324
4	10-2-2023	1-1-2024	0.5339	0.5339
5	1-2-2024	4-1-2024	0.4982	0.4982
6	4-2-2024	7-1-2024	0.4899	0.4899
7	7-2-2024	9-30-2024	0.2671	0.2671
		Highest	0.6168	0.6168

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## 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	tons/yr										MT/yr					
Area	0.0934	1.0000e-005	1.0200e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.9900e-003	1.9900e-003	1.0000e-005	0.0000	2.1200e-003
Energy	2.7700e-003	0.0252	0.0212	1.5000e-004		1.9100e-003	1.9100e-003		1.9100e-003	1.9100e-003	0.0000	43.2997	43.2997	3.1000e-003	8.1000e-004	43.6197
Mobile	0.0357	0.0420	0.3126	6.4000e-004	0.0691	4.9000e-004	0.0696	0.0185	4.6000e-004	0.0189	0.0000	60.6799	60.6799	4.1000e-003	3.2600e-003	61.7549
Offroad	0.0127	0.1316	0.1066	5.1000e-004		4.4400e-003	4.4400e-003		4.0900e-003	4.0900e-003	8.9231	35.6925	44.6156	0.0144	0.0000	44.9764
Stationary	0.0442	4.2600e-003	0.1151	2.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	2.5624	2.5624	5.3600e-003	0.0000	2.6964
Waste						0.0000	0.0000		0.0000	0.0000	22.7005	0.0000	22.7005	1.3416	0.0000	56.2395
Water						0.0000	0.0000		0.0000	0.0000	0.1948	0.6183	0.8130	0.0201	4.8000e-004	1.4600
<b>Total</b>	<b>0.1889</b>	<b>0.2030</b>	<b>0.5564</b>	<b>1.3200e-003</b>	<b>0.0691</b>	<b>7.0800e-003</b>	<b>0.0762</b>	<b>0.0185</b>	<b>6.7000e-003</b>	<b>0.0252</b>	<b>31.8184</b>	<b>142.8548</b>	<b>174.6731</b>	<b>1.3887</b>	<b>4.5500e-003</b>	<b>210.7489</b>

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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	0.0934	1.0000e-005	5.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0700e-003	1.0700e-003	0.0000	0.0000	1.1300e-003
Energy	2.7700e-003	0.0252	0.0212	1.5000e-004		1.9100e-003	1.9100e-003		1.9100e-003	1.9100e-003	0.0000	-552.3684	-552.3684	-0.0933	-0.0109	-557.9385
Mobile	0.0357	0.0420	0.3126	6.4000e-004	0.0691	4.9000e-004	0.0696	0.0185	4.6000e-004	0.0189	0.0000	60.6799	60.6799	4.1000e-003	3.2600e-003	61.7549
Offroad	0.0127	0.1316	0.1066	5.1000e-004		4.4400e-003	4.4400e-003		4.0900e-003	4.0900e-003	8.9231	35.6925	44.6156	0.0144	0.0000	44.9764
Stationary	0.0442	4.2600e-003	0.1151	2.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	2.5624	2.5624	5.3600e-003	0.0000	2.6964
Waste						0.0000	0.0000		0.0000	0.0000	22.7005	0.0000	22.7005	1.3416	0.0000	56.2395
Water						0.0000	0.0000		0.0000	0.0000	0.1948	0.6183	0.8130	0.0201	4.8000e-004	1.4600
<b>Total</b>	<b>0.1888</b>	<b>0.2030</b>	<b>0.5560</b>	<b>1.3200e-003</b>	<b>0.0691</b>	<b>7.0800e-003</b>	<b>0.0762</b>	<b>0.0185</b>	<b>6.7000e-003</b>	<b>0.0252</b>	<b>31.8184</b>	<b>-452.8142</b>	<b>-420.9958</b>	<b>1.2923</b>	<b>-0.0071</b>	<b>-390.8102</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
Percent Reduction	0.03	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	416.98	341.02	6.94	256.70	285.44

3.0 Construction Detail

Construction Phase

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

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2023	2/10/2023	5	30	
2	Grading	Grading	2/11/2023	6/16/2023	5	90	
3	Utilities	Trenching	5/7/2023	6/16/2023	5	30	
4	Building Construction	Building Construction	6/17/2023	6/28/2024	5	270	
5	Paving	Paving	6/29/2024	8/9/2024	5	30	
6	Architectural Coating	Architectural Coating	8/10/2024	9/20/2024	5	30	

**Acres of Grading (Site Preparation Phase): 6.8**

**Acres of Grading (Grading Phase): 6.8**

**Acres of Paving: 2.6**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 29,435; Non-Residential Outdoor: 9,812; Striped Parking Area: 4,536 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56

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

Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Utilities	Excavators	1	8.00	158	0.38
Utilities	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Utilities	Trenchers	1	8.00	78	0.50

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	40.00	16.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utilities	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

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

**3.2 Site Preparation - 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					3.6100e-003	0.0000	3.6100e-003	3.9000e-004	0.0000	3.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0195	0.2142	0.1467	3.7000e-004		8.1300e-003	8.1300e-003		7.4800e-003	7.4800e-003	0.0000	32.3166	32.3166	0.0105	0.0000	32.5779
<b>Total</b>	<b>0.0195</b>	<b>0.2142</b>	<b>0.1467</b>	<b>3.7000e-004</b>	<b>3.6100e-003</b>	<b>8.1300e-003</b>	<b>0.0117</b>	<b>3.9000e-004</b>	<b>7.4800e-003</b>	<b>7.8700e-003</b>	<b>0.0000</b>	<b>32.3166</b>	<b>32.3166</b>	<b>0.0105</b>	<b>0.0000</b>	<b>32.5779</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	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	3.1000e-004	2.2000e-004	2.6800e-003	1.0000e-005	9.5000e-004	0.0000	9.5000e-004	2.5000e-004	0.0000	2.6000e-004	0.0000	0.7480	0.7480	2.0000e-005	2.0000e-005	0.7548
<b>Total</b>	<b>3.1000e-004</b>	<b>2.2000e-004</b>	<b>2.6800e-003</b>	<b>1.0000e-005</b>	<b>9.5000e-004</b>	<b>0.0000</b>	<b>9.5000e-004</b>	<b>2.5000e-004</b>	<b>0.0000</b>	<b>2.6000e-004</b>	<b>0.0000</b>	<b>0.7480</b>	<b>0.7480</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.7548</b>



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

**3.2 Site Preparation - 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	tons/yr										MT/yr					
Fugitive Dust					1.6200e-003	0.0000	1.6200e-003	1.8000e-004	0.0000	1.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0195	0.2142	0.1467	3.7000e-004		8.1300e-003	8.1300e-003		7.4800e-003	7.4800e-003	0.0000	32.3166	32.3166	0.0105	0.0000	32.5779
<b>Total</b>	<b>0.0195</b>	<b>0.2142</b>	<b>0.1467</b>	<b>3.7000e-004</b>	<b>1.6200e-003</b>	<b>8.1300e-003</b>	<b>9.7500e-003</b>	<b>1.8000e-004</b>	<b>7.4800e-003</b>	<b>7.6600e-003</b>	<b>0.0000</b>	<b>32.3166</b>	<b>32.3166</b>	<b>0.0105</b>	<b>0.0000</b>	<b>32.5779</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	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	3.1000e-004	2.2000e-004	2.6800e-003	1.0000e-005	9.5000e-004	0.0000	9.5000e-004	2.5000e-004	0.0000	2.6000e-004	0.0000	0.7480	0.7480	2.0000e-005	2.0000e-005	0.7548
<b>Total</b>	<b>3.1000e-004</b>	<b>2.2000e-004</b>	<b>2.6800e-003</b>	<b>1.0000e-005</b>	<b>9.5000e-004</b>	<b>0.0000</b>	<b>9.5000e-004</b>	<b>2.5000e-004</b>	<b>0.0000</b>	<b>2.6000e-004</b>	<b>0.0000</b>	<b>0.7480</b>	<b>0.7480</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.7548</b>

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

**3.3 Grading - 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					0.2746	0.0000	0.2746	0.1494	0.0000	0.1494	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0600	0.6510	0.3917	9.3000e-004		0.0272	0.0272		0.0250	0.0250	0.0000	81.4676	81.4676	0.0264	0.0000	82.1263
<b>Total</b>	<b>0.0600</b>	<b>0.6510</b>	<b>0.3917</b>	<b>9.3000e-004</b>	<b>0.2746</b>	<b>0.0272</b>	<b>0.3018</b>	<b>0.1494</b>	<b>0.0250</b>	<b>0.1744</b>	<b>0.0000</b>	<b>81.4676</b>	<b>81.4676</b>	<b>0.0264</b>	<b>0.0000</b>	<b>82.1263</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	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	1.1800e-003	8.1000e-004	0.0100	3.0000e-005	3.5600e-003	2.0000e-005	3.5800e-003	9.5000e-004	2.0000e-005	9.6000e-004	0.0000	2.8051	2.8051	8.0000e-005	8.0000e-005	2.8304
<b>Total</b>	<b>1.1800e-003</b>	<b>8.1000e-004</b>	<b>0.0100</b>	<b>3.0000e-005</b>	<b>3.5600e-003</b>	<b>2.0000e-005</b>	<b>3.5800e-003</b>	<b>9.5000e-004</b>	<b>2.0000e-005</b>	<b>9.6000e-004</b>	<b>0.0000</b>	<b>2.8051</b>	<b>2.8051</b>	<b>8.0000e-005</b>	<b>8.0000e-005</b>	<b>2.8304</b>

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

**3.3 Grading - 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	tons/yr										MT/yr					
Fugitive Dust					0.1236	0.0000	0.1236	0.0672	0.0000	0.0672	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0600	0.6510	0.3917	9.3000e-004		0.0272	0.0272		0.0250	0.0250	0.0000	81.4675	81.4675	0.0264	0.0000	82.1262
<b>Total</b>	<b>0.0600</b>	<b>0.6510</b>	<b>0.3917</b>	<b>9.3000e-004</b>	<b>0.1236</b>	<b>0.0272</b>	<b>0.1508</b>	<b>0.0672</b>	<b>0.0250</b>	<b>0.0922</b>	<b>0.0000</b>	<b>81.4675</b>	<b>81.4675</b>	<b>0.0264</b>	<b>0.0000</b>	<b>82.1262</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	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	1.1800e-003	8.1000e-004	0.0100	3.0000e-005	3.5600e-003	2.0000e-005	3.5800e-003	9.5000e-004	2.0000e-005	9.6000e-004	0.0000	2.8051	2.8051	8.0000e-005	8.0000e-005	2.8304
<b>Total</b>	<b>1.1800e-003</b>	<b>8.1000e-004</b>	<b>0.0100</b>	<b>3.0000e-005</b>	<b>3.5600e-003</b>	<b>2.0000e-005</b>	<b>3.5800e-003</b>	<b>9.5000e-004</b>	<b>2.0000e-005</b>	<b>9.6000e-004</b>	<b>0.0000</b>	<b>2.8051</b>	<b>2.8051</b>	<b>8.0000e-005</b>	<b>8.0000e-005</b>	<b>2.8304</b>

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

**3.4 Utilities - 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					
Off-Road	0.0100	0.0919	0.1170	1.7000e-004		5.5000e-003	5.5000e-003		5.0600e-003	5.0600e-003	0.0000	14.8486	14.8486	4.8000e-003	0.0000	14.9687
<b>Total</b>	<b>0.0100</b>	<b>0.0919</b>	<b>0.1170</b>	<b>1.7000e-004</b>		<b>5.5000e-003</b>	<b>5.5000e-003</b>		<b>5.0600e-003</b>	<b>5.0600e-003</b>	<b>0.0000</b>	<b>14.8486</b>	<b>14.8486</b>	<b>4.8000e-003</b>	<b>0.0000</b>	<b>14.9687</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	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	3.1000e-004	2.2000e-004	2.6800e-003	1.0000e-005	9.5000e-004	0.0000	9.5000e-004	2.5000e-004	0.0000	2.6000e-004	0.0000	0.7480	0.7480	2.0000e-005	2.0000e-005	0.7548
<b>Total</b>	<b>3.1000e-004</b>	<b>2.2000e-004</b>	<b>2.6800e-003</b>	<b>1.0000e-005</b>	<b>9.5000e-004</b>	<b>0.0000</b>	<b>9.5000e-004</b>	<b>2.5000e-004</b>	<b>0.0000</b>	<b>2.6000e-004</b>	<b>0.0000</b>	<b>0.7480</b>	<b>0.7480</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.7548</b>

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

**3.4 Utilities - 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	tons/yr										MT/yr					
Off-Road	0.0100	0.0919	0.1170	1.7000e-004		5.5000e-003	5.5000e-003		5.0600e-003	5.0600e-003	0.0000	14.8486	14.8486	4.8000e-003	0.0000	14.9686
<b>Total</b>	<b>0.0100</b>	<b>0.0919</b>	<b>0.1170</b>	<b>1.7000e-004</b>		<b>5.5000e-003</b>	<b>5.5000e-003</b>		<b>5.0600e-003</b>	<b>5.0600e-003</b>	<b>0.0000</b>	<b>14.8486</b>	<b>14.8486</b>	<b>4.8000e-003</b>	<b>0.0000</b>	<b>14.9686</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	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	3.1000e-004	2.2000e-004	2.6800e-003	1.0000e-005	9.5000e-004	0.0000	9.5000e-004	2.5000e-004	0.0000	2.6000e-004	0.0000	0.7480	0.7480	2.0000e-005	2.0000e-005	0.7548
<b>Total</b>	<b>3.1000e-004</b>	<b>2.2000e-004</b>	<b>2.6800e-003</b>	<b>1.0000e-005</b>	<b>9.5000e-004</b>	<b>0.0000</b>	<b>9.5000e-004</b>	<b>2.5000e-004</b>	<b>0.0000</b>	<b>2.6000e-004</b>	<b>0.0000</b>	<b>0.7480</b>	<b>0.7480</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.7548</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 Building Construction - 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					
Off-Road	0.1200	0.9537	0.9950	1.7500e-003		0.0430	0.0430		0.0412	0.0412	0.0000	145.3914	145.3914	0.0275	0.0000	146.0788
<b>Total</b>	<b>0.1200</b>	<b>0.9537</b>	<b>0.9950</b>	<b>1.7500e-003</b>		<b>0.0430</b>	<b>0.0430</b>		<b>0.0412</b>	<b>0.0412</b>	<b>0.0000</b>	<b>145.3914</b>	<b>145.3914</b>	<b>0.0275</b>	<b>0.0000</b>	<b>146.0788</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	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	1.1300e-003	0.0490	0.0148	2.2000e-004	7.3600e-003	3.0000e-004	7.6500e-003	2.1300e-003	2.8000e-004	2.4100e-003	0.0000	21.6656	21.6656	3.0000e-004	3.2400e-003	22.6397
Worker	7.3300e-003	5.0200e-003	0.0624	1.9000e-004	0.0221	1.2000e-004	0.0223	5.8900e-003	1.1000e-004	6.0000e-003	0.0000	17.4540	17.4540	5.1000e-004	4.8000e-004	17.6112
<b>Total</b>	<b>8.4600e-003</b>	<b>0.0540</b>	<b>0.0772</b>	<b>4.1000e-004</b>	<b>0.0295</b>	<b>4.2000e-004</b>	<b>0.0299</b>	<b>8.0200e-003</b>	<b>3.9000e-004</b>	<b>8.4100e-003</b>	<b>0.0000</b>	<b>39.1196</b>	<b>39.1196</b>	<b>8.1000e-004</b>	<b>3.7200e-003</b>	<b>40.2509</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 Building Construction - 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	tons/yr										MT/yr					
Off-Road	0.1200	0.9537	0.9950	1.7500e-003		0.0430	0.0430		0.0412	0.0412	0.0000	145.3913	145.3913	0.0275	0.0000	146.0787
<b>Total</b>	<b>0.1200</b>	<b>0.9537</b>	<b>0.9950</b>	<b>1.7500e-003</b>		<b>0.0430</b>	<b>0.0430</b>		<b>0.0412</b>	<b>0.0412</b>	<b>0.0000</b>	<b>145.3913</b>	<b>145.3913</b>	<b>0.0275</b>	<b>0.0000</b>	<b>146.0787</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	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	1.1300e-003	0.0490	0.0148	2.2000e-004	7.3600e-003	3.0000e-004	7.6500e-003	2.1300e-003	2.8000e-004	2.4100e-003	0.0000	21.6656	21.6656	3.0000e-004	3.2400e-003	22.6397
Worker	7.3300e-003	5.0200e-003	0.0624	1.9000e-004	0.0221	1.2000e-004	0.0223	5.8900e-003	1.1000e-004	6.0000e-003	0.0000	17.4540	17.4540	5.1000e-004	4.8000e-004	17.6112
<b>Total</b>	<b>8.4600e-003</b>	<b>0.0540</b>	<b>0.0772</b>	<b>4.1000e-004</b>	<b>0.0295</b>	<b>4.2000e-004</b>	<b>0.0299</b>	<b>8.0200e-003</b>	<b>3.9000e-004</b>	<b>8.4100e-003</b>	<b>0.0000</b>	<b>39.1196</b>	<b>39.1196</b>	<b>8.1000e-004</b>	<b>3.7200e-003</b>	<b>40.2509</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 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	0.1038	0.8335	0.9165	1.6300e-003		0.0350	0.0350		0.0335	0.0335	0.0000	135.0141	135.0141	0.0252	0.0000	135.6427
<b>Total</b>	<b>0.1038</b>	<b>0.8335</b>	<b>0.9165</b>	<b>1.6300e-003</b>		<b>0.0350</b>	<b>0.0350</b>		<b>0.0335</b>	<b>0.0335</b>	<b>0.0000</b>	<b>135.0141</b>	<b>135.0141</b>	<b>0.0252</b>	<b>0.0000</b>	<b>135.6427</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	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	1.0300e-003	0.0457	0.0135	2.0000e-004	6.8300e-003	2.8000e-004	7.1100e-003	1.9800e-003	2.6000e-004	2.2400e-003	0.0000	19.8077	19.8077	2.7000e-004	2.9700e-003	20.6989
Worker	6.3600e-003	4.1700e-003	0.0542	1.7000e-004	0.0206	1.0000e-004	0.0207	5.4700e-003	9.0000e-005	5.5600e-003	0.0000	15.8077	15.8077	4.3000e-004	4.2000e-004	15.9434
<b>Total</b>	<b>7.3900e-003</b>	<b>0.0498</b>	<b>0.0676</b>	<b>3.7000e-004</b>	<b>0.0274</b>	<b>3.8000e-004</b>	<b>0.0278</b>	<b>7.4500e-003</b>	<b>3.5000e-004</b>	<b>7.8000e-003</b>	<b>0.0000</b>	<b>35.6153</b>	<b>35.6153</b>	<b>7.0000e-004</b>	<b>3.3900e-003</b>	<b>36.6423</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 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	tons/yr										MT/yr					
Off-Road	0.1038	0.8335	0.9165	1.6300e-003		0.0350	0.0350		0.0335	0.0335	0.0000	135.0139	135.0139	0.0252	0.0000	135.6426
<b>Total</b>	<b>0.1038</b>	<b>0.8335</b>	<b>0.9165</b>	<b>1.6300e-003</b>		<b>0.0350</b>	<b>0.0350</b>		<b>0.0335</b>	<b>0.0335</b>	<b>0.0000</b>	<b>135.0139</b>	<b>135.0139</b>	<b>0.0252</b>	<b>0.0000</b>	<b>135.6426</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	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	1.0300e-003	0.0457	0.0135	2.0000e-004	6.8300e-003	2.8000e-004	7.1100e-003	1.9800e-003	2.6000e-004	2.2400e-003	0.0000	19.8077	19.8077	2.7000e-004	2.9700e-003	20.6989
Worker	6.3600e-003	4.1700e-003	0.0542	1.7000e-004	0.0206	1.0000e-004	0.0207	5.4700e-003	9.0000e-005	5.5600e-003	0.0000	15.8077	15.8077	4.3000e-004	4.2000e-004	15.9434
<b>Total</b>	<b>7.3900e-003</b>	<b>0.0498</b>	<b>0.0676</b>	<b>3.7000e-004</b>	<b>0.0274</b>	<b>3.8000e-004</b>	<b>0.0278</b>	<b>7.4500e-003</b>	<b>3.5000e-004</b>	<b>7.8000e-003</b>	<b>0.0000</b>	<b>35.6153</b>	<b>35.6153</b>	<b>7.0000e-004</b>	<b>3.3900e-003</b>	<b>36.6423</b>

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

**3.6 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	0.0126	0.1216	0.1756	2.7000e-004		5.9400e-003	5.9400e-003		5.4800e-003	5.4800e-003	0.0000	23.2720	23.2720	7.3800e-003	0.0000	23.4564
Paving	2.2300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0149</b>	<b>0.1216</b>	<b>0.1756</b>	<b>2.7000e-004</b>		<b>5.9400e-003</b>	<b>5.9400e-003</b>		<b>5.4800e-003</b>	<b>5.4800e-003</b>	<b>0.0000</b>	<b>23.2720</b>	<b>23.2720</b>	<b>7.3800e-003</b>	<b>0.0000</b>	<b>23.4564</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	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	5.5000e-004	3.6000e-004	4.6900e-003	1.0000e-005	1.7800e-003	1.0000e-005	1.7900e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.3680	1.3680	4.0000e-005	4.0000e-005	1.3797
<b>Total</b>	<b>5.5000e-004</b>	<b>3.6000e-004</b>	<b>4.6900e-003</b>	<b>1.0000e-005</b>	<b>1.7800e-003</b>	<b>1.0000e-005</b>	<b>1.7900e-003</b>	<b>4.7000e-004</b>	<b>1.0000e-005</b>	<b>4.8000e-004</b>	<b>0.0000</b>	<b>1.3680</b>	<b>1.3680</b>	<b>4.0000e-005</b>	<b>4.0000e-005</b>	<b>1.3797</b>

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

**3.6 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	tons/yr										MT/yr					
Off-Road	0.0126	0.1216	0.1756	2.7000e-004		5.9400e-003	5.9400e-003		5.4800e-003	5.4800e-003	0.0000	23.2720	23.2720	7.3800e-003	0.0000	23.4564
Paving	2.2300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0149</b>	<b>0.1216</b>	<b>0.1756</b>	<b>2.7000e-004</b>		<b>5.9400e-003</b>	<b>5.9400e-003</b>		<b>5.4800e-003</b>	<b>5.4800e-003</b>	<b>0.0000</b>	<b>23.2720</b>	<b>23.2720</b>	<b>7.3800e-003</b>	<b>0.0000</b>	<b>23.4564</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	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	5.5000e-004	3.6000e-004	4.6900e-003	1.0000e-005	1.7800e-003	1.0000e-005	1.7900e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.3680	1.3680	4.0000e-005	4.0000e-005	1.3797
<b>Total</b>	<b>5.5000e-004</b>	<b>3.6000e-004</b>	<b>4.6900e-003</b>	<b>1.0000e-005</b>	<b>1.7800e-003</b>	<b>1.0000e-005</b>	<b>1.7900e-003</b>	<b>4.7000e-004</b>	<b>1.0000e-005</b>	<b>4.8000e-004</b>	<b>0.0000</b>	<b>1.3680</b>	<b>1.3680</b>	<b>4.0000e-005</b>	<b>4.0000e-005</b>	<b>1.3797</b>

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

**3.7 Architectural Coating - 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					
Archit. Coating	0.1181					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7100e-003	0.0183	0.0272	4.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004	0.0000	3.8299	3.8299	2.2000e-004	0.0000	3.8353
<b>Total</b>	<b>0.1208</b>	<b>0.0183</b>	<b>0.0272</b>	<b>4.0000e-005</b>		<b>9.1000e-004</b>	<b>9.1000e-004</b>		<b>9.1000e-004</b>	<b>9.1000e-004</b>	<b>0.0000</b>	<b>3.8299</b>	<b>3.8299</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>3.8353</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	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	2.9000e-004	1.9000e-004	2.5000e-003	1.0000e-005	9.5000e-004	0.0000	9.5000e-004	2.5000e-004	0.0000	2.6000e-004	0.0000	0.7296	0.7296	2.0000e-005	2.0000e-005	0.7359
<b>Total</b>	<b>2.9000e-004</b>	<b>1.9000e-004</b>	<b>2.5000e-003</b>	<b>1.0000e-005</b>	<b>9.5000e-004</b>	<b>0.0000</b>	<b>9.5000e-004</b>	<b>2.5000e-004</b>	<b>0.0000</b>	<b>2.6000e-004</b>	<b>0.0000</b>	<b>0.7296</b>	<b>0.7296</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.7359</b>

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

**3.7 Architectural Coating - 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	tons/yr										MT/yr					
Archit. Coating	0.1181					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7100e-003	0.0183	0.0272	4.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004	0.0000	3.8299	3.8299	2.2000e-004	0.0000	3.8353
<b>Total</b>	<b>0.1208</b>	<b>0.0183</b>	<b>0.0272</b>	<b>4.0000e-005</b>		<b>9.1000e-004</b>	<b>9.1000e-004</b>		<b>9.1000e-004</b>	<b>9.1000e-004</b>	<b>0.0000</b>	<b>3.8299</b>	<b>3.8299</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>3.8353</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	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	2.9000e-004	1.9000e-004	2.5000e-003	1.0000e-005	9.5000e-004	0.0000	9.5000e-004	2.5000e-004	0.0000	2.6000e-004	0.0000	0.7296	0.7296	2.0000e-005	2.0000e-005	0.7359
<b>Total</b>	<b>2.9000e-004</b>	<b>1.9000e-004</b>	<b>2.5000e-003</b>	<b>1.0000e-005</b>	<b>9.5000e-004</b>	<b>0.0000</b>	<b>9.5000e-004</b>	<b>2.5000e-004</b>	<b>0.0000</b>	<b>2.6000e-004</b>	<b>0.0000</b>	<b>0.7296</b>	<b>0.7296</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.7359</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	0.0357	0.0420	0.3126	6.4000e-004	0.0691	4.9000e-004	0.0696	0.0185	4.6000e-004	0.0189	0.0000	60.6799	60.6799	4.1000e-003	3.2600e-003	61.7549
Unmitigated	0.0357	0.0420	0.3126	6.4000e-004	0.0691	4.9000e-004	0.0696	0.0185	4.6000e-004	0.0189	0.0000	60.6799	60.6799	4.1000e-003	3.2600e-003	61.7549

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Place of Worship	100.06	100.06	100.06	187,185	187,185
Total	100.06	100.06	100.06	187,185	187,185

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Place of Worship	9.50	7.30	7.30	0.00	95.00	5.00	64	25	11

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

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.570753	0.056481	0.179220	0.111941	0.020784	0.005211	0.013984	0.013033	0.000790	0.000560	0.024477	0.000343	0.002423
Parking Lot	0.570753	0.056481	0.179220	0.111941	0.020784	0.005211	0.013984	0.013033	0.000790	0.000560	0.024477	0.000343	0.002423
Place of Worship	0.570753	0.056481	0.179220	0.111941	0.020784	0.005211	0.013984	0.013033	0.000790	0.000560	0.024477	0.000343	0.002423

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

Kilowatt Hours of Renewable Electricity Generated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	-579.7830	-579.7830	-0.0938	-0.0114	-585.5160
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	15.8851	15.8851	2.5700e-003	3.1000e-004	16.0421
NaturalGas Mitigated	2.7700e-003	0.0252	0.0212	1.5000e-004		1.9100e-003	1.9100e-003		1.9100e-003	1.9100e-003	0.0000	27.4146	27.4146	5.3000e-004	5.0000e-004	27.5775
NaturalGas Unmitigated	2.7700e-003	0.0252	0.0212	1.5000e-004		1.9100e-003	1.9100e-003		1.9100e-003	1.9100e-003	0.0000	27.4146	27.4146	5.3000e-004	5.0000e-004	27.5775

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**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**

**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	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	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	0.0000
Place of Worship	513730	2.7700e-003	0.0252	0.0212	1.5000e-004		1.9100e-003	1.9100e-003		1.9100e-003	1.9100e-003	0.0000	27.4146	27.4146	5.3000e-004	5.0000e-004	27.5775
<b>Total</b>		<b>2.7700e-003</b>	<b>0.0252</b>	<b>0.0212</b>	<b>1.5000e-004</b>		<b>1.9100e-003</b>	<b>1.9100e-003</b>		<b>1.9100e-003</b>	<b>1.9100e-003</b>	<b>0.0000</b>	<b>27.4146</b>	<b>27.4146</b>	<b>5.3000e-004</b>	<b>5.0000e-004</b>	<b>27.5775</b>



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**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	tons/yr										MT/yr						
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	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	0.0000	0.0000
Place of Worship	513730	2.7700e-003	0.0252	0.0212	1.5000e-004		1.9100e-003	1.9100e-003		1.9100e-003	1.9100e-003	0.0000	27.4146	27.4146	5.3000e-004	5.0000e-004	27.5775	
<b>Total</b>		<b>2.7700e-003</b>	<b>0.0252</b>	<b>0.0212</b>	<b>1.5000e-004</b>		<b>1.9100e-003</b>	<b>1.9100e-003</b>		<b>1.9100e-003</b>	<b>1.9100e-003</b>	<b>0.0000</b>	<b>27.4146</b>	<b>27.4146</b>	<b>5.3000e-004</b>	<b>5.0000e-004</b>	<b>27.5775</b>	

## MVMG Phase 1 - Alameda County, Annual

**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 Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	12740	1.1788	1.9000e-004	2.0000e-005	1.1904
Place of Worship	158946	14.7063	2.3800e-003	2.9000e-004	14.8517
<b>Total</b>		<b>15.8851</b>	<b>2.5700e-003</b>	<b>3.1000e-004</b>	<b>16.0421</b>

## MVMG Phase 1 - Alameda County, Annual

**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****Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	-2.146e+006	-198.5560	-0.0321	-0.0039	-200.5194
Parking Lot	-2.13326e+006	-197.3773	-0.0319	-0.0039	-199.3290
Place of Worship	-1.98705e+006	-183.8497	-0.0297	-0.0036	-185.6677
<b>Total</b>		<b>-579.7830</b>	<b>-0.0938</b>	<b>-0.0114</b>	<b>-585.5160</b>

**6.0 Area Detail****6.1 Mitigation Measures Area**

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

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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	0.0934	1.0000e-005	5.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0700e-003	1.0700e-003	0.0000	0.0000	1.1300e-003
Unmitigated	0.0934	1.0000e-005	1.0200e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.9900e-003	1.9900e-003	1.0000e-005	0.0000	2.1200e-003

**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	0.0118					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0815					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.0000e-005	1.0000e-005	1.0200e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.9900e-003	1.9900e-003	1.0000e-005	0.0000	2.1200e-003
<b>Total</b>	<b>0.0934</b>	<b>1.0000e-005</b>	<b>1.0200e-003</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.9900e-003</b>	<b>1.9900e-003</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>2.1200e-003</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	0.0118					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0815					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	1.0000e-005	5.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0700e-003	1.0700e-003	0.0000	0.0000	1.1300e-003
<b>Total</b>	<b>0.0934</b>	<b>1.0000e-005</b>	<b>5.9000e-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>1.0700e-003</b>	<b>1.0700e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.1300e-003</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

MVMG Phase 1 - Alameda County, Annual

**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	0.8130	0.0201	4.8000e-004	1.4600
Unmitigated	0.8130	0.0201	4.8000e-004	1.4600

**7.2 Water by Land Use**

**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	0.613888 / 0.960184	0.8130	0.0201	4.8000e-004	1.4600
<b>Total</b>		<b>0.8130</b>	<b>0.0201</b>	<b>4.8000e-004</b>	<b>1.4600</b>

MVMG Phase 1 - Alameda County, Annual

**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 Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	0.613888 / 0.960184	0.8130	0.0201	4.8000e-004	1.4600
<b>Total</b>		<b>0.8130</b>	<b>0.0201</b>	<b>4.8000e-004</b>	<b>1.4600</b>

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

MVMG Phase 1 - Alameda County, Annual

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

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	22.7005	1.3416	0.0000	56.2395
Unmitigated	22.7005	1.3416	0.0000	56.2395

**8.2 Waste by Land Use**

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	111.83	22.7005	1.3416	0.0000	56.2395
<b>Total</b>		<b>22.7005</b>	<b>1.3416</b>	<b>0.0000</b>	<b>56.2395</b>



MVMG Phase 1 - Alameda County, Annual

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

**8.2 Waste by Land Use**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	111.83	22.7005	1.3416	0.0000	56.2395
<b>Total</b>		<b>22.7005</b>	<b>1.3416</b>	<b>0.0000</b>	<b>56.2395</b>

**9.0 Operational Offroad**

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Tractors/Loaders/Backhoes	2	2.00	260	212	0.43	Bio-diesel

MVMG Phase 1 - Alameda County, Annual

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

**UnMitigated/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
Equipment Type	tons/yr										MT/yr					
Tractors/Loaders/Backhoes	0.0127	0.1316	0.1066	5.1000e-004		4.4400e-003	4.4400e-003		4.0900e-003	4.0900e-003	8.9231	35.6925	44.6156	0.0144	0.0000	44.9764
<b>Total</b>	<b>0.0127</b>	<b>0.1316</b>	<b>0.1066</b>	<b>5.1000e-004</b>		<b>4.4400e-003</b>	<b>4.4400e-003</b>		<b>4.0900e-003</b>	<b>4.0900e-003</b>	<b>8.9231</b>	<b>35.6925</b>	<b>44.6156</b>	<b>0.0144</b>	<b>0.0000</b>	<b>44.9764</b>

**10.0 Stationary Equipment**

**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	1	50	201	0.73	CNG

**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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MVMG Phase 1 - Alameda County, Annual

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

**10.1 Stationary Sources**

**Unmitigated/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
Equipment Type	tons/yr										MT/yr					
Emergency Generator - CNG (0 - 500 HP)	0.0442	4.2600e-003	0.1151	2.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	2.5624	2.5624	5.3600e-003	0.0000	2.6964
<b>Total</b>	<b>0.0442</b>	<b>4.2600e-003</b>	<b>0.1151</b>	<b>2.0000e-005</b>		<b>2.4000e-004</b>	<b>2.4000e-004</b>		<b>2.4000e-004</b>	<b>2.4000e-004</b>	<b>0.0000</b>	<b>2.5624</b>	<b>2.5624</b>	<b>5.3600e-003</b>	<b>0.0000</b>	<b>2.6964</b>

**11.0 Vegetation**

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MVMG Phase 1 - Alameda County, Summer

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

**MVMG Phase 1  
Alameda County, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	19.62	1000sqft	0.36	19,623.00	0
Other Non-Asphalt Surfaces	0.90	Acre	0.90	39,204.00	0
Parking Lot	91.00	Space	1.70	36,400.00	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>	2025
<b>Utility Company</b>	Pacific Gas and Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	203.98	<b>CH4 Intensity (lb/MW hr)</b>	0.033	<b>N2O Intensity (lb/MW hr)</b>	0.004

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

Project Characteristics -  
 Land Use - 16,181 SF funeral home, 3,442 SF pavillion, 91 space parking lot and 0.9 acre entry plaza  
 Construction Phase - Per Applicant's construction schedule  
 Off-road Equipment -  
 Off-road Equipment - Assumed additional equipment for utility trenching  
 Grading - Phase 1 6.8 acres  
 Vehicle Trips - PHA Transportation Consultants, 2021. 100 trips per day.  
 Construction Off-road Equipment Mitigation - BAAQMD standard dust measures  
 Area Mitigation -  
 Energy Mitigation - 3 MW system - based on 2,146 MWh per year per MW

MVMG Phase 1 - Alameda County, Summer

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

Operational Off-Road Equipment - 2 bio-diesel tractors for burials

Stationary Sources - Emergency Generators and Fire Pumps - 150KW (201 HP) emergency generator (natural gas) - assumed one hour per day for testing/ limited to 50 hours per year per BAAQMD.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	220.00	270.00
tblConstructionPhase	NumDays	6.00	90.00
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	3.00	30.00
tblGrading	AcresOfGrading	90.00	6.80
tblGrading	AcresOfGrading	45.00	6.80
tblLandUse	LandUseSquareFeet	19,620.00	19,623.00
tblLandUse	LotAcreage	0.45	0.36
tblLandUse	LotAcreage	0.82	1.70
tblOperationalOffRoadEquipment	OperFuelType	Diesel	Bio-diesel
tblOperationalOffRoadEquipment	OperHorsePower	97.00	212.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	2.00
tblOperationalOffRoadEquipment	OperLoadFactor	0.37	0.43
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	201.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	1.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleTrips	ST_TR	5.99	5.10
tblVehicleTrips	SU_TR	27.63	5.10
tblVehicleTrips	WD_TR	6.95	5.10

**2.0 Emissions Summary**

MVMG Phase 1 - 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	2.0509	20.6216	16.9384	0.0332	6.2501	0.9715	7.2216	3.3581	0.8938	4.2519	0.0000	3,219.1396	3,219.1396	1.0017	0.0580	3,245.1232
2024	8.0744	13.5573	15.1999	0.0310	0.4370	0.5439	0.9809	0.1184	0.5208	0.6392	0.0000	2,912.1181	2,912.1181	0.5446	0.0568	2,939.9957
<b>Maximum</b>	<b>8.0744</b>	<b>20.6216</b>	<b>16.9384</b>	<b>0.0332</b>	<b>6.2501</b>	<b>0.9715</b>	<b>7.2216</b>	<b>3.3581</b>	<b>0.8938</b>	<b>4.2519</b>	<b>0.0000</b>	<b>3,219.1396</b>	<b>3,219.1396</b>	<b>1.0017</b>	<b>0.0580</b>	<b>3,245.1232</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	2.0509	20.6216	16.9384	0.0332	2.8939	0.9715	3.8654	1.5327	0.8938	2.4265	0.0000	3,219.1396	3,219.1396	1.0017	0.0580	3,245.1232
2024	8.0744	13.5573	15.1999	0.0310	0.4370	0.5439	0.9809	0.1184	0.5208	0.6392	0.0000	2,912.1181	2,912.1181	0.5446	0.0568	2,939.9957
<b>Maximum</b>	<b>8.0744</b>	<b>20.6216</b>	<b>16.9384</b>	<b>0.0332</b>	<b>2.8939</b>	<b>0.9715</b>	<b>3.8654</b>	<b>1.5327</b>	<b>0.8938</b>	<b>2.4265</b>	<b>0.0000</b>	<b>3,219.1396</b>	<b>3,219.1396</b>	<b>1.0017</b>	<b>0.0580</b>	<b>3,245.1232</b>

MVMG Phase 1 - 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	50.19	0.00	40.92	52.51	0.00	37.32	0.00	0.00	0.00	0.00	0.00	0.00

**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	0.5125	1.0000e-004	0.0114	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0244	0.0244	6.0000e-005		0.0260
Energy	0.0152	0.1380	0.1159	8.3000e-004		0.0105	0.0105		0.0105	0.0105		165.5859	165.5859	3.1700e-003	3.0400e-003	166.5699
Mobile	0.2227	0.2126	1.6808	3.7100e-003	0.3942	2.7100e-003	0.3969	0.1050	2.5200e-003	0.1075		387.3440	387.3440	0.0229	0.0188	393.5117
Offroad	0.0977	1.0123	0.8196	3.9100e-003		0.0342	0.0342		0.0315	0.0315	75.6621	302.6483	378.3104	0.1224		381.3693
Stationary	1.7684	0.1703	4.6058	6.2000e-004		9.7600e-003	9.7600e-003		9.7600e-003	9.7600e-003		112.9840	112.9840	0.2362		118.8900
<b>Total</b>	<b>2.6165</b>	<b>1.5333</b>	<b>7.2335</b>	<b>9.0700e-003</b>	<b>0.3942</b>	<b>0.0572</b>	<b>0.4514</b>	<b>0.1050</b>	<b>0.0543</b>	<b>0.1592</b>	<b>75.6621</b>	<b>968.5866</b>	<b>1,044.2486</b>	<b>0.3847</b>	<b>0.0218</b>	<b>1,060.3668</b>

MVMG Phase 1 - 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**

**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	0.5119	6.0000e-005	6.5900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0132	0.0132	3.0000e-005		0.0138
Energy	0.0152	0.1380	0.1159	8.3000e-004		0.0105	0.0105		0.0105	0.0105		165.5859	165.5859	3.1700e-003	3.0400e-003	166.5699
Mobile	0.2227	0.2126	1.6808	3.7100e-003	0.3942	2.7100e-003	0.3969	0.1050	2.5200e-003	0.1075		387.3440	387.3440	0.0229	0.0188	393.5117
Offroad	0.0977	1.0123	0.8196	3.9100e-003		0.0342	0.0342		0.0315	0.0315	75.6621	302.6483	378.3104	0.1224		381.3693
Stationary	1.7684	0.1703	4.6058	6.2000e-004		9.7600e-003	9.7600e-003		9.7600e-003	9.7600e-003		112.9840	112.9840	0.2362		118.8900
<b>Total</b>	<b>2.6159</b>	<b>1.5333</b>	<b>7.2287</b>	<b>9.0700e-003</b>	<b>0.3942</b>	<b>0.0572</b>	<b>0.4513</b>	<b>0.1050</b>	<b>0.0542</b>	<b>0.1592</b>	<b>75.6621</b>	<b>968.5753</b>	<b>1,044.2374</b>	<b>0.3847</b>	<b>0.0218</b>	<b>1,060.3547</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>0.02</b>	<b>0.00</b>	<b>0.07</b>	<b>0.00</b>	<b>0.00</b>	<b>0.03</b>	<b>0.00</b>	<b>0.00</b>	<b>0.04</b>	<b>0.01</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.01</b>	<b>0.00</b>	<b>0.00</b>

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2023	2/10/2023	5	30	
2	Grading	Grading	2/11/2023	6/16/2023	5	90	
3	Utilities	Trenching	5/7/2023	6/16/2023	5	30	



MVMG Phase 1 - Alameda County, Summer

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

4	Building Construction	Building Construction	6/17/2023	6/28/2024	5	270
5	Paving	Paving	6/29/2024	8/9/2024	5	30
6	Architectural Coating	Architectural Coating	8/10/2024	9/20/2024	5	30

**Acres of Grading (Site Preparation Phase): 6.8**

**Acres of Grading (Grading Phase): 6.8**

**Acres of Paving: 2.6**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 29,435; Non-Residential Outdoor: 9,812; Striped Parking Area: 4,536 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

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

Utilities	Excavators	1	8.00	158	0.38
Utilities	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Utilities	Trenchers	1	8.00	78	0.50

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	40.00	16.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utilities	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

MVMG Phase 1 - Alameda County, Summer

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

**3.2 Site Preparation - 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					0.2404	0.0000	0.2404	0.0260	0.0000	0.0260			0.0000			0.0000
Off-Road	1.3027	14.2802	9.7820	0.0245		0.5419	0.5419		0.4985	0.4985		2,374.863 4	2,374.863 4	0.7681		2,394.065 4
<b>Total</b>	<b>1.3027</b>	<b>14.2802</b>	<b>9.7820</b>	<b>0.0245</b>	<b>0.2404</b>	<b>0.5419</b>	<b>0.7823</b>	<b>0.0260</b>	<b>0.4985</b>	<b>0.5245</b>		<b>2,374.863 4</b>	<b>2,374.863 4</b>	<b>0.7681</b>		<b>2,394.065 4</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	0.0223	0.0127	0.1922	5.7000e-004	0.0657	3.3000e-004	0.0661	0.0174	3.0000e-004	0.0177		58.8177	58.8177	1.5100e-003	1.4000e-003	59.2734
<b>Total</b>	<b>0.0223</b>	<b>0.0127</b>	<b>0.1922</b>	<b>5.7000e-004</b>	<b>0.0657</b>	<b>3.3000e-004</b>	<b>0.0661</b>	<b>0.0174</b>	<b>3.0000e-004</b>	<b>0.0177</b>		<b>58.8177</b>	<b>58.8177</b>	<b>1.5100e-003</b>	<b>1.4000e-003</b>	<b>59.2734</b>

MVMG Phase 1 - Alameda County, Summer

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

**3.2 Site Preparation - 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					0.1082	0.0000	0.1082	0.0117	0.0000	0.0117			0.0000			0.0000
Off-Road	1.3027	14.2802	9.7820	0.0245		0.5419	0.5419		0.4985	0.4985	0.0000	2,374.863 4	2,374.863 4	0.7681		2,394.065 4
<b>Total</b>	<b>1.3027</b>	<b>14.2802</b>	<b>9.7820</b>	<b>0.0245</b>	<b>0.1082</b>	<b>0.5419</b>	<b>0.6501</b>	<b>0.0117</b>	<b>0.4985</b>	<b>0.5102</b>	<b>0.0000</b>	<b>2,374.863 4</b>	<b>2,374.863 4</b>	<b>0.7681</b>		<b>2,394.065 4</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	0.0223	0.0127	0.1922	5.7000e-004	0.0657	3.3000e-004	0.0661	0.0174	3.0000e-004	0.0177		58.8177	58.8177	1.5100e-003	1.4000e-003	59.2734
<b>Total</b>	<b>0.0223</b>	<b>0.0127</b>	<b>0.1922</b>	<b>5.7000e-004</b>	<b>0.0657</b>	<b>3.3000e-004</b>	<b>0.0661</b>	<b>0.0174</b>	<b>3.0000e-004</b>	<b>0.0177</b>		<b>58.8177</b>	<b>58.8177</b>	<b>1.5100e-003</b>	<b>1.4000e-003</b>	<b>59.2734</b>

MVMG Phase 1 - Alameda County, Summer

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

**3.3 Grading - 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					6.1022	0.0000	6.1022	3.3189	0.0000	3.3189			0.0000			0.0000
Off-Road	1.3330	14.4676	8.7038	0.0206		0.6044	0.6044		0.5560	0.5560		1,995.6147	1,995.6147	0.6454		2,011.7503
<b>Total</b>	<b>1.3330</b>	<b>14.4676</b>	<b>8.7038</b>	<b>0.0206</b>	<b>6.1022</b>	<b>0.6044</b>	<b>6.7066</b>	<b>3.3189</b>	<b>0.5560</b>	<b>3.8749</b>		<b>1,995.6147</b>	<b>1,995.6147</b>	<b>0.6454</b>		<b>2,011.7503</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	0.0278	0.0158	0.2402	7.2000e-004	0.0822	4.1000e-004	0.0826	0.0218	3.8000e-004	0.0222		73.5222	73.5222	1.8900e-003	1.7500e-003	74.0918
<b>Total</b>	<b>0.0278</b>	<b>0.0158</b>	<b>0.2402</b>	<b>7.2000e-004</b>	<b>0.0822</b>	<b>4.1000e-004</b>	<b>0.0826</b>	<b>0.0218</b>	<b>3.8000e-004</b>	<b>0.0222</b>		<b>73.5222</b>	<b>73.5222</b>	<b>1.8900e-003</b>	<b>1.7500e-003</b>	<b>74.0918</b>

MVMG Phase 1 - Alameda County, Summer

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

**3.3 Grading - 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					2.7460	0.0000	2.7460	1.4935	0.0000	1.4935			0.0000			0.0000
Off-Road	1.3330	14.4676	8.7038	0.0206		0.6044	0.6044		0.5560	0.5560	0.0000	1,995.6147	1,995.6147	0.6454		2,011.7503
<b>Total</b>	<b>1.3330</b>	<b>14.4676</b>	<b>8.7038</b>	<b>0.0206</b>	<b>2.7460</b>	<b>0.6044</b>	<b>3.3504</b>	<b>1.4935</b>	<b>0.5560</b>	<b>2.0495</b>	<b>0.0000</b>	<b>1,995.6147</b>	<b>1,995.6147</b>	<b>0.6454</b>		<b>2,011.7503</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	0.0278	0.0158	0.2402	7.2000e-004	0.0822	4.1000e-004	0.0826	0.0218	3.8000e-004	0.0222		73.5222	73.5222	1.8900e-003	1.7500e-003	74.0918
<b>Total</b>	<b>0.0278</b>	<b>0.0158</b>	<b>0.2402</b>	<b>7.2000e-004</b>	<b>0.0822</b>	<b>4.1000e-004</b>	<b>0.0826</b>	<b>0.0218</b>	<b>3.8000e-004</b>	<b>0.0222</b>		<b>73.5222</b>	<b>73.5222</b>	<b>1.8900e-003</b>	<b>1.7500e-003</b>	<b>74.0918</b>

MVMG Phase 1 - Alameda County, Summer

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

**3.4 Utilities - 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					
Off-Road	0.6678	6.1255	7.8023	0.0113		0.3664	0.3664		0.3371	0.3371		1,091.1849	1,091.1849	0.3529		1,100.0077
<b>Total</b>	<b>0.6678</b>	<b>6.1255</b>	<b>7.8023</b>	<b>0.0113</b>		<b>0.3664</b>	<b>0.3664</b>		<b>0.3371</b>	<b>0.3371</b>		<b>1,091.1849</b>	<b>1,091.1849</b>	<b>0.3529</b>		<b>1,100.0077</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	0.0223	0.0127	0.1922	5.7000e-004	0.0657	3.3000e-004	0.0661	0.0174	3.0000e-004	0.0177		58.8177	58.8177	1.5100e-003	1.4000e-003	59.2734
<b>Total</b>	<b>0.0223</b>	<b>0.0127</b>	<b>0.1922</b>	<b>5.7000e-004</b>	<b>0.0657</b>	<b>3.3000e-004</b>	<b>0.0661</b>	<b>0.0174</b>	<b>3.0000e-004</b>	<b>0.0177</b>		<b>58.8177</b>	<b>58.8177</b>	<b>1.5100e-003</b>	<b>1.4000e-003</b>	<b>59.2734</b>

MVMG Phase 1 - Alameda County, Summer

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

**3.4 Utilities - 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					
Off-Road	0.6678	6.1255	7.8023	0.0113		0.3664	0.3664		0.3371	0.3371	0.0000	1,091.1849	1,091.1849	0.3529		1,100.0077
<b>Total</b>	<b>0.6678</b>	<b>6.1255</b>	<b>7.8023</b>	<b>0.0113</b>		<b>0.3664</b>	<b>0.3664</b>		<b>0.3371</b>	<b>0.3371</b>	<b>0.0000</b>	<b>1,091.1849</b>	<b>1,091.1849</b>	<b>0.3529</b>		<b>1,100.0077</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	0.0223	0.0127	0.1922	5.7000e-004	0.0657	3.3000e-004	0.0661	0.0174	3.0000e-004	0.0177		58.8177	58.8177	1.5100e-003	1.4000e-003	59.2734
<b>Total</b>	<b>0.0223</b>	<b>0.0127</b>	<b>0.1922</b>	<b>5.7000e-004</b>	<b>0.0657</b>	<b>3.3000e-004</b>	<b>0.0661</b>	<b>0.0174</b>	<b>3.0000e-004</b>	<b>0.0177</b>		<b>58.8177</b>	<b>58.8177</b>	<b>1.5100e-003</b>	<b>1.4000e-003</b>	<b>59.2734</b>



MVMG Phase 1 - Alameda County, Summer

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

**3.5 Building Construction - 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					
Off-Road	1.7136	13.6239	14.2145	0.0250		0.6136	0.6136		0.5880	0.5880		2,289.5233	2,289.5233	0.4330		2,300.3479
<b>Total</b>	<b>1.7136</b>	<b>13.6239</b>	<b>14.2145</b>	<b>0.0250</b>		<b>0.6136</b>	<b>0.6136</b>		<b>0.5880</b>	<b>0.5880</b>		<b>2,289.5233</b>	<b>2,289.5233</b>	<b>0.4330</b>		<b>2,300.3479</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	0.0166	0.6747	0.2084	3.2000e-003	0.1084	4.2100e-003	0.1127	0.0312	4.0300e-003	0.0353		340.9339	340.9339	4.6700e-003	0.0510	356.2554
Worker	0.1112	0.0633	0.9609	2.8700e-003	0.3286	1.6500e-003	0.3302	0.0872	1.5200e-003	0.0887		294.0887	294.0887	7.5400e-003	7.0100e-003	296.3671
<b>Total</b>	<b>0.1278</b>	<b>0.7380</b>	<b>1.1693</b>	<b>6.0700e-003</b>	<b>0.4370</b>	<b>5.8600e-003</b>	<b>0.4429</b>	<b>0.1184</b>	<b>5.5500e-003</b>	<b>0.1239</b>		<b>635.0226</b>	<b>635.0226</b>	<b>0.0122</b>	<b>0.0580</b>	<b>652.6225</b>

MVMG Phase 1 - Alameda County, Summer

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

**3.5 Building Construction - 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					
Off-Road	1.7136	13.6239	14.2145	0.0250		0.6136	0.6136		0.5880	0.5880	0.0000	2,289.5233	2,289.5233	0.4330		2,300.3479
<b>Total</b>	<b>1.7136</b>	<b>13.6239</b>	<b>14.2145</b>	<b>0.0250</b>		<b>0.6136</b>	<b>0.6136</b>		<b>0.5880</b>	<b>0.5880</b>	<b>0.0000</b>	<b>2,289.5233</b>	<b>2,289.5233</b>	<b>0.4330</b>		<b>2,300.3479</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	0.0166	0.6747	0.2084	3.2000e-003	0.1084	4.2100e-003	0.1127	0.0312	4.0300e-003	0.0353		340.9339	340.9339	4.6700e-003	0.0510	356.2554
Worker	0.1112	0.0633	0.9609	2.8700e-003	0.3286	1.6500e-003	0.3302	0.0872	1.5200e-003	0.0887		294.0887	294.0887	7.5400e-003	7.0100e-003	296.3671
<b>Total</b>	<b>0.1278</b>	<b>0.7380</b>	<b>1.1693</b>	<b>6.0700e-003</b>	<b>0.4370</b>	<b>5.8600e-003</b>	<b>0.4429</b>	<b>0.1184</b>	<b>5.5500e-003</b>	<b>0.1239</b>		<b>635.0226</b>	<b>635.0226</b>	<b>0.0122</b>	<b>0.0580</b>	<b>652.6225</b>

MVMG Phase 1 - Alameda County, Summer

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

**3.5 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	1.5971	12.8235	14.1002	0.0250		0.5381	0.5381		0.5153	0.5153		2,289.654 1	2,289.654 1	0.4265		2,300.315 4
<b>Total</b>	<b>1.5971</b>	<b>12.8235</b>	<b>14.1002</b>	<b>0.0250</b>		<b>0.5381</b>	<b>0.5381</b>		<b>0.5153</b>	<b>0.5153</b>		<b>2,289.654 1</b>	<b>2,289.654 1</b>	<b>0.4265</b>		<b>2,300.315 4</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	0.0162	0.6773	0.2044	3.1500e-003	0.1084	4.2600e-003	0.1127	0.0312	4.0700e-003	0.0353		335.6717	335.6717	4.6600e-003	0.0503	350.7682
Worker	0.1038	0.0565	0.8953	2.7800e-003	0.3286	1.5700e-003	0.3302	0.0872	1.4400e-003	0.0886		286.7924	286.7924	6.8300e-003	6.5400e-003	288.9121
<b>Total</b>	<b>0.1200</b>	<b>0.7339</b>	<b>1.0997</b>	<b>5.9300e-003</b>	<b>0.4370</b>	<b>5.8300e-003</b>	<b>0.4429</b>	<b>0.1184</b>	<b>5.5100e-003</b>	<b>0.1239</b>		<b>622.4640</b>	<b>622.4640</b>	<b>0.0115</b>	<b>0.0568</b>	<b>639.6803</b>

MVMG Phase 1 - Alameda County, Summer

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

**3.5 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	1.5971	12.8235	14.1002	0.0250		0.5381	0.5381		0.5153	0.5153	0.0000	2,289.654 1	2,289.654 1	0.4265		2,300.315 4
<b>Total</b>	<b>1.5971</b>	<b>12.8235</b>	<b>14.1002</b>	<b>0.0250</b>		<b>0.5381</b>	<b>0.5381</b>		<b>0.5153</b>	<b>0.5153</b>	<b>0.0000</b>	<b>2,289.654 1</b>	<b>2,289.654 1</b>	<b>0.4265</b>		<b>2,300.315 4</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	0.0162	0.6773	0.2044	3.1500e-003	0.1084	4.2600e-003	0.1127	0.0312	4.0700e-003	0.0353		335.6717	335.6717	4.6600e-003	0.0503	350.7682
Worker	0.1038	0.0565	0.8953	2.7800e-003	0.3286	1.5700e-003	0.3302	0.0872	1.4400e-003	0.0886		286.7924	286.7924	6.8300e-003	6.5400e-003	288.9121
<b>Total</b>	<b>0.1200</b>	<b>0.7339</b>	<b>1.0997</b>	<b>5.9300e-003</b>	<b>0.4370</b>	<b>5.8300e-003</b>	<b>0.4429</b>	<b>0.1184</b>	<b>5.5100e-003</b>	<b>0.1239</b>		<b>622.4640</b>	<b>622.4640</b>	<b>0.0115</b>	<b>0.0568</b>	<b>639.6803</b>

MVMG Phase 1 - Alameda County, Summer

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

**3.6 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	0.8425	8.1030	11.7069	0.0179		0.3957	0.3957		0.3652	0.3652		1,710.2024	1,710.2024	0.5420		1,723.7529
Paving	0.1485					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.9909</b>	<b>8.1030</b>	<b>11.7069</b>	<b>0.0179</b>		<b>0.3957</b>	<b>0.3957</b>		<b>0.3652</b>	<b>0.3652</b>		<b>1,710.2024</b>	<b>1,710.2024</b>	<b>0.5420</b>		<b>1,723.7529</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	0.0389	0.0212	0.3357	1.0400e-003	0.1232	5.9000e-004	0.1238	0.0327	5.4000e-004	0.0332		107.5471	107.5471	2.5600e-003	2.4500e-003	108.3420
<b>Total</b>	<b>0.0389</b>	<b>0.0212</b>	<b>0.3357</b>	<b>1.0400e-003</b>	<b>0.1232</b>	<b>5.9000e-004</b>	<b>0.1238</b>	<b>0.0327</b>	<b>5.4000e-004</b>	<b>0.0332</b>		<b>107.5471</b>	<b>107.5471</b>	<b>2.5600e-003</b>	<b>2.4500e-003</b>	<b>108.3420</b>

MVMG Phase 1 - Alameda County, Summer

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

**3.6 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	0.8425	8.1030	11.7069	0.0179		0.3957	0.3957		0.3652	0.3652	0.0000	1,710.2024	1,710.2024	0.5420		1,723.7529
Paving	0.1485					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.9909</b>	<b>8.1030</b>	<b>11.7069</b>	<b>0.0179</b>		<b>0.3957</b>	<b>0.3957</b>		<b>0.3652</b>	<b>0.3652</b>	<b>0.0000</b>	<b>1,710.2024</b>	<b>1,710.2024</b>	<b>0.5420</b>		<b>1,723.7529</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	0.0389	0.0212	0.3357	1.0400e-003	0.1232	5.9000e-004	0.1238	0.0327	5.4000e-004	0.0332		107.5471	107.5471	2.5600e-003	2.4500e-003	108.3420
<b>Total</b>	<b>0.0389</b>	<b>0.0212</b>	<b>0.3357</b>	<b>1.0400e-003</b>	<b>0.1232</b>	<b>5.9000e-004</b>	<b>0.1238</b>	<b>0.0327</b>	<b>5.4000e-004</b>	<b>0.0332</b>		<b>107.5471</b>	<b>107.5471</b>	<b>2.5600e-003</b>	<b>2.4500e-003</b>	<b>108.3420</b>

MVMG Phase 1 - Alameda County, Summer

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

**3.7 Architectural Coating - 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					
Archit. Coating	7.8729					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
<b>Total</b>	<b>8.0536</b>	<b>1.2188</b>	<b>1.8101</b>	<b>2.9700e-003</b>		<b>0.0609</b>	<b>0.0609</b>		<b>0.0609</b>	<b>0.0609</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0159</b>		<b>281.8443</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>

MVMG Phase 1 - Alameda County, Summer

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

**3.7 Architectural Coating - 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					
Archit. Coating	7.8729					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
<b>Total</b>	<b>8.0536</b>	<b>1.2188</b>	<b>1.8101</b>	<b>2.9700e-003</b>		<b>0.0609</b>	<b>0.0609</b>		<b>0.0609</b>	<b>0.0609</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0159</b>		<b>281.8443</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	0.0657	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>



MVMG Phase 1 - 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	0.2227	0.2126	1.6808	3.7100e-003	0.3942	2.7100e-003	0.3969	0.1050	2.5200e-003	0.1075		387.3440	387.3440	0.0229	0.0188	393.5117
Unmitigated	0.2227	0.2126	1.6808	3.7100e-003	0.3942	2.7100e-003	0.3969	0.1050	2.5200e-003	0.1075		387.3440	387.3440	0.0229	0.0188	393.5117

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Place of Worship	100.06	100.06	100.06	187,185	187,185
Total	100.06	100.06	100.06	187,185	187,185

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Place of Worship	9.50	7.30	7.30	0.00	95.00	5.00	64	25	11

MVMG Phase 1 - Alameda County, Summer

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

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.570753	0.056481	0.179220	0.111941	0.020784	0.005211	0.013984	0.013033	0.000790	0.000560	0.024477	0.000343	0.002423
Parking Lot	0.570753	0.056481	0.179220	0.111941	0.020784	0.005211	0.013984	0.013033	0.000790	0.000560	0.024477	0.000343	0.002423
Place of Worship	0.570753	0.056481	0.179220	0.111941	0.020784	0.005211	0.013984	0.013033	0.000790	0.000560	0.024477	0.000343	0.002423

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

Kilowatt Hours of Renewable Electricity Generated

	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	0.0152	0.1380	0.1159	8.3000e-004		0.0105	0.0105		0.0105	0.0105		165.5859	165.5859	3.1700e-003	3.0400e-003	166.5699
NaturalGas Unmitigated	0.0152	0.1380	0.1159	8.3000e-004		0.0105	0.0105		0.0105	0.0105		165.5859	165.5859	3.1700e-003	3.0400e-003	166.5699

MVMG Phase 1 - 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**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	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
Place of Worship	1407.48	0.0152	0.1380	0.1159	8.3000e-004		0.0105	0.0105		0.0105	0.0105		165.5859	165.5859	3.1700e-003	3.0400e-003	166.5699
<b>Total</b>		<b>0.0152</b>	<b>0.1380</b>	<b>0.1159</b>	<b>8.3000e-004</b>		<b>0.0105</b>	<b>0.0105</b>		<b>0.0105</b>	<b>0.0105</b>		<b>165.5859</b>	<b>165.5859</b>	<b>3.1700e-003</b>	<b>3.0400e-003</b>	<b>166.5699</b>

MVMG Phase 1 - 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 Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	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
Place of Worship	1.40748	0.0152	0.1380	0.1159	8.3000e-004		0.0105	0.0105		0.0105	0.0105		165.5859	165.5859	3.1700e-003	3.0400e-003	166.5699
<b>Total</b>		<b>0.0152</b>	<b>0.1380</b>	<b>0.1159</b>	<b>8.3000e-004</b>		<b>0.0105</b>	<b>0.0105</b>		<b>0.0105</b>	<b>0.0105</b>		<b>165.5859</b>	<b>165.5859</b>	<b>3.1700e-003</b>	<b>3.0400e-003</b>	<b>166.5699</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

MVMG Phase 1 - 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
Category	lb/day										lb/day					
Mitigated	0.5119	6.0000e-005	6.5900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0132	0.0132	3.0000e-005		0.0138
Unmitigated	0.5125	1.0000e-004	0.0114	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0244	0.0244	6.0000e-005		0.0260

**6.2 Area by SubCategory**

**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0647					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.4467					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0500e-003	1.0000e-004	0.0114	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0244	0.0244	6.0000e-005		0.0260
<b>Total</b>	<b>0.5125</b>	<b>1.0000e-004</b>	<b>0.0114</b>	<b>0.0000</b>		<b>4.0000e-005</b>	<b>4.0000e-005</b>		<b>4.0000e-005</b>	<b>4.0000e-005</b>		<b>0.0244</b>	<b>0.0244</b>	<b>6.0000e-005</b>		<b>0.0260</b>

MVMG Phase 1 - 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	0.0647					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.4467					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.4000e-004	6.0000e-005	6.5900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0132	0.0132	3.0000e-005		0.0138
<b>Total</b>	<b>0.5119</b>	<b>6.0000e-005</b>	<b>6.5900e-003</b>	<b>0.0000</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>0.0132</b>	<b>0.0132</b>	<b>3.0000e-005</b>		<b>0.0138</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

**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
Tractors/Loaders/Backhoes	2	2.00	260	212	0.43	Bio-diesel

MVMG Phase 1 - Alameda County, Summer

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

**UnMitigated/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
Equipment Type	lb/day										lb/day					
Tractors/Loaders/Backhoes	0.0977	1.0123	0.8196	3.9100e-003		0.0342	0.0342		0.0315	0.0315	75.6621	302.6483	378.3104	0.1224		381.3693
<b>Total</b>	<b>0.0977</b>	<b>1.0123</b>	<b>0.8196</b>	<b>3.9100e-003</b>		<b>0.0342</b>	<b>0.0342</b>		<b>0.0315</b>	<b>0.0315</b>	<b>75.6621</b>	<b>302.6483</b>	<b>378.3104</b>	<b>0.1224</b>		<b>381.3693</b>

**10.0 Stationary Equipment**

**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	1	50	201	0.73	CNG

**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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MVMG Phase 1 - Alameda County, Summer

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

**10.1 Stationary Sources**

**Unmitigated/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	
Equipment Type	lb/day										lb/day						
Emergency Generator - CNG (0 - 500 HP)	1.7684	0.1703	4.6058	6.2000e-004		9.7600e-003	9.7600e-003		9.7600e-003	9.7600e-003		112.9840	112.9840	0.2362			118.8900
<b>Total</b>	<b>1.7684</b>	<b>0.1703</b>	<b>4.6058</b>	<b>6.2000e-004</b>		<b>9.7600e-003</b>	<b>9.7600e-003</b>		<b>9.7600e-003</b>	<b>9.7600e-003</b>		<b>112.9840</b>	<b>112.9840</b>	<b>0.2362</b>			<b>118.8900</b>

**11.0 Vegetation**

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MVMG Phase 1 - Alameda County, Winter

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

**MVMG Phase 1  
Alameda County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	19.62	1000sqft	0.36	19,623.00	0
Other Non-Asphalt Surfaces	0.90	Acre	0.90	39,204.00	0
Parking Lot	91.00	Space	1.70	36,400.00	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>	2025
<b>Utility Company</b>	Pacific Gas and Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	203.98	<b>CH4 Intensity (lb/MW hr)</b>	0.033	<b>N2O Intensity (lb/MW hr)</b>	0.004

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

Project Characteristics -  
 Land Use - 16,181 SF funeral home, 3,442 SF pavillion, 91 space parking lot and 0.9 acre entry plaza  
 Construction Phase - Per Applicant's construction schedule  
 Off-road Equipment -  
 Off-road Equipment - Assumed additional equipment for utility trenching  
 Grading - Phase 1 6.8 acres  
 Vehicle Trips - PHA Transportation Consultants, 2021. 100 trips per day.  
 Construction Off-road Equipment Mitigation - BAAQMD standard dust measures  
 Area Mitigation -  
 Energy Mitigation - 3 MW system - based on 2,146 MWh per year per MW

MVMG Phase 1 - Alameda County, Winter

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

Operational Off-Road Equipment - 2 bio-diesel tractors for burials

Stationary Sources - Emergency Generators and Fire Pumps - 150KW (201 HP) emergency generator (natural gas) - assumed one hour per day for testing/ limited to 50 hours per year per BAAQMD.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	220.00	270.00
tblConstructionPhase	NumDays	6.00	90.00
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	3.00	30.00
tblGrading	AcresOfGrading	90.00	6.80
tblGrading	AcresOfGrading	45.00	6.80
tblLandUse	LandUseSquareFeet	19,620.00	19,623.00
tblLandUse	LotAcreage	0.45	0.36
tblLandUse	LotAcreage	0.82	1.70
tblOperationalOffRoadEquipment	OperFuelType	Diesel	Bio-diesel
tblOperationalOffRoadEquipment	OperHorsePower	97.00	212.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	2.00
tblOperationalOffRoadEquipment	OperLoadFactor	0.37	0.43
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	201.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	1.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleTrips	ST_TR	5.99	5.10
tblVehicleTrips	SU_TR	27.63	5.10
tblVehicleTrips	WD_TR	6.95	5.10

**2.0 Emissions Summary**

MVMG Phase 1 - 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	2.0517	20.6285	16.9215	0.0331	6.2501	0.9715	7.2216	3.3581	0.8938	4.2519	0.0000	3,209.6498	3,209.6498	1.0022	0.0593	3,235.7925
2024	8.0748	13.6113	15.1748	0.0308	0.4370	0.5439	0.9809	0.1184	0.5208	0.6392	0.0000	2,892.1678	2,892.1678	0.5450	0.0580	2,920.4108
<b>Maximum</b>	<b>8.0748</b>	<b>20.6285</b>	<b>16.9215</b>	<b>0.0331</b>	<b>6.2501</b>	<b>0.9715</b>	<b>7.2216</b>	<b>3.3581</b>	<b>0.8938</b>	<b>4.2519</b>	<b>0.0000</b>	<b>3,209.6498</b>	<b>3,209.6498</b>	<b>1.0022</b>	<b>0.0593</b>	<b>3,235.7925</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	2.0517	20.6285	16.9215	0.0331	2.8939	0.9715	3.8654	1.5327	0.8938	2.4265	0.0000	3,209.6498	3,209.6498	1.0022	0.0593	3,235.7925
2024	8.0748	13.6113	15.1748	0.0308	0.4370	0.5439	0.9809	0.1184	0.5208	0.6392	0.0000	2,892.1678	2,892.1678	0.5450	0.0580	2,920.4108
<b>Maximum</b>	<b>8.0748</b>	<b>20.6285</b>	<b>16.9215</b>	<b>0.0331</b>	<b>2.8939</b>	<b>0.9715</b>	<b>3.8654</b>	<b>1.5327</b>	<b>0.8938</b>	<b>2.4265</b>	<b>0.0000</b>	<b>3,209.6498</b>	<b>3,209.6498</b>	<b>1.0022</b>	<b>0.0593</b>	<b>3,235.7925</b>

MVMG Phase 1 - 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	50.19	0.00	40.92	52.51	0.00	37.32	0.00	0.00	0.00	0.00	0.00	0.00

**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	0.5125	1.0000e-004	0.0114	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0244	0.0244	6.0000e-005		0.0260
Energy	0.0152	0.1380	0.1159	8.3000e-004		0.0105	0.0105		0.0105	0.0105		165.5859	165.5859	3.1700e-003	3.0400e-003	166.5699
Mobile	0.1954	0.2434	1.8463	3.5100e-003	0.3942	2.7100e-003	0.3969	0.1050	2.5300e-003	0.1075		366.2933	366.2933	0.0264	0.0205	373.0665
Offroad	0.0977	1.0123	0.8196	3.9100e-003		0.0342	0.0342		0.0315	0.0315	75.6621	302.6483	378.3104	0.1224		381.3693
Stationary	1.7684	0.1703	4.6058	6.2000e-004		9.7600e-003	9.7600e-003		9.7600e-003	9.7600e-003		112.9840	112.9840	0.2362		118.8900
<b>Total</b>	<b>2.5892</b>	<b>1.5640</b>	<b>7.3990</b>	<b>8.8700e-003</b>	<b>0.3942</b>	<b>0.0572</b>	<b>0.4514</b>	<b>0.1050</b>	<b>0.0543</b>	<b>0.1592</b>	<b>75.6621</b>	<b>947.5359</b>	<b>1,023.1980</b>	<b>0.3883</b>	<b>0.0236</b>	<b>1,039.9216</b>

MVMG Phase 1 - 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**

**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	0.5119	6.0000e-005	6.5900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0132	0.0132	3.0000e-005		0.0138
Energy	0.0152	0.1380	0.1159	8.3000e-004		0.0105	0.0105		0.0105	0.0105		165.5859	165.5859	3.1700e-003	3.0400e-003	166.5699
Mobile	0.1954	0.2434	1.8463	3.5100e-003	0.3942	2.7100e-003	0.3969	0.1050	2.5300e-003	0.1075		366.2933	366.2933	0.0264	0.0205	373.0665
Offroad	0.0977	1.0123	0.8196	3.9100e-003		0.0342	0.0342		0.0315	0.0315	75.6621	302.6483	378.3104	0.1224		381.3693
Stationary	1.7684	0.1703	4.6058	6.2000e-004		9.7600e-003	9.7600e-003		9.7600e-003	9.7600e-003		112.9840	112.9840	0.2362		118.8900
<b>Total</b>	<b>2.5886</b>	<b>1.5640</b>	<b>7.3942</b>	<b>8.8700e-003</b>	<b>0.3942</b>	<b>0.0572</b>	<b>0.4513</b>	<b>0.1050</b>	<b>0.0543</b>	<b>0.1592</b>	<b>75.6621</b>	<b>947.5247</b>	<b>1,023.1867</b>	<b>0.3882</b>	<b>0.0236</b>	<b>1,039.9094</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>0.02</b>	<b>0.00</b>	<b>0.06</b>	<b>0.00</b>	<b>0.00</b>	<b>0.03</b>	<b>0.00</b>	<b>0.00</b>	<b>0.04</b>	<b>0.01</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.01</b>	<b>0.00</b>	<b>0.00</b>

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2023	2/10/2023	5	30	
2	Grading	Grading	2/11/2023	6/16/2023	5	90	
3	Utilities	Trenching	5/7/2023	6/16/2023	5	30	

MVMG Phase 1 - Alameda County, Winter

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

4	Building Construction	Building Construction	6/17/2023	6/28/2024	5	270
5	Paving	Paving	6/29/2024	8/9/2024	5	30
6	Architectural Coating	Architectural Coating	8/10/2024	9/20/2024	5	30

**Acres of Grading (Site Preparation Phase): 6.8**

**Acres of Grading (Grading Phase): 6.8**

**Acres of Paving: 2.6**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 29,435; Non-Residential Outdoor: 9,812; Striped Parking Area: 4,536 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

MVMG Phase 1 - Alameda County, Winter

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

Utilities	Excavators	1	8.00	158	0.38
Utilities	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Utilities	Trenchers	1	8.00	78	0.50

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	40.00	16.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utilities	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

MVMG Phase 1 - Alameda County, Winter

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

**3.2 Site Preparation - 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					0.2404	0.0000	0.2404	0.0260	0.0000	0.0260			0.0000			0.0000
Off-Road	1.3027	14.2802	9.7820	0.0245		0.5419	0.5419		0.4985	0.4985		2,374.863 4	2,374.863 4	0.7681		2,394.065 4
<b>Total</b>	<b>1.3027</b>	<b>14.2802</b>	<b>9.7820</b>	<b>0.0245</b>	<b>0.2404</b>	<b>0.5419</b>	<b>0.7823</b>	<b>0.0260</b>	<b>0.4985</b>	<b>0.5245</b>		<b>2,374.863 4</b>	<b>2,374.863 4</b>	<b>0.7681</b>		<b>2,394.065 4</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	0.0226	0.0157	0.1847	5.3000e-004	0.0657	3.3000e-004	0.0661	0.0174	3.0000e-004	0.0177		54.6001	54.6001	1.7200e-003	1.6200e-003	55.1265
<b>Total</b>	<b>0.0226</b>	<b>0.0157</b>	<b>0.1847</b>	<b>5.3000e-004</b>	<b>0.0657</b>	<b>3.3000e-004</b>	<b>0.0661</b>	<b>0.0174</b>	<b>3.0000e-004</b>	<b>0.0177</b>		<b>54.6001</b>	<b>54.6001</b>	<b>1.7200e-003</b>	<b>1.6200e-003</b>	<b>55.1265</b>



MVMG Phase 1 - Alameda County, Winter

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

**3.2 Site Preparation - 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					0.1082	0.0000	0.1082	0.0117	0.0000	0.0117			0.0000			0.0000
Off-Road	1.3027	14.2802	9.7820	0.0245		0.5419	0.5419		0.4985	0.4985	0.0000	2,374.863 4	2,374.863 4	0.7681		2,394.065 4
<b>Total</b>	<b>1.3027</b>	<b>14.2802</b>	<b>9.7820</b>	<b>0.0245</b>	<b>0.1082</b>	<b>0.5419</b>	<b>0.6501</b>	<b>0.0117</b>	<b>0.4985</b>	<b>0.5102</b>	<b>0.0000</b>	<b>2,374.863 4</b>	<b>2,374.863 4</b>	<b>0.7681</b>		<b>2,394.065 4</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	0.0226	0.0157	0.1847	5.3000e-004	0.0657	3.3000e-004	0.0661	0.0174	3.0000e-004	0.0177		54.6001	54.6001	1.7200e-003	1.6200e-003	55.1265
<b>Total</b>	<b>0.0226</b>	<b>0.0157</b>	<b>0.1847</b>	<b>5.3000e-004</b>	<b>0.0657</b>	<b>3.3000e-004</b>	<b>0.0661</b>	<b>0.0174</b>	<b>3.0000e-004</b>	<b>0.0177</b>		<b>54.6001</b>	<b>54.6001</b>	<b>1.7200e-003</b>	<b>1.6200e-003</b>	<b>55.1265</b>

MVMG Phase 1 - Alameda County, Winter

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

**3.3 Grading - 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					6.1022	0.0000	6.1022	3.3189	0.0000	3.3189			0.0000			0.0000
Off-Road	1.3330	14.4676	8.7038	0.0206		0.6044	0.6044		0.5560	0.5560		1,995.6147	1,995.6147	0.6454		2,011.7503
<b>Total</b>	<b>1.3330</b>	<b>14.4676</b>	<b>8.7038</b>	<b>0.0206</b>	<b>6.1022</b>	<b>0.6044</b>	<b>6.7066</b>	<b>3.3189</b>	<b>0.5560</b>	<b>3.8749</b>		<b>1,995.6147</b>	<b>1,995.6147</b>	<b>0.6454</b>		<b>2,011.7503</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	0.0283	0.0197	0.2308	6.7000e-004	0.0822	4.1000e-004	0.0826	0.0218	3.8000e-004	0.0222		68.2501	68.2501	2.1500e-003	2.0300e-003	68.9081
<b>Total</b>	<b>0.0283</b>	<b>0.0197</b>	<b>0.2308</b>	<b>6.7000e-004</b>	<b>0.0822</b>	<b>4.1000e-004</b>	<b>0.0826</b>	<b>0.0218</b>	<b>3.8000e-004</b>	<b>0.0222</b>		<b>68.2501</b>	<b>68.2501</b>	<b>2.1500e-003</b>	<b>2.0300e-003</b>	<b>68.9081</b>

MVMG Phase 1 - Alameda County, Winter

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

**3.3 Grading - 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					2.7460	0.0000	2.7460	1.4935	0.0000	1.4935			0.0000			0.0000
Off-Road	1.3330	14.4676	8.7038	0.0206		0.6044	0.6044		0.5560	0.5560	0.0000	1,995.6147	1,995.6147	0.6454		2,011.7503
<b>Total</b>	<b>1.3330</b>	<b>14.4676</b>	<b>8.7038</b>	<b>0.0206</b>	<b>2.7460</b>	<b>0.6044</b>	<b>3.3504</b>	<b>1.4935</b>	<b>0.5560</b>	<b>2.0495</b>	<b>0.0000</b>	<b>1,995.6147</b>	<b>1,995.6147</b>	<b>0.6454</b>		<b>2,011.7503</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	0.0283	0.0197	0.2308	6.7000e-004	0.0822	4.1000e-004	0.0826	0.0218	3.8000e-004	0.0222		68.2501	68.2501	2.1500e-003	2.0300e-003	68.9081
<b>Total</b>	<b>0.0283</b>	<b>0.0197</b>	<b>0.2308</b>	<b>6.7000e-004</b>	<b>0.0822</b>	<b>4.1000e-004</b>	<b>0.0826</b>	<b>0.0218</b>	<b>3.8000e-004</b>	<b>0.0222</b>		<b>68.2501</b>	<b>68.2501</b>	<b>2.1500e-003</b>	<b>2.0300e-003</b>	<b>68.9081</b>

MVMG Phase 1 - Alameda County, Winter

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

**3.4 Utilities - 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					
Off-Road	0.6678	6.1255	7.8023	0.0113		0.3664	0.3664		0.3371	0.3371		1,091.1849	1,091.1849	0.3529		1,100.0077
<b>Total</b>	<b>0.6678</b>	<b>6.1255</b>	<b>7.8023</b>	<b>0.0113</b>		<b>0.3664</b>	<b>0.3664</b>		<b>0.3371</b>	<b>0.3371</b>		<b>1,091.1849</b>	<b>1,091.1849</b>	<b>0.3529</b>		<b>1,100.0077</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	0.0226	0.0157	0.1847	5.3000e-004	0.0657	3.3000e-004	0.0661	0.0174	3.0000e-004	0.0177		54.6001	54.6001	1.7200e-003	1.6200e-003	55.1265
<b>Total</b>	<b>0.0226</b>	<b>0.0157</b>	<b>0.1847</b>	<b>5.3000e-004</b>	<b>0.0657</b>	<b>3.3000e-004</b>	<b>0.0661</b>	<b>0.0174</b>	<b>3.0000e-004</b>	<b>0.0177</b>		<b>54.6001</b>	<b>54.6001</b>	<b>1.7200e-003</b>	<b>1.6200e-003</b>	<b>55.1265</b>

MVMG Phase 1 - Alameda County, Winter

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

**3.4 Utilities - 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					
Off-Road	0.6678	6.1255	7.8023	0.0113		0.3664	0.3664		0.3371	0.3371	0.0000	1,091.1849	1,091.1849	0.3529		1,100.0077
<b>Total</b>	<b>0.6678</b>	<b>6.1255</b>	<b>7.8023</b>	<b>0.0113</b>		<b>0.3664</b>	<b>0.3664</b>		<b>0.3371</b>	<b>0.3371</b>	<b>0.0000</b>	<b>1,091.1849</b>	<b>1,091.1849</b>	<b>0.3529</b>		<b>1,100.0077</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	0.0226	0.0157	0.1847	5.3000e-004	0.0657	3.3000e-004	0.0661	0.0174	3.0000e-004	0.0177		54.6001	54.6001	1.7200e-003	1.6200e-003	55.1265
<b>Total</b>	<b>0.0226</b>	<b>0.0157</b>	<b>0.1847</b>	<b>5.3000e-004</b>	<b>0.0657</b>	<b>3.3000e-004</b>	<b>0.0661</b>	<b>0.0174</b>	<b>3.0000e-004</b>	<b>0.0177</b>		<b>54.6001</b>	<b>54.6001</b>	<b>1.7200e-003</b>	<b>1.6200e-003</b>	<b>55.1265</b>

MVMG Phase 1 - Alameda County, Winter

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

**3.5 Building Construction - 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					
Off-Road	1.7136	13.6239	14.2145	0.0250		0.6136	0.6136		0.5880	0.5880		2,289.5233	2,289.5233	0.4330		2,300.3479
<b>Total</b>	<b>1.7136</b>	<b>13.6239</b>	<b>14.2145</b>	<b>0.0250</b>		<b>0.6136</b>	<b>0.6136</b>		<b>0.5880</b>	<b>0.5880</b>		<b>2,289.5233</b>	<b>2,289.5233</b>	<b>0.4330</b>		<b>2,300.3479</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	0.0158	0.7149	0.2153	3.2000e-003	0.1084	4.2300e-003	0.1127	0.0312	4.0500e-003	0.0353		341.5075	341.5075	4.6200e-003	0.0512	356.8671
Worker	0.1131	0.0786	0.9233	2.6700e-003	0.3286	1.6500e-003	0.3302	0.0872	1.5200e-003	0.0887		273.0002	273.0002	8.6100e-003	8.1100e-003	275.6323
<b>Total</b>	<b>0.1289</b>	<b>0.7935</b>	<b>1.1386</b>	<b>5.8700e-003</b>	<b>0.4370</b>	<b>5.8800e-003</b>	<b>0.4429</b>	<b>0.1184</b>	<b>5.5700e-003</b>	<b>0.1240</b>		<b>614.5077</b>	<b>614.5077</b>	<b>0.0132</b>	<b>0.0593</b>	<b>632.4994</b>

MVMG Phase 1 - Alameda County, Winter

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

**3.5 Building Construction - 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					
Off-Road	1.7136	13.6239	14.2145	0.0250		0.6136	0.6136		0.5880	0.5880	0.0000	2,289.5233	2,289.5233	0.4330		2,300.3479
<b>Total</b>	<b>1.7136</b>	<b>13.6239</b>	<b>14.2145</b>	<b>0.0250</b>		<b>0.6136</b>	<b>0.6136</b>		<b>0.5880</b>	<b>0.5880</b>	<b>0.0000</b>	<b>2,289.5233</b>	<b>2,289.5233</b>	<b>0.4330</b>		<b>2,300.3479</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	0.0158	0.7149	0.2153	3.2000e-003	0.1084	4.2300e-003	0.1127	0.0312	4.0500e-003	0.0353		341.5075	341.5075	4.6200e-003	0.0512	356.8671
Worker	0.1131	0.0786	0.9233	2.6700e-003	0.3286	1.6500e-003	0.3302	0.0872	1.5200e-003	0.0887		273.0002	273.0002	8.6100e-003	8.1100e-003	275.6323
<b>Total</b>	<b>0.1289</b>	<b>0.7935</b>	<b>1.1386</b>	<b>5.8700e-003</b>	<b>0.4370</b>	<b>5.8800e-003</b>	<b>0.4429</b>	<b>0.1184</b>	<b>5.5700e-003</b>	<b>0.1240</b>		<b>614.5077</b>	<b>614.5077</b>	<b>0.0132</b>	<b>0.0593</b>	<b>632.4994</b>

MVMG Phase 1 - Alameda County, Winter

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

**3.5 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	1.5971	12.8235	14.1002	0.0250		0.5381	0.5381		0.5153	0.5153		2,289.654 1	2,289.654 1	0.4265		2,300.315 4
<b>Total</b>	<b>1.5971</b>	<b>12.8235</b>	<b>14.1002</b>	<b>0.0250</b>		<b>0.5381</b>	<b>0.5381</b>		<b>0.5153</b>	<b>0.5153</b>		<b>2,289.654 1</b>	<b>2,289.654 1</b>	<b>0.4265</b>		<b>2,300.315 4</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	0.0154	0.7176	0.2113	3.1500e-003	0.1084	4.2700e-003	0.1127	0.0312	4.0800e-003	0.0353		336.2425	336.2425	4.6100e-003	0.0504	351.3756
Worker	0.1058	0.0702	0.8634	2.5800e-003	0.3286	1.5700e-003	0.3302	0.0872	1.4400e-003	0.0886		266.2713	266.2713	7.8200e-003	7.5600e-003	268.7197
<b>Total</b>	<b>0.1212</b>	<b>0.7878</b>	<b>1.0747</b>	<b>5.7300e-003</b>	<b>0.4370</b>	<b>5.8400e-003</b>	<b>0.4429</b>	<b>0.1184</b>	<b>5.5200e-003</b>	<b>0.1239</b>		<b>602.5137</b>	<b>602.5137</b>	<b>0.0124</b>	<b>0.0580</b>	<b>620.0954</b>



MVMG Phase 1 - Alameda County, Winter

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

**3.5 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	1.5971	12.8235	14.1002	0.0250		0.5381	0.5381		0.5153	0.5153	0.0000	2,289.654 1	2,289.654 1	0.4265		2,300.315 4
<b>Total</b>	<b>1.5971</b>	<b>12.8235</b>	<b>14.1002</b>	<b>0.0250</b>		<b>0.5381</b>	<b>0.5381</b>		<b>0.5153</b>	<b>0.5153</b>	<b>0.0000</b>	<b>2,289.654 1</b>	<b>2,289.654 1</b>	<b>0.4265</b>		<b>2,300.315 4</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	0.0154	0.7176	0.2113	3.1500e-003	0.1084	4.2700e-003	0.1127	0.0312	4.0800e-003	0.0353		336.2425	336.2425	4.6100e-003	0.0504	351.3756
Worker	0.1058	0.0702	0.8634	2.5800e-003	0.3286	1.5700e-003	0.3302	0.0872	1.4400e-003	0.0886		266.2713	266.2713	7.8200e-003	7.5600e-003	268.7197
<b>Total</b>	<b>0.1212</b>	<b>0.7878</b>	<b>1.0747</b>	<b>5.7300e-003</b>	<b>0.4370</b>	<b>5.8400e-003</b>	<b>0.4429</b>	<b>0.1184</b>	<b>5.5200e-003</b>	<b>0.1239</b>		<b>602.5137</b>	<b>602.5137</b>	<b>0.0124</b>	<b>0.0580</b>	<b>620.0954</b>

MVMG Phase 1 - Alameda County, Winter

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

**3.6 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	0.8425	8.1030	11.7069	0.0179		0.3957	0.3957		0.3652	0.3652		1,710.2024	1,710.2024	0.5420		1,723.7529
Paving	0.1485					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.9909</b>	<b>8.1030</b>	<b>11.7069</b>	<b>0.0179</b>		<b>0.3957</b>	<b>0.3957</b>		<b>0.3652</b>	<b>0.3652</b>		<b>1,710.2024</b>	<b>1,710.2024</b>	<b>0.5420</b>		<b>1,723.7529</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	0.0397	0.0263	0.3238	9.7000e-004	0.1232	5.9000e-004	0.1238	0.0327	5.4000e-004	0.0332		99.8517	99.8517	2.9300e-003	2.8400e-003	100.7699
<b>Total</b>	<b>0.0397</b>	<b>0.0263</b>	<b>0.3238</b>	<b>9.7000e-004</b>	<b>0.1232</b>	<b>5.9000e-004</b>	<b>0.1238</b>	<b>0.0327</b>	<b>5.4000e-004</b>	<b>0.0332</b>		<b>99.8517</b>	<b>99.8517</b>	<b>2.9300e-003</b>	<b>2.8400e-003</b>	<b>100.7699</b>

MVMG Phase 1 - Alameda County, Winter

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

**3.6 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	0.8425	8.1030	11.7069	0.0179		0.3957	0.3957		0.3652	0.3652	0.0000	1,710.2024	1,710.2024	0.5420		1,723.7529
Paving	0.1485					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.9909</b>	<b>8.1030</b>	<b>11.7069</b>	<b>0.0179</b>		<b>0.3957</b>	<b>0.3957</b>		<b>0.3652</b>	<b>0.3652</b>	<b>0.0000</b>	<b>1,710.2024</b>	<b>1,710.2024</b>	<b>0.5420</b>		<b>1,723.7529</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	0.0397	0.0263	0.3238	9.7000e-004	0.1232	5.9000e-004	0.1238	0.0327	5.4000e-004	0.0332		99.8517	99.8517	2.9300e-003	2.8400e-003	100.7699
<b>Total</b>	<b>0.0397</b>	<b>0.0263</b>	<b>0.3238</b>	<b>9.7000e-004</b>	<b>0.1232</b>	<b>5.9000e-004</b>	<b>0.1238</b>	<b>0.0327</b>	<b>5.4000e-004</b>	<b>0.0332</b>		<b>99.8517</b>	<b>99.8517</b>	<b>2.9300e-003</b>	<b>2.8400e-003</b>	<b>100.7699</b>

MVMG Phase 1 - Alameda County, Winter

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

**3.7 Architectural Coating - 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					
Archit. Coating	7.8729					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
<b>Total</b>	<b>8.0536</b>	<b>1.2188</b>	<b>1.8101</b>	<b>2.9700e-003</b>		<b>0.0609</b>	<b>0.0609</b>		<b>0.0609</b>	<b>0.0609</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0159</b>		<b>281.8443</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>

MVMG Phase 1 - Alameda County, Winter

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

**3.7 Architectural Coating - 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					
Archit. Coating	7.8729					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
<b>Total</b>	<b>8.0536</b>	<b>1.2188</b>	<b>1.8101</b>	<b>2.9700e-003</b>		<b>0.0609</b>	<b>0.0609</b>		<b>0.0609</b>	<b>0.0609</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0159</b>		<b>281.8443</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	0.0657	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>

MVMG Phase 1 - 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	0.1954	0.2434	1.8463	3.5100e-003	0.3942	2.7100e-003	0.3969	0.1050	2.5300e-003	0.1075		366.2933	366.2933	0.0264	0.0205	373.0665
Unmitigated	0.1954	0.2434	1.8463	3.5100e-003	0.3942	2.7100e-003	0.3969	0.1050	2.5300e-003	0.1075		366.2933	366.2933	0.0264	0.0205	373.0665

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Place of Worship	100.06	100.06	100.06	187,185	187,185
Total	100.06	100.06	100.06	187,185	187,185

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Place of Worship	9.50	7.30	7.30	0.00	95.00	5.00	64	25	11

MVMG Phase 1 - Alameda County, Winter

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

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.570753	0.056481	0.179220	0.111941	0.020784	0.005211	0.013984	0.013033	0.000790	0.000560	0.024477	0.000343	0.002423
Parking Lot	0.570753	0.056481	0.179220	0.111941	0.020784	0.005211	0.013984	0.013033	0.000790	0.000560	0.024477	0.000343	0.002423
Place of Worship	0.570753	0.056481	0.179220	0.111941	0.020784	0.005211	0.013984	0.013033	0.000790	0.000560	0.024477	0.000343	0.002423

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

Kilowatt Hours of Renewable Electricity Generated

	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	0.0152	0.1380	0.1159	8.3000e-004		0.0105	0.0105		0.0105	0.0105		165.5859	165.5859	3.1700e-003	3.0400e-003	166.5699
NaturalGas Unmitigated	0.0152	0.1380	0.1159	8.3000e-004		0.0105	0.0105		0.0105	0.0105		165.5859	165.5859	3.1700e-003	3.0400e-003	166.5699

MVMG Phase 1 - 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**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	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
Place of Worship	1407.48	0.0152	0.1380	0.1159	8.3000e-004		0.0105	0.0105		0.0105	0.0105		165.5859	165.5859	3.1700e-003	3.0400e-003	166.5699
<b>Total</b>		<b>0.0152</b>	<b>0.1380</b>	<b>0.1159</b>	<b>8.3000e-004</b>		<b>0.0105</b>	<b>0.0105</b>		<b>0.0105</b>	<b>0.0105</b>		<b>165.5859</b>	<b>165.5859</b>	<b>3.1700e-003</b>	<b>3.0400e-003</b>	<b>166.5699</b>



MVMG Phase 1 - 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 Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	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
Place of Worship	1.40748	0.0152	0.1380	0.1159	8.3000e-004		0.0105	0.0105		0.0105	0.0105		165.5859	165.5859	3.1700e-003	3.0400e-003	166.5699
<b>Total</b>		<b>0.0152</b>	<b>0.1380</b>	<b>0.1159</b>	<b>8.3000e-004</b>		<b>0.0105</b>	<b>0.0105</b>		<b>0.0105</b>	<b>0.0105</b>		<b>165.5859</b>	<b>165.5859</b>	<b>3.1700e-003</b>	<b>3.0400e-003</b>	<b>166.5699</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

MVMG Phase 1 - 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
Category	lb/day										lb/day					
Mitigated	0.5119	6.0000e-005	6.5900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0132	0.0132	3.0000e-005		0.0138
Unmitigated	0.5125	1.0000e-004	0.0114	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0244	0.0244	6.0000e-005		0.0260

**6.2 Area by SubCategory**

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0647					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.4467					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0500e-003	1.0000e-004	0.0114	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0244	0.0244	6.0000e-005		0.0260
<b>Total</b>	<b>0.5125</b>	<b>1.0000e-004</b>	<b>0.0114</b>	<b>0.0000</b>		<b>4.0000e-005</b>	<b>4.0000e-005</b>		<b>4.0000e-005</b>	<b>4.0000e-005</b>		<b>0.0244</b>	<b>0.0244</b>	<b>6.0000e-005</b>		<b>0.0260</b>

MVMG Phase 1 - 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	0.0647					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.4467					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.4000e-004	6.0000e-005	6.5900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0132	0.0132	3.0000e-005		0.0138
<b>Total</b>	<b>0.5119</b>	<b>6.0000e-005</b>	<b>6.5900e-003</b>	<b>0.0000</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>0.0132</b>	<b>0.0132</b>	<b>3.0000e-005</b>		<b>0.0138</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Tractors/Loaders/Backhoes	2	2.00	260	212	0.43	Bio-diesel

MVMG Phase 1 - Alameda County, Winter

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

UnMitigated/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
Equipment Type	lb/day										lb/day					
Tractors/Loaders/Backhoes	0.0977	1.0123	0.8196	3.9100e-003		0.0342	0.0342		0.0315	0.0315	75.6621	302.6483	378.3104	0.1224		381.3693
<b>Total</b>	<b>0.0977</b>	<b>1.0123</b>	<b>0.8196</b>	<b>3.9100e-003</b>		<b>0.0342</b>	<b>0.0342</b>		<b>0.0315</b>	<b>0.0315</b>	<b>75.6621</b>	<b>302.6483</b>	<b>378.3104</b>	<b>0.1224</b>		<b>381.3693</b>

**10.0 Stationary Equipment**

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	1	50	201	0.73	CNG

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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MVMG Phase 1 - Alameda County, Winter

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

**10.1 Stationary Sources**

**Unmitigated/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
Equipment Type	lb/day										lb/day					
Emergency Generator - CNG (0 - 500 HP)	1.7684	0.1703	4.6058	6.2000e-004		9.7600e-003	9.7600e-003		9.7600e-003	9.7600e-003		112.9840	112.9840	0.2362		118.8900
<b>Total</b>	<b>1.7684</b>	<b>0.1703</b>	<b>4.6058</b>	<b>6.2000e-004</b>		<b>9.7600e-003</b>	<b>9.7600e-003</b>		<b>9.7600e-003</b>	<b>9.7600e-003</b>		<b>112.9840</b>	<b>112.9840</b>	<b>0.2362</b>		<b>118.8900</b>

**11.0 Vegetation**

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

**MVMG Phase 2 (Construction Only)**

**Alameda County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	20.00	1000sqft	0.46	20,000.00	0
User Defined Educational	24.00	User Defined Unit	24.00	1,045,440.00	0
Other Non-Asphalt Surfaces	5.10	Acre	5.10	222,156.00	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>	2030
<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 - 20,000 SF Columbarium and Mausoleum, 24 acres of burial lots, 5.1 acres of roads (decomposed granite)

Construction Phase - Per Applicant's construction schedule

Off-road Equipment -

Off-road Equipment - Assumed additional equipment for utility trenching

Grading - Phase 2 40.3 acres

Vehicle Trips - Transportation emissions in Phase I emissions estimates.

Energy Use - Construction Only - Energy Use in Phase I emissions

Water And Wastewater - Construction Only - Water Emissions estimated in Phase I emissions

Solid Waste - Construction Only - Waste emissions are in Phase I emissions.

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

Construction Off-road Equipment Mitigation - BAAQMD standard dust measures

Area Mitigation -

Energy Mitigation - Solar estimated in Phase I emissions

Operational Off-Road Equipment - burial tractors in Phase I emissions

Stationary Sources - Emergency Generators and Fire Pumps - Emergency generator in Phase I emissions

Consumer Products - Construction Only

Area Coating - Construction Only

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	532720	0
tblAreaCoating	Area_Nonresidential_Interior	1598160	0
tblAreaCoating	Area_Parking	13329	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	35.00	60.00
tblConstructionPhase	NumDays	440.00	270.00
tblConstructionPhase	NumDays	45.00	180.00
tblConstructionPhase	NumDays	35.00	60.00
tblConstructionPhase	NumDays	20.00	60.00
tblConsumerProducts	ROG_EF	2.14E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblEnergyUse	LightingElect	3.08	0.00
tblEnergyUse	NT24E	3.70	0.00
tblEnergyUse	NT24NG	6.67	0.00
tblEnergyUse	T24E	1.32	0.00
tblEnergyUse	T24NG	19.51	0.00
tblGrading	AcresOfGrading	540.00	40.30
tblGrading	AcresOfGrading	90.00	40.30

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

tblLandUse	LandUseSquareFeet	0.00	1,045,440.00
tblLandUse	LotAcreage	0.00	24.00
tblSolidWaste	SolidWasteGenerationRate	114.00	0.00
tblVehicleTrips	ST_TR	5.99	0.00
tblVehicleTrips	SU_TR	27.63	0.00
tblVehicleTrips	WD_TR	6.95	0.00
tblWater	IndoorWaterUseRate	625,778.17	0.00
tblWater	OutdoorWaterUseRate	978,781.24	0.00

**2.0 Emissions Summary**

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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					
2027	0.3852	3.6580	3.4681	8.2000e-003	1.2038	0.1496	1.3533	0.6213	0.1378	0.7590	0.0000	727.1747	727.1747	0.2078	6.7800e-003	734.3891
2028	0.3308	2.8209	3.5470	0.0122	0.7086	0.0771	0.7857	0.1925	0.0725	0.2651	0.0000	1,141.7302	1,141.7302	0.0862	0.0786	1,167.2972
2029	5.6366	0.2527	0.4771	8.6000e-004	0.0286	0.0121	0.0407	7.6000e-003	0.0113	0.0189	0.0000	77.4656	77.4656	0.0170	4.5000e-004	78.0254
<b>Maximum</b>	<b>5.6366</b>	<b>3.6580</b>	<b>3.5470</b>	<b>0.0122</b>	<b>1.2038</b>	<b>0.1496</b>	<b>1.3533</b>	<b>0.6213</b>	<b>0.1378</b>	<b>0.7590</b>	<b>0.0000</b>	<b>1,141.7302</b>	<b>1,141.7302</b>	<b>0.2078</b>	<b>0.0786</b>	<b>1,167.2972</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					
2027	0.3852	3.6580	3.4681	8.2000e-003	0.5841	0.1496	0.7336	0.2910	0.1378	0.4288	0.0000	727.1739	727.1739	0.2078	6.7800e-003	734.3884
2028	0.3308	2.8209	3.5470	0.0122	0.7086	0.0771	0.7857	0.1925	0.0725	0.2651	0.0000	1,141.7298	1,141.7298	0.0862	0.0786	1,167.2968
2029	5.6366	0.2527	0.4771	8.6000e-004	0.0286	0.0121	0.0407	7.6000e-003	0.0113	0.0189	0.0000	77.4655	77.4655	0.0170	4.5000e-004	78.0254
<b>Maximum</b>	<b>5.6366</b>	<b>3.6580</b>	<b>3.5470</b>	<b>0.0122</b>	<b>0.7086</b>	<b>0.1496</b>	<b>0.7857</b>	<b>0.2910</b>	<b>0.1378</b>	<b>0.4288</b>	<b>0.0000</b>	<b>1,141.7298</b>	<b>1,141.7298</b>	<b>0.2078</b>	<b>0.0786</b>	<b>1,167.2968</b>

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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
Percent Reduction	0.00	0.00	0.00	0.00	31.93	0.00	28.43	40.21	0.00	31.67	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	1-4-2027	4-3-2027	0.9016	0.9016
2	4-4-2027	7-3-2027	1.0045	1.0045
3	7-4-2027	10-3-2027	1.0645	1.0645
4	10-4-2027	1-3-2028	1.0836	1.0836
5	1-4-2028	4-3-2028	0.8175	0.8175
6	4-4-2028	7-3-2028	0.7963	0.7963
7	7-4-2028	10-3-2028	0.8058	0.8058
8	10-4-2028	1-3-2029	0.7211	0.7211
9	1-4-2029	4-3-2029	1.9035	1.9035
10	4-4-2029	7-3-2029	3.9689	3.9689
		Highest	3.9689	3.9689

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**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	tons/yr										MT/yr					
Area	4.0000e-005	0.0000	4.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.8000e-004	8.8000e-004	0.0000	0.0000	9.3000e-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>4.0000e-005</b>	<b>0.0000</b>	<b>4.5000e-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>8.8000e-004</b>	<b>8.8000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>9.3000e-004</b>

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**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	4.0000e-005	0.0000	4.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.8000e-004	8.8000e-004	0.0000	0.0000	9.3000e-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>4.0000e-005</b>	<b>0.0000</b>	<b>4.5000e-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>8.8000e-004</b>	<b>8.8000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>9.3000e-004</b>

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

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/4/2027	3/26/2027	5	60	
2	Grading	Grading	3/27/2027	12/3/2027	5	180	
3	Utilities	Trenching	9/11/2027	12/3/2027	5	60	

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

4	Building Construction	Building Construction	12/4/2027	12/15/2028	5	270
5	Paving	Paving	12/16/2028	3/9/2029	5	60
6	Architectural Coating	Architectural Coating	3/10/2029	6/1/2029	5	60

**Acres of Grading (Site Preparation Phase): 40.3**

**Acres of Grading (Grading Phase): 40.3**

**Acres of Paving: 5.1**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,598,160; Non-Residential Outdoor: 532,720; Striped Parking Area: 13,329 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Utilities	Excavators	1	8.00	158	0.38
Utilities	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Utilities	Trenchers	1	8.00	78	0.50
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36

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

Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utilities	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	541.00	211.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	108.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

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

**3.2 Site Preparation - 2027**

**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					0.5634	0.0000	0.5634	0.3002	0.0000	0.3002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0742	0.7570	0.5374	1.1400e-003		0.0326	0.0326		0.0300	0.0300	0.0000	100.4010	100.4010	0.0325	0.0000	101.2128
<b>Total</b>	<b>0.0742</b>	<b>0.7570</b>	<b>0.5374</b>	<b>1.1400e-003</b>	<b>0.5634</b>	<b>0.0326</b>	<b>0.5960</b>	<b>0.3002</b>	<b>0.0300</b>	<b>0.3302</b>	<b>0.0000</b>	<b>100.4010</b>	<b>100.4010</b>	<b>0.0325</b>	<b>0.0000</b>	<b>101.2128</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	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	1.1100e-003	6.5000e-004	9.4900e-003	3.0000e-005	4.2700e-003	2.0000e-005	4.2900e-003	1.1400e-003	2.0000e-005	1.1500e-003	0.0000	3.0643	3.0643	7.0000e-005	7.0000e-005	3.0879
<b>Total</b>	<b>1.1100e-003</b>	<b>6.5000e-004</b>	<b>9.4900e-003</b>	<b>3.0000e-005</b>	<b>4.2700e-003</b>	<b>2.0000e-005</b>	<b>4.2900e-003</b>	<b>1.1400e-003</b>	<b>2.0000e-005</b>	<b>1.1500e-003</b>	<b>0.0000</b>	<b>3.0643</b>	<b>3.0643</b>	<b>7.0000e-005</b>	<b>7.0000e-005</b>	<b>3.0879</b>

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

**3.2 Site Preparation - 2027**

**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					0.2535	0.0000	0.2535	0.1351	0.0000	0.1351	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0742	0.7570	0.5374	1.1400e-003		0.0326	0.0326		0.0300	0.0300	0.0000	100.4008	100.4008	0.0325	0.0000	101.2126
<b>Total</b>	<b>0.0742</b>	<b>0.7570</b>	<b>0.5374</b>	<b>1.1400e-003</b>	<b>0.2535</b>	<b>0.0326</b>	<b>0.2861</b>	<b>0.1351</b>	<b>0.0300</b>	<b>0.1651</b>	<b>0.0000</b>	<b>100.4008</b>	<b>100.4008</b>	<b>0.0325</b>	<b>0.0000</b>	<b>101.2126</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	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	1.1100e-003	6.5000e-004	9.4900e-003	3.0000e-005	4.2700e-003	2.0000e-005	4.2900e-003	1.1400e-003	2.0000e-005	1.1500e-003	0.0000	3.0643	3.0643	7.0000e-005	7.0000e-005	3.0879
<b>Total</b>	<b>1.1100e-003</b>	<b>6.5000e-004</b>	<b>9.4900e-003</b>	<b>3.0000e-005</b>	<b>4.2700e-003</b>	<b>2.0000e-005</b>	<b>4.2900e-003</b>	<b>1.1400e-003</b>	<b>2.0000e-005</b>	<b>1.1500e-003</b>	<b>0.0000</b>	<b>3.0643</b>	<b>3.0643</b>	<b>7.0000e-005</b>	<b>7.0000e-005</b>	<b>3.0879</b>



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

**3.3 Grading - 2027**

**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					0.5634	0.0000	0.5634	0.3002	0.0000	0.3002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2611	2.5149	2.3698	5.5900e-003		0.1018	0.1018		0.0936	0.0936	0.0000	490.5559	490.5559	0.1587	0.0000	494.5223
<b>Total</b>	<b>0.2611</b>	<b>2.5149</b>	<b>2.3698</b>	<b>5.5900e-003</b>	<b>0.5634</b>	<b>0.1018</b>	<b>0.6651</b>	<b>0.3002</b>	<b>0.0936</b>	<b>0.3939</b>	<b>0.0000</b>	<b>490.5559</b>	<b>490.5559</b>	<b>0.1587</b>	<b>0.0000</b>	<b>494.5223</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	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	3.6800e-003	2.1700e-003	0.0316	1.1000e-004	0.0142	6.0000e-005	0.0143	3.7900e-003	6.0000e-005	3.8400e-003	0.0000	10.2142	10.2142	2.3000e-004	2.4000e-004	10.2928
<b>Total</b>	<b>3.6800e-003</b>	<b>2.1700e-003</b>	<b>0.0316</b>	<b>1.1000e-004</b>	<b>0.0142</b>	<b>6.0000e-005</b>	<b>0.0143</b>	<b>3.7900e-003</b>	<b>6.0000e-005</b>	<b>3.8400e-003</b>	<b>0.0000</b>	<b>10.2142</b>	<b>10.2142</b>	<b>2.3000e-004</b>	<b>2.4000e-004</b>	<b>10.2928</b>

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

**3.3 Grading - 2027**

**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					0.2535	0.0000	0.2535	0.1351	0.0000	0.1351	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2611	2.5149	2.3698	5.5900e-003		0.1018	0.1018		0.0936	0.0936	0.0000	490.5553	490.5553	0.1587	0.0000	494.5217
<b>Total</b>	<b>0.2611</b>	<b>2.5149</b>	<b>2.3698</b>	<b>5.5900e-003</b>	<b>0.2535</b>	<b>0.1018</b>	<b>0.3553</b>	<b>0.1351</b>	<b>0.0936</b>	<b>0.2287</b>	<b>0.0000</b>	<b>490.5553</b>	<b>490.5553</b>	<b>0.1587</b>	<b>0.0000</b>	<b>494.5217</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	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	3.6800e-003	2.1700e-003	0.0316	1.1000e-004	0.0142	6.0000e-005	0.0143	3.7900e-003	6.0000e-005	3.8400e-003	0.0000	10.2142	10.2142	2.3000e-004	2.4000e-004	10.2928
<b>Total</b>	<b>3.6800e-003</b>	<b>2.1700e-003</b>	<b>0.0316</b>	<b>1.1000e-004</b>	<b>0.0142</b>	<b>6.0000e-005</b>	<b>0.0143</b>	<b>3.7900e-003</b>	<b>6.0000e-005</b>	<b>3.8400e-003</b>	<b>0.0000</b>	<b>10.2142</b>	<b>10.2142</b>	<b>2.3000e-004</b>	<b>2.4000e-004</b>	<b>10.2928</b>

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

**3.4 Utilities - 2027**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0179	0.1600	0.2334	3.4000e-004		9.1000e-003	9.1000e-003		8.3700e-003	8.3700e-003	0.0000	29.7189	29.7189	9.6100e-003	0.0000	29.9592
<b>Total</b>	<b>0.0179</b>	<b>0.1600</b>	<b>0.2334</b>	<b>3.4000e-004</b>		<b>9.1000e-003</b>	<b>9.1000e-003</b>		<b>8.3700e-003</b>	<b>8.3700e-003</b>	<b>0.0000</b>	<b>29.7189</b>	<b>29.7189</b>	<b>9.6100e-003</b>	<b>0.0000</b>	<b>29.9592</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	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	4.9000e-004	2.9000e-004	4.2200e-003	1.0000e-005	1.9000e-003	1.0000e-005	1.9100e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.3619	1.3619	3.0000e-005	3.0000e-005	1.3724
<b>Total</b>	<b>4.9000e-004</b>	<b>2.9000e-004</b>	<b>4.2200e-003</b>	<b>1.0000e-005</b>	<b>1.9000e-003</b>	<b>1.0000e-005</b>	<b>1.9100e-003</b>	<b>5.0000e-004</b>	<b>1.0000e-005</b>	<b>5.1000e-004</b>	<b>0.0000</b>	<b>1.3619</b>	<b>1.3619</b>	<b>3.0000e-005</b>	<b>3.0000e-005</b>	<b>1.3724</b>

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

**3.4 Utilities - 2027**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0179	0.1600	0.2334	3.4000e-004		9.1000e-003	9.1000e-003		8.3700e-003	8.3700e-003	0.0000	29.7188	29.7188	9.6100e-003	0.0000	29.9591
<b>Total</b>	<b>0.0179</b>	<b>0.1600</b>	<b>0.2334</b>	<b>3.4000e-004</b>		<b>9.1000e-003</b>	<b>9.1000e-003</b>		<b>8.3700e-003</b>	<b>8.3700e-003</b>	<b>0.0000</b>	<b>29.7188</b>	<b>29.7188</b>	<b>9.6100e-003</b>	<b>0.0000</b>	<b>29.9591</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	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	4.9000e-004	2.9000e-004	4.2200e-003	1.0000e-005	1.9000e-003	1.0000e-005	1.9100e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.3619	1.3619	3.0000e-005	3.0000e-005	1.3724
<b>Total</b>	<b>4.9000e-004</b>	<b>2.9000e-004</b>	<b>4.2200e-003</b>	<b>1.0000e-005</b>	<b>1.9000e-003</b>	<b>1.0000e-005</b>	<b>1.9100e-003</b>	<b>5.0000e-004</b>	<b>1.0000e-005</b>	<b>5.1000e-004</b>	<b>0.0000</b>	<b>1.3619</b>	<b>1.3619</b>	<b>3.0000e-005</b>	<b>3.0000e-005</b>	<b>1.3724</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 Building Construction - 2027**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0137	0.1247	0.1609	2.7000e-004		5.2800e-003	5.2800e-003		4.9600e-003	4.9600e-003	0.0000	23.1920	23.1920	5.4500e-003	0.0000	23.3282
<b>Total</b>	<b>0.0137</b>	<b>0.1247</b>	<b>0.1609</b>	<b>2.7000e-004</b>		<b>5.2800e-003</b>	<b>5.2800e-003</b>		<b>4.9600e-003</b>	<b>4.9600e-003</b>	<b>0.0000</b>	<b>23.1920</b>	<b>23.1920</b>	<b>5.4500e-003</b>	<b>0.0000</b>	<b>23.3282</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	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	1.9700e-003	0.0918	0.0263	3.9000e-004	0.0139	5.6000e-004	0.0144	4.0100e-003	5.3000e-004	4.5400e-003	0.0000	37.9675	37.9675	5.5000e-004	5.6900e-003	39.6780
Worker	0.0111	6.5200e-003	0.0951	3.2000e-004	0.0428	1.8000e-004	0.0430	0.0114	1.7000e-004	0.0116	0.0000	30.6992	30.6992	6.9000e-004	7.4000e-004	30.9356
<b>Total</b>	<b>0.0130</b>	<b>0.0984</b>	<b>0.1214</b>	<b>7.1000e-004</b>	<b>0.0566</b>	<b>7.4000e-004</b>	<b>0.0574</b>	<b>0.0154</b>	<b>7.0000e-004</b>	<b>0.0161</b>	<b>0.0000</b>	<b>68.6667</b>	<b>68.6667</b>	<b>1.2400e-003</b>	<b>6.4300e-003</b>	<b>70.6136</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 Building Construction - 2027**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0137	0.1247	0.1609	2.7000e-004		5.2800e-003	5.2800e-003		4.9600e-003	4.9600e-003	0.0000	23.1919	23.1919	5.4500e-003	0.0000	23.3282
<b>Total</b>	<b>0.0137</b>	<b>0.1247</b>	<b>0.1609</b>	<b>2.7000e-004</b>		<b>5.2800e-003</b>	<b>5.2800e-003</b>		<b>4.9600e-003</b>	<b>4.9600e-003</b>	<b>0.0000</b>	<b>23.1919</b>	<b>23.1919</b>	<b>5.4500e-003</b>	<b>0.0000</b>	<b>23.3282</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	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	1.9700e-003	0.0918	0.0263	3.9000e-004	0.0139	5.6000e-004	0.0144	4.0100e-003	5.3000e-004	4.5400e-003	0.0000	37.9675	37.9675	5.5000e-004	5.6900e-003	39.6780
Worker	0.0111	6.5200e-003	0.0951	3.2000e-004	0.0428	1.8000e-004	0.0430	0.0114	1.7000e-004	0.0116	0.0000	30.6992	30.6992	6.9000e-004	7.4000e-004	30.9356
<b>Total</b>	<b>0.0130</b>	<b>0.0984</b>	<b>0.1214</b>	<b>7.1000e-004</b>	<b>0.0566</b>	<b>7.4000e-004</b>	<b>0.0574</b>	<b>0.0154</b>	<b>7.0000e-004</b>	<b>0.0161</b>	<b>0.0000</b>	<b>68.6667</b>	<b>68.6667</b>	<b>1.2400e-003</b>	<b>6.4300e-003</b>	<b>70.6136</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 Building Construction - 2028**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1709	1.5587	2.0106	3.3700e-003		0.0659	0.0659		0.0620	0.0620	0.0000	289.8993	289.8993	0.0682	0.0000	291.6030
<b>Total</b>	<b>0.1709</b>	<b>1.5587</b>	<b>2.0106</b>	<b>3.3700e-003</b>		<b>0.0659</b>	<b>0.0659</b>		<b>0.0620</b>	<b>0.0620</b>	<b>0.0000</b>	<b>289.8993</b>	<b>289.8993</b>	<b>0.0682</b>	<b>0.0000</b>	<b>291.6030</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	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	0.0242	1.1438	0.3254	4.8000e-003	0.1733	6.9000e-003	0.1802	0.0501	6.6000e-003	0.0567	0.0000	465.1218	465.1218	6.9000e-003	0.0698	486.0796
Worker	0.1309	0.0754	1.1368	3.8900e-003	0.5347	2.1400e-003	0.5368	0.1422	1.9700e-003	0.1442	0.0000	376.2821	376.2821	7.9300e-003	8.8000e-003	379.1036
<b>Total</b>	<b>0.1551</b>	<b>1.2192</b>	<b>1.4623</b>	<b>8.6900e-003</b>	<b>0.7080</b>	<b>9.0400e-003</b>	<b>0.7170</b>	<b>0.1924</b>	<b>8.5700e-003</b>	<b>0.2009</b>	<b>0.0000</b>	<b>841.4039</b>	<b>841.4039</b>	<b>0.0148</b>	<b>0.0786</b>	<b>865.1832</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 Building Construction - 2028**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1709	1.5587	2.0106	3.3700e-003		0.0659	0.0659		0.0620	0.0620	0.0000	289.8990	289.8990	0.0682	0.0000	291.6026
<b>Total</b>	<b>0.1709</b>	<b>1.5587</b>	<b>2.0106</b>	<b>3.3700e-003</b>		<b>0.0659</b>	<b>0.0659</b>		<b>0.0620</b>	<b>0.0620</b>	<b>0.0000</b>	<b>289.8990</b>	<b>289.8990</b>	<b>0.0682</b>	<b>0.0000</b>	<b>291.6026</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	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	0.0242	1.1438	0.3254	4.8000e-003	0.1733	6.9000e-003	0.1802	0.0501	6.6000e-003	0.0567	0.0000	465.1218	465.1218	6.9000e-003	0.0698	486.0796
Worker	0.1309	0.0754	1.1368	3.8900e-003	0.5347	2.1400e-003	0.5368	0.1422	1.9700e-003	0.1442	0.0000	376.2821	376.2821	7.9300e-003	8.8000e-003	379.1036
<b>Total</b>	<b>0.1551</b>	<b>1.2192</b>	<b>1.4623</b>	<b>8.6900e-003</b>	<b>0.7080</b>	<b>9.0400e-003</b>	<b>0.7170</b>	<b>0.1924</b>	<b>8.5700e-003</b>	<b>0.2009</b>	<b>0.0000</b>	<b>841.4039</b>	<b>841.4039</b>	<b>0.0148</b>	<b>0.0786</b>	<b>865.1832</b>



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

**3.6 Paving - 2028**

**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	4.5800e-003	0.0429	0.0729	1.1000e-004		2.0900e-003	2.0900e-003		1.9300e-003	1.9300e-003	0.0000	10.0096	10.0096	3.2400e-003	0.0000	10.0906
Paving	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>4.5800e-003</b>	<b>0.0429</b>	<b>0.0729</b>	<b>1.1000e-004</b>		<b>2.0900e-003</b>	<b>2.0900e-003</b>		<b>1.9300e-003</b>	<b>1.9300e-003</b>	<b>0.0000</b>	<b>10.0096</b>	<b>10.0096</b>	<b>3.2400e-003</b>	<b>0.0000</b>	<b>10.0906</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	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	1.5000e-004	8.0000e-005	1.2600e-003	0.0000	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.4173	0.4173	1.0000e-005	1.0000e-005	0.4205
<b>Total</b>	<b>1.5000e-004</b>	<b>8.0000e-005</b>	<b>1.2600e-003</b>	<b>0.0000</b>	<b>5.9000e-004</b>	<b>0.0000</b>	<b>6.0000e-004</b>	<b>1.6000e-004</b>	<b>0.0000</b>	<b>1.6000e-004</b>	<b>0.0000</b>	<b>0.4173</b>	<b>0.4173</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.4205</b>

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

**3.6 Paving - 2028**

**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	4.5800e-003	0.0429	0.0729	1.1000e-004		2.0900e-003	2.0900e-003		1.9300e-003	1.9300e-003	0.0000	10.0096	10.0096	3.2400e-003	0.0000	10.0906
Paving	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>4.5800e-003</b>	<b>0.0429</b>	<b>0.0729</b>	<b>1.1000e-004</b>		<b>2.0900e-003</b>	<b>2.0900e-003</b>		<b>1.9300e-003</b>	<b>1.9300e-003</b>	<b>0.0000</b>	<b>10.0096</b>	<b>10.0096</b>	<b>3.2400e-003</b>	<b>0.0000</b>	<b>10.0906</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	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	1.5000e-004	8.0000e-005	1.2600e-003	0.0000	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.4173	0.4173	1.0000e-005	1.0000e-005	0.4205
<b>Total</b>	<b>1.5000e-004</b>	<b>8.0000e-005</b>	<b>1.2600e-003</b>	<b>0.0000</b>	<b>5.9000e-004</b>	<b>0.0000</b>	<b>6.0000e-004</b>	<b>1.6000e-004</b>	<b>0.0000</b>	<b>1.6000e-004</b>	<b>0.0000</b>	<b>0.4173</b>	<b>0.4173</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.4205</b>

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

**3.6 Paving - 2029**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0229	0.2145	0.3645	5.7000e-004		0.0105	0.0105		9.6300e-003	9.6300e-003	0.0000	50.0481	50.0481	0.0162	0.0000	50.4528
Paving	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>0.0229</b>	<b>0.2145</b>	<b>0.3645</b>	<b>5.7000e-004</b>		<b>0.0105</b>	<b>0.0105</b>		<b>9.6300e-003</b>	<b>9.6300e-003</b>	<b>0.0000</b>	<b>50.0481</b>	<b>50.0481</b>	<b>0.0162</b>	<b>0.0000</b>	<b>50.4528</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	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	6.9000e-004	3.9000e-004	6.0500e-003	2.0000e-005	2.9700e-003	1.0000e-005	2.9800e-003	7.9000e-004	1.0000e-005	8.0000e-004	0.0000	2.0496	2.0496	4.0000e-005	5.0000e-005	2.0646
<b>Total</b>	<b>6.9000e-004</b>	<b>3.9000e-004</b>	<b>6.0500e-003</b>	<b>2.0000e-005</b>	<b>2.9700e-003</b>	<b>1.0000e-005</b>	<b>2.9800e-003</b>	<b>7.9000e-004</b>	<b>1.0000e-005</b>	<b>8.0000e-004</b>	<b>0.0000</b>	<b>2.0496</b>	<b>2.0496</b>	<b>4.0000e-005</b>	<b>5.0000e-005</b>	<b>2.0646</b>

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

**3.6 Paving - 2029**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0229	0.2145	0.3645	5.7000e-004		0.0105	0.0105		9.6300e-003	9.6300e-003	0.0000	50.0481	50.0481	0.0162	0.0000	50.4527
Paving	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>0.0229</b>	<b>0.2145</b>	<b>0.3645</b>	<b>5.7000e-004</b>		<b>0.0105</b>	<b>0.0105</b>		<b>9.6300e-003</b>	<b>9.6300e-003</b>	<b>0.0000</b>	<b>50.0481</b>	<b>50.0481</b>	<b>0.0162</b>	<b>0.0000</b>	<b>50.4527</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	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	6.9000e-004	3.9000e-004	6.0500e-003	2.0000e-005	2.9700e-003	1.0000e-005	2.9800e-003	7.9000e-004	1.0000e-005	8.0000e-004	0.0000	2.0496	2.0496	4.0000e-005	5.0000e-005	2.0646
<b>Total</b>	<b>6.9000e-004</b>	<b>3.9000e-004</b>	<b>6.0500e-003</b>	<b>2.0000e-005</b>	<b>2.9700e-003</b>	<b>1.0000e-005</b>	<b>2.9800e-003</b>	<b>7.9000e-004</b>	<b>1.0000e-005</b>	<b>8.0000e-004</b>	<b>0.0000</b>	<b>2.0496</b>	<b>2.0496</b>	<b>4.0000e-005</b>	<b>5.0000e-005</b>	<b>2.0646</b>

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

**3.7 Architectural Coating - 2029**

**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					
Archit. Coating	5.6019					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.1300e-003	0.0344	0.0543	9.0000e-005		1.5500e-003	1.5500e-003		1.5500e-003	1.5500e-003	0.0000	7.6598	7.6598	4.2000e-004	0.0000	7.6702
<b>Total</b>	<b>5.6071</b>	<b>0.0344</b>	<b>0.0543</b>	<b>9.0000e-005</b>		<b>1.5500e-003</b>	<b>1.5500e-003</b>		<b>1.5500e-003</b>	<b>1.5500e-003</b>	<b>0.0000</b>	<b>7.6598</b>	<b>7.6598</b>	<b>4.2000e-004</b>	<b>0.0000</b>	<b>7.6702</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	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	5.9200e-003	3.3600e-003	0.0523	1.8000e-004	0.0256	1.0000e-004	0.0257	6.8100e-003	9.0000e-005	6.9000e-003	0.0000	17.7082	17.7082	3.5000e-004	4.1000e-004	17.8379
<b>Total</b>	<b>5.9200e-003</b>	<b>3.3600e-003</b>	<b>0.0523</b>	<b>1.8000e-004</b>	<b>0.0256</b>	<b>1.0000e-004</b>	<b>0.0257</b>	<b>6.8100e-003</b>	<b>9.0000e-005</b>	<b>6.9000e-003</b>	<b>0.0000</b>	<b>17.7082</b>	<b>17.7082</b>	<b>3.5000e-004</b>	<b>4.1000e-004</b>	<b>17.8379</b>

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

**3.7 Architectural Coating - 2029**

**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					
Archit. Coating	5.6019					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.1300e-003	0.0344	0.0543	9.0000e-005		1.5500e-003	1.5500e-003		1.5500e-003	1.5500e-003	0.0000	7.6598	7.6598	4.2000e-004	0.0000	7.6702
<b>Total</b>	<b>5.6071</b>	<b>0.0344</b>	<b>0.0543</b>	<b>9.0000e-005</b>		<b>1.5500e-003</b>	<b>1.5500e-003</b>		<b>1.5500e-003</b>	<b>1.5500e-003</b>	<b>0.0000</b>	<b>7.6598</b>	<b>7.6598</b>	<b>4.2000e-004</b>	<b>0.0000</b>	<b>7.6702</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	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	5.9200e-003	3.3600e-003	0.0523	1.8000e-004	0.0256	1.0000e-004	0.0257	6.8100e-003	9.0000e-005	6.9000e-003	0.0000	17.7082	17.7082	3.5000e-004	4.1000e-004	17.8379
<b>Total</b>	<b>5.9200e-003</b>	<b>3.3600e-003</b>	<b>0.0523</b>	<b>1.8000e-004</b>	<b>0.0256</b>	<b>1.0000e-004</b>	<b>0.0257</b>	<b>6.8100e-003</b>	<b>9.0000e-005</b>	<b>6.9000e-003</b>	<b>0.0000</b>	<b>17.7082</b>	<b>17.7082</b>	<b>3.5000e-004</b>	<b>4.1000e-004</b>	<b>17.8379</b>

MVMG Phase 2 (Construction Only) - Alameda County, Annual

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	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	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Place of Worship	0.00	0.00	0.00		
User Defined Educational	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Place of Worship	9.50	7.30	7.30	0.00	95.00	5.00	64	25	11
User Defined Educational	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0









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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 Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	0	0.0000	0.0000	0.0000	0.0000
User Defined Educational	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>

MVMG Phase 2 (Construction Only) - Alameda County, Annual

**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**

**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	0	0.0000	0.0000	0.0000	0.0000
User Defined Educational	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**

MVMG Phase 2 (Construction Only) - 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
Category	tons/yr										MT/yr					
Mitigated	4.0000e-005	0.0000	4.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.8000e-004	8.8000e-004	0.0000	0.0000	9.3000e-004
Unmitigated	4.0000e-005	0.0000	4.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.8000e-004	8.8000e-004	0.0000	0.0000	9.3000e-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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	0.0000	4.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.8000e-004	8.8000e-004	0.0000	0.0000	9.3000e-004
<b>Total</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>4.5000e-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>8.8000e-004</b>	<b>8.8000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>9.3000e-004</b>

MVMG Phase 2 (Construction Only) - Alameda County, Annual

**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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	0.0000	4.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.8000e-004	8.8000e-004	0.0000	0.0000	9.3000e-004
<b>Total</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>4.5000e-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>8.8000e-004</b>	<b>8.8000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>9.3000e-004</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

MVMG Phase 2 (Construction Only) - Alameda County, Annual

**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 Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Educational	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>

MVMG Phase 2 (Construction Only) - Alameda County, Annual

**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 Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Educational	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**



MVMG Phase 2 (Construction Only) - Alameda County, Annual

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

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

**8.2 Waste by Land Use**

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	0	0.0000	0.0000	0.0000	0.0000
User Defined Educational	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>

MVMG Phase 2 (Construction Only) - Alameda County, Annual

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

**8.2 Waste by Land Use**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	0	0.0000	0.0000	0.0000	0.0000
User Defined Educational	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
----------------	--------	-----------	-----------	-------------	-------------	-----------

**10.0 Stationary Equipment**

**Fire Pumps and Emergency Generators**

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

**Boilers**

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

Equipment Type	Number
----------------	--------

MVMG Phase 2 (Construction Only) - Alameda County, Annual

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

**11.0 Vegetation**

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MVMG Phase 2 (Construction Only) - Alameda County, Summer

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

**MVMG Phase 2 (Construction Only)**

**Alameda County, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	20.00	1000sqft	0.46	20,000.00	0
User Defined Educational	24.00	User Defined Unit	24.00	1,045,440.00	0
Other Non-Asphalt Surfaces	5.10	Acre	5.10	222,156.00	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>	2030
<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 - 20,000 SF Columbarium and Mausoleum, 24 acres of burial lots, 5.1 acres of roads (decomposed granite)

Construction Phase - Per Applicant's construction schedule

Off-road Equipment -

Off-road Equipment - Assumed additional equipment for utility trenching

Grading - Phase 2 40.3 acres

Vehicle Trips - Transportation emissions in Phase I emissions estimates.

Energy Use - Construction Only - Energy Use in Phase I emissions

Water And Wastewater - Construction Only - Water Emissions estimated in Phase I emissions

Solid Waste - Construction Only - Waste emissions are in Phase I emissions.

MVMG Phase 2 (Construction Only) - Alameda County, Summer

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

Construction Off-road Equipment Mitigation - BAAQMD standard dust measures

Area Mitigation -

Energy Mitigation - Solar estimated in Phase I emissions

Operational Off-Road Equipment - burial tractors in Phase I emissions

Stationary Sources - Emergency Generators and Fire Pumps - Emergency generator in Phase I emissions

Consumer Products - Construction Only

Area Coating - Construction Only

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	532720	0
tblAreaCoating	Area_Nonresidential_Interior	1598160	0
tblAreaCoating	Area_Parking	13329	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	35.00	60.00
tblConstructionPhase	NumDays	440.00	270.00
tblConstructionPhase	NumDays	45.00	180.00
tblConstructionPhase	NumDays	35.00	60.00
tblConstructionPhase	NumDays	20.00	60.00
tblConsumerProducts	ROG_EF	2.14E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblEnergyUse	LightingElect	3.08	0.00
tblEnergyUse	NT24E	3.70	0.00
tblEnergyUse	NT24NG	6.67	0.00
tblEnergyUse	T24E	1.32	0.00
tblEnergyUse	T24NG	19.51	0.00
tblGrading	AcresOfGrading	540.00	40.30
tblGrading	AcresOfGrading	90.00	40.30

MVMG Phase 2 (Construction Only) - Alameda County, Summer

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

tblLandUse	LandUseSquareFeet	0.00	1,045,440.00
tblLandUse	LotAcreage	0.00	24.00
tblSolidWaste	SolidWasteGenerationRate	114.00	0.00
tblVehicleTrips	ST_TR	5.99	0.00
tblVehicleTrips	SU_TR	27.63	0.00
tblVehicleTrips	WD_TR	6.95	0.00
tblWater	IndoorWaterUseRate	625,778.17	0.00
tblWater	OutdoorWaterUseRate	978,781.24	0.00

**2.0 Emissions Summary**

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MVMG Phase 2 (Construction Only) - 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					
2027	3.5586	33.3058	34.6365	0.1003	18.9264	1.4351	20.0138	10.0468	1.3203	11.0472	0.0000	10,357.8273	10,357.8273	2.3000	0.7015	10,585.1861
2028	2.6738	21.8271	28.3680	0.0986	5.8744	0.5998	6.4742	1.5906	0.5648	2.1554	0.0000	10,203.8792	10,203.8792	0.7266	0.6858	10,426.4238
2029	187.1108	8.5954	14.8366	0.0237	0.8872	0.4190	0.9419	0.2353	0.3855	0.4181	0.0000	2,303.3920	2,303.3920	0.7154	0.0137	2,321.8441
<b>Maximum</b>	<b>187.1108</b>	<b>33.3058</b>	<b>34.6365</b>	<b>0.1003</b>	<b>18.9264</b>	<b>1.4351</b>	<b>20.0138</b>	<b>10.0468</b>	<b>1.3203</b>	<b>11.0472</b>	<b>0.0000</b>	<b>10,357.8273</b>	<b>10,357.8273</b>	<b>2.3000</b>	<b>0.7015</b>	<b>10,585.1861</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					
2027	3.5586	33.3058	34.6365	0.1003	8.5982	1.4351	9.6856	4.5426	1.3203	5.5431	0.0000	10,357.8273	10,357.8273	2.3000	0.7015	10,585.1861
2028	2.6738	21.8271	28.3680	0.0986	5.8744	0.5998	6.4742	1.5906	0.5648	2.1554	0.0000	10,203.8792	10,203.8792	0.7266	0.6858	10,426.4238
2029	187.1108	8.5954	14.8366	0.0237	0.8872	0.4190	0.9419	0.2353	0.3855	0.4181	0.0000	2,303.3920	2,303.3920	0.7154	0.0137	2,321.8441
<b>Maximum</b>	<b>187.1108</b>	<b>33.3058</b>	<b>34.6365</b>	<b>0.1003</b>	<b>8.5982</b>	<b>1.4351</b>	<b>9.6856</b>	<b>4.5426</b>	<b>1.3203</b>	<b>5.5431</b>	<b>0.0000</b>	<b>10,357.8273</b>	<b>10,357.8273</b>	<b>2.3000</b>	<b>0.7015</b>	<b>10,585.1861</b>

## MVMG Phase 2 (Construction Only) - 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	40.21	0.00	37.65	46.36	0.00	40.41	0.00	0.00	0.00	0.00	0.00	0.00



MVMG Phase 2 (Construction Only) - 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	4.6000e-004	4.0000e-005	4.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0108	0.0108	3.0000e-005		0.0114
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>4.6000e-004</b>	<b>4.0000e-005</b>	<b>4.9900e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>0.0108</b>	<b>0.0108</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>0.0114</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	4.6000e-004	4.0000e-005	4.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0108	0.0108	3.0000e-005		0.0114
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>4.6000e-004</b>	<b>4.0000e-005</b>	<b>4.9900e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>0.0108</b>	<b>0.0108</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>0.0114</b>

MVMG Phase 2 (Construction Only) - 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	Site Preparation	Site Preparation	1/4/2027	3/26/2027	5	60	
2	Grading	Grading	3/27/2027	12/3/2027	5	180	
3	Utilities	Trenching	9/11/2027	12/3/2027	5	60	
4	Building Construction	Building Construction	12/4/2027	12/15/2028	5	270	
5	Paving	Paving	12/16/2028	3/9/2029	5	60	
6	Architectural Coating	Architectural Coating	3/10/2029	6/1/2029	5	60	

**Acres of Grading (Site Preparation Phase): 40.3**

**Acres of Grading (Grading Phase): 40.3**

**Acres of Paving: 5.1**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,598,160; Non-Residential Outdoor: 532,720; Striped Parking Area: 13,329 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40

MVMG Phase 2 (Construction Only) - Alameda County, Summer

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

Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Utilities	Excavators	1	8.00	158	0.38
Utilities	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Utilities	Trenchers	1	8.00	78	0.50
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utilities	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	541.00	211.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	108.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

MVMG Phase 2 (Construction Only) - Alameda County, Summer

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

**3.2 Site Preparation - 2027**

**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					18.7786	0.0000	18.7786	10.0076	0.0000	10.0076			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999		3,689.1037	3,689.1037	1.1931		3,718.9320
<b>Total</b>	<b>2.4727</b>	<b>25.2339</b>	<b>17.9118</b>	<b>0.0381</b>	<b>18.7786</b>	<b>1.0868</b>	<b>19.8654</b>	<b>10.0076</b>	<b>0.9999</b>	<b>11.0074</b>		<b>3,689.1037</b>	<b>3,689.1037</b>	<b>1.1931</b>		<b>3,718.9320</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	0.0390	0.0192	0.3384	1.1400e-003	0.1479	6.1000e-004	0.1485	0.0392	5.6000e-004	0.0398		120.4173	120.4173	2.3300e-003	2.4800e-003	121.2156
<b>Total</b>	<b>0.0390</b>	<b>0.0192</b>	<b>0.3384</b>	<b>1.1400e-003</b>	<b>0.1479</b>	<b>6.1000e-004</b>	<b>0.1485</b>	<b>0.0392</b>	<b>5.6000e-004</b>	<b>0.0398</b>		<b>120.4173</b>	<b>120.4173</b>	<b>2.3300e-003</b>	<b>2.4800e-003</b>	<b>121.2156</b>

MVMG Phase 2 (Construction Only) - Alameda County, Summer

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

**3.2 Site Preparation - 2027**

**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					8.4504	0.0000	8.4504	4.5034	0.0000	4.5034			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320
<b>Total</b>	<b>2.4727</b>	<b>25.2339</b>	<b>17.9118</b>	<b>0.0381</b>	<b>8.4504</b>	<b>1.0868</b>	<b>9.5371</b>	<b>4.5034</b>	<b>0.9999</b>	<b>5.5033</b>	<b>0.0000</b>	<b>3,689.1037</b>	<b>3,689.1037</b>	<b>1.1931</b>		<b>3,718.9320</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	0.0390	0.0192	0.3384	1.1400e-003	0.1479	6.1000e-004	0.1485	0.0392	5.6000e-004	0.0398		120.4173	120.4173	2.3300e-003	2.4800e-003	121.2156
<b>Total</b>	<b>0.0390</b>	<b>0.0192</b>	<b>0.3384</b>	<b>1.1400e-003</b>	<b>0.1479</b>	<b>6.1000e-004</b>	<b>0.1485</b>	<b>0.0392</b>	<b>5.6000e-004</b>	<b>0.0398</b>		<b>120.4173</b>	<b>120.4173</b>	<b>2.3300e-003</b>	<b>2.4800e-003</b>	<b>121.2156</b>

MVMG Phase 2 (Construction Only) - Alameda County, Summer

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

**3.3 Grading - 2027**

**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					6.2595	0.0000	6.2595	3.3359	0.0000	3.3359			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404		6,008.281 4	6,008.281 4	1.9432		6,056.861 4
<b>Total</b>	<b>2.9012</b>	<b>27.9429</b>	<b>26.3311</b>	<b>0.0621</b>	<b>6.2595</b>	<b>1.1309</b>	<b>7.3904</b>	<b>3.3359</b>	<b>1.0404</b>	<b>4.3763</b>		<b>6,008.281 4</b>	<b>6,008.281 4</b>	<b>1.9432</b>		<b>6,056.861 4</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	0.0433	0.0213	0.3760	1.2600e-003	0.1643	6.8000e-004	0.1650	0.0436	6.2000e-004	0.0442		133.7971	133.7971	2.5900e-003	2.7600e-003	134.6840
<b>Total</b>	<b>0.0433</b>	<b>0.0213</b>	<b>0.3760</b>	<b>1.2600e-003</b>	<b>0.1643</b>	<b>6.8000e-004</b>	<b>0.1650</b>	<b>0.0436</b>	<b>6.2000e-004</b>	<b>0.0442</b>		<b>133.7971</b>	<b>133.7971</b>	<b>2.5900e-003</b>	<b>2.7600e-003</b>	<b>134.6840</b>

MVMG Phase 2 (Construction Only) - Alameda County, Summer

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

**3.3 Grading - 2027**

**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					2.8168	0.0000	2.8168	1.5011	0.0000	1.5011			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614
<b>Total</b>	<b>2.9012</b>	<b>27.9429</b>	<b>26.3311</b>	<b>0.0621</b>	<b>2.8168</b>	<b>1.1309</b>	<b>3.9477</b>	<b>1.5011</b>	<b>1.0404</b>	<b>2.5416</b>	<b>0.0000</b>	<b>6,008.2814</b>	<b>6,008.2814</b>	<b>1.9432</b>		<b>6,056.8614</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	0.0433	0.0213	0.3760	1.2600e-003	0.1643	6.8000e-004	0.1650	0.0436	6.2000e-004	0.0442		133.7971	133.7971	2.5900e-003	2.7600e-003	134.6840
<b>Total</b>	<b>0.0433</b>	<b>0.0213</b>	<b>0.3760</b>	<b>1.2600e-003</b>	<b>0.1643</b>	<b>6.8000e-004</b>	<b>0.1650</b>	<b>0.0436</b>	<b>6.2000e-004</b>	<b>0.0442</b>		<b>133.7971</b>	<b>133.7971</b>	<b>2.5900e-003</b>	<b>2.7600e-003</b>	<b>134.6840</b>

MVMG Phase 2 (Construction Only) - Alameda County, Summer

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

**3.4 Utilities - 2027**

**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	0.5967	5.3331	7.7790	0.0113		0.3033	0.3033		0.2790	0.2790		1,091.9819	1,091.9819	0.3532		1,100.8111
<b>Total</b>	<b>0.5967</b>	<b>5.3331</b>	<b>7.7790</b>	<b>0.0113</b>		<b>0.3033</b>	<b>0.3033</b>		<b>0.2790</b>	<b>0.2790</b>		<b>1,091.9819</b>	<b>1,091.9819</b>	<b>0.3532</b>		<b>1,100.8111</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	0.0173	8.5100e-003	0.1504	5.1000e-004	0.0657	2.7000e-004	0.0660	0.0174	2.5000e-004	0.0177		53.5188	53.5188	1.0400e-003	1.1000e-003	53.8736
<b>Total</b>	<b>0.0173</b>	<b>8.5100e-003</b>	<b>0.1504</b>	<b>5.1000e-004</b>	<b>0.0657</b>	<b>2.7000e-004</b>	<b>0.0660</b>	<b>0.0174</b>	<b>2.5000e-004</b>	<b>0.0177</b>		<b>53.5188</b>	<b>53.5188</b>	<b>1.0400e-003</b>	<b>1.1000e-003</b>	<b>53.8736</b>



MVMG Phase 2 (Construction Only) - Alameda County, Summer

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

**3.4 Utilities - 2027**

**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	0.5967	5.3331	7.7790	0.0113		0.3033	0.3033		0.2790	0.2790	0.0000	1,091.9819	1,091.9819	0.3532		1,100.8111
<b>Total</b>	<b>0.5967</b>	<b>5.3331</b>	<b>7.7790</b>	<b>0.0113</b>		<b>0.3033</b>	<b>0.3033</b>		<b>0.2790</b>	<b>0.2790</b>	<b>0.0000</b>	<b>1,091.9819</b>	<b>1,091.9819</b>	<b>0.3532</b>		<b>1,100.8111</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	0.0173	8.5100e-003	0.1504	5.1000e-004	0.0657	2.7000e-004	0.0660	0.0174	2.5000e-004	0.0177		53.5188	53.5188	1.0400e-003	1.1000e-003	53.8736
<b>Total</b>	<b>0.0173</b>	<b>8.5100e-003</b>	<b>0.1504</b>	<b>5.1000e-004</b>	<b>0.0657</b>	<b>2.7000e-004</b>	<b>0.0660</b>	<b>0.0174</b>	<b>2.5000e-004</b>	<b>0.0177</b>		<b>53.5188</b>	<b>53.5188</b>	<b>1.0400e-003</b>	<b>1.1000e-003</b>	<b>53.8736</b>

MVMG Phase 2 (Construction Only) - Alameda County, Summer

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

**3.5 Building Construction - 2027**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1
<b>Total</b>	<b>1.3674</b>	<b>12.4697</b>	<b>16.0847</b>	<b>0.0270</b>		<b>0.5276</b>	<b>0.5276</b>		<b>0.4963</b>	<b>0.4963</b>		<b>2,556.474 4</b>	<b>2,556.474 4</b>	<b>0.6010</b>		<b>2,571.498 1</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	0.2018	8.8566	2.5865	0.0392	1.4302	0.0555	1.4857	0.4118	0.0531	0.4649		4,182.142 8	4,182.142 8	0.0612	0.6269	4,370.484 8
Worker	1.1718	0.5756	10.1715	0.0342	4.4442	0.0183	4.4625	1.1788	0.0168	1.1956		3,619.210 2	3,619.210 2	0.0700	0.0746	3,643.203 2
<b>Total</b>	<b>1.3735</b>	<b>9.4322</b>	<b>12.7581</b>	<b>0.0734</b>	<b>5.8744</b>	<b>0.0738</b>	<b>5.9482</b>	<b>1.5906</b>	<b>0.0699</b>	<b>1.6606</b>		<b>7,801.352 9</b>	<b>7,801.352 9</b>	<b>0.1313</b>	<b>0.7015</b>	<b>8,013.688 0</b>

MVMG Phase 2 (Construction Only) - Alameda County, Summer

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

**3.5 Building Construction - 2027**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
<b>Total</b>	<b>1.3674</b>	<b>12.4697</b>	<b>16.0847</b>	<b>0.0270</b>		<b>0.5276</b>	<b>0.5276</b>		<b>0.4963</b>	<b>0.4963</b>	<b>0.0000</b>	<b>2,556.474 4</b>	<b>2,556.474 4</b>	<b>0.6010</b>		<b>2,571.498 1</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	0.2018	8.8566	2.5865	0.0392	1.4302	0.0555	1.4857	0.4118	0.0531	0.4649		4,182.142 8	4,182.142 8	0.0612	0.6269	4,370.484 8
Worker	1.1718	0.5756	10.1715	0.0342	4.4442	0.0183	4.4625	1.1788	0.0168	1.1956		3,619.210 2	3,619.210 2	0.0700	0.0746	3,643.203 2
<b>Total</b>	<b>1.3735</b>	<b>9.4322</b>	<b>12.7581</b>	<b>0.0734</b>	<b>5.8744</b>	<b>0.0738</b>	<b>5.9482</b>	<b>1.5906</b>	<b>0.0699</b>	<b>1.6606</b>		<b>7,801.352 9</b>	<b>7,801.352 9</b>	<b>0.1313</b>	<b>0.7015</b>	<b>8,013.688 0</b>

MVMG Phase 2 (Construction Only) - Alameda County, Summer

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

**3.5 Building Construction - 2028**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1
<b>Total</b>	<b>1.3674</b>	<b>12.4697</b>	<b>16.0847</b>	<b>0.0270</b>		<b>0.5276</b>	<b>0.5276</b>		<b>0.4963</b>	<b>0.4963</b>		<b>2,556.474 4</b>	<b>2,556.474 4</b>	<b>0.6010</b>		<b>2,571.498 1</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	0.1991	8.8252	2.5641	0.0384	1.4302	0.0551	1.4854	0.4118	0.0528	0.4646		4,098.653 9	4,098.653 9	0.0611	0.6144	4,283.268 2
Worker	1.1073	0.5322	9.7192	0.0333	4.4442	0.0171	4.4613	1.1788	0.0157	1.1946		3,548.751 0	3,548.751 0	0.0645	0.0715	3,571.657 5
<b>Total</b>	<b>1.3064</b>	<b>9.3574</b>	<b>12.2833</b>	<b>0.0717</b>	<b>5.8744</b>	<b>0.0723</b>	<b>5.9467</b>	<b>1.5906</b>	<b>0.0685</b>	<b>1.6591</b>		<b>7,647.404 9</b>	<b>7,647.404 9</b>	<b>0.1256</b>	<b>0.6858</b>	<b>7,854.925 7</b>

MVMG Phase 2 (Construction Only) - Alameda County, Summer

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

**3.5 Building Construction - 2028**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
<b>Total</b>	<b>1.3674</b>	<b>12.4697</b>	<b>16.0847</b>	<b>0.0270</b>		<b>0.5276</b>	<b>0.5276</b>		<b>0.4963</b>	<b>0.4963</b>	<b>0.0000</b>	<b>2,556.474 4</b>	<b>2,556.474 4</b>	<b>0.6010</b>		<b>2,571.498 1</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	0.1991	8.8252	2.5641	0.0384	1.4302	0.0551	1.4854	0.4118	0.0528	0.4646		4,098.653 9	4,098.653 9	0.0611	0.6144	4,283.268 2
Worker	1.1073	0.5322	9.7192	0.0333	4.4442	0.0171	4.4613	1.1788	0.0157	1.1946		3,548.751 0	3,548.751 0	0.0645	0.0715	3,571.657 5
<b>Total</b>	<b>1.3064</b>	<b>9.3574</b>	<b>12.2833</b>	<b>0.0717</b>	<b>5.8744</b>	<b>0.0723</b>	<b>5.9467</b>	<b>1.5906</b>	<b>0.0685</b>	<b>1.6591</b>		<b>7,647.404 9</b>	<b>7,647.404 9</b>	<b>0.1256</b>	<b>0.6858</b>	<b>7,854.925 7</b>

MVMG Phase 2 (Construction Only) - Alameda County, Summer

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

**3.6 Paving - 2028**

**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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.9152</b>	<b>8.5816</b>	<b>14.5780</b>	<b>0.0228</b>		<b>0.4185</b>	<b>0.4185</b>		<b>0.3850</b>	<b>0.3850</b>		<b>2,206.7452</b>	<b>2,206.7452</b>	<b>0.7137</b>		<b>2,224.5878</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	0.0307	0.0148	0.2695	9.2000e-004	0.1232	4.7000e-004	0.1237	0.0327	4.4000e-004	0.0331		98.3942	98.3942	1.7900e-003	1.9800e-003	99.0293
<b>Total</b>	<b>0.0307</b>	<b>0.0148</b>	<b>0.2695</b>	<b>9.2000e-004</b>	<b>0.1232</b>	<b>4.7000e-004</b>	<b>0.1237</b>	<b>0.0327</b>	<b>4.4000e-004</b>	<b>0.0331</b>		<b>98.3942</b>	<b>98.3942</b>	<b>1.7900e-003</b>	<b>1.9800e-003</b>	<b>99.0293</b>

MVMG Phase 2 (Construction Only) - Alameda County, Summer

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

**3.6 Paving - 2028**

**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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.745 2	2,206.745 2	0.7137		2,224.587 8
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.9152</b>	<b>8.5816</b>	<b>14.5780</b>	<b>0.0228</b>		<b>0.4185</b>	<b>0.4185</b>		<b>0.3850</b>	<b>0.3850</b>	<b>0.0000</b>	<b>2,206.745 2</b>	<b>2,206.745 2</b>	<b>0.7137</b>		<b>2,224.587 8</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	0.0307	0.0148	0.2695	9.2000e-004	0.1232	4.7000e-004	0.1237	0.0327	4.4000e-004	0.0331		98.3942	98.3942	1.7900e-003	1.9800e-003	99.0293
<b>Total</b>	<b>0.0307</b>	<b>0.0148</b>	<b>0.2695</b>	<b>9.2000e-004</b>	<b>0.1232</b>	<b>4.7000e-004</b>	<b>0.1237</b>	<b>0.0327</b>	<b>4.4000e-004</b>	<b>0.0331</b>		<b>98.3942</b>	<b>98.3942</b>	<b>1.7900e-003</b>	<b>1.9800e-003</b>	<b>99.0293</b>

MVMG Phase 2 (Construction Only) - Alameda County, Summer

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

**3.6 Paving - 2029**

**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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.9152</b>	<b>8.5816</b>	<b>14.5780</b>	<b>0.0228</b>		<b>0.4185</b>	<b>0.4185</b>		<b>0.3850</b>	<b>0.3850</b>		<b>2,206.7452</b>	<b>2,206.7452</b>	<b>0.7137</b>		<b>2,224.5878</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	0.0290	0.0137	0.2586	9.0000e-004	0.1232	4.4000e-004	0.1237	0.0327	4.1000e-004	0.0331		96.6469	96.6469	1.6500e-003	1.9100e-003	97.2563
<b>Total</b>	<b>0.0290</b>	<b>0.0137</b>	<b>0.2586</b>	<b>9.0000e-004</b>	<b>0.1232</b>	<b>4.4000e-004</b>	<b>0.1237</b>	<b>0.0327</b>	<b>4.1000e-004</b>	<b>0.0331</b>		<b>96.6469</b>	<b>96.6469</b>	<b>1.6500e-003</b>	<b>1.9100e-003</b>	<b>97.2563</b>



MVMG Phase 2 (Construction Only) - Alameda County, Summer

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

**3.6 Paving - 2029**

**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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.745 2	2,206.745 2	0.7137		2,224.587 8
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.9152</b>	<b>8.5816</b>	<b>14.5780</b>	<b>0.0228</b>		<b>0.4185</b>	<b>0.4185</b>		<b>0.3850</b>	<b>0.3850</b>	<b>0.0000</b>	<b>2,206.745 2</b>	<b>2,206.745 2</b>	<b>0.7137</b>		<b>2,224.587 8</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	0.0290	0.0137	0.2586	9.0000e-004	0.1232	4.4000e-004	0.1237	0.0327	4.1000e-004	0.0331		96.6469	96.6469	1.6500e-003	1.9100e-003	97.2563
<b>Total</b>	<b>0.0290</b>	<b>0.0137</b>	<b>0.2586</b>	<b>9.0000e-004</b>	<b>0.1232</b>	<b>4.4000e-004</b>	<b>0.1237</b>	<b>0.0327</b>	<b>4.1000e-004</b>	<b>0.0331</b>		<b>96.6469</b>	<b>96.6469</b>	<b>1.6500e-003</b>	<b>1.9100e-003</b>	<b>97.2563</b>

MVMG Phase 2 (Construction Only) - Alameda County, Summer

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

**3.7 Architectural Coating - 2029**

**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					
Archit. Coating	186.7313					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
<b>Total</b>	<b>186.9022</b>	<b>1.1455</b>	<b>1.8091</b>	<b>2.9700e-003</b>		<b>0.0515</b>	<b>0.0515</b>		<b>0.0515</b>	<b>0.0515</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0154</b>		<b>281.8319</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	0.2086	0.0989	1.8619	6.4800e-003	0.8872	3.2000e-003	0.8904	0.2353	2.9400e-003	0.2383		695.8573	695.8573	0.0119	0.0137	700.2456
<b>Total</b>	<b>0.2086</b>	<b>0.0989</b>	<b>1.8619</b>	<b>6.4800e-003</b>	<b>0.8872</b>	<b>3.2000e-003</b>	<b>0.8904</b>	<b>0.2353</b>	<b>2.9400e-003</b>	<b>0.2383</b>		<b>695.8573</b>	<b>695.8573</b>	<b>0.0119</b>	<b>0.0137</b>	<b>700.2456</b>

MVMG Phase 2 (Construction Only) - Alameda County, Summer

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

**3.7 Architectural Coating - 2029**

**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					
Archit. Coating	186.7313					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
<b>Total</b>	<b>186.9022</b>	<b>1.1455</b>	<b>1.8091</b>	<b>2.9700e-003</b>		<b>0.0515</b>	<b>0.0515</b>		<b>0.0515</b>	<b>0.0515</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0154</b>		<b>281.8319</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	0.2086	0.0989	1.8619	6.4800e-003	0.8872	3.2000e-003	0.8904	0.2353	2.9400e-003	0.2383		695.8573	695.8573	0.0119	0.0137	700.2456
<b>Total</b>	<b>0.2086</b>	<b>0.0989</b>	<b>1.8619</b>	<b>6.4800e-003</b>	<b>0.8872</b>	<b>3.2000e-003</b>	<b>0.8904</b>	<b>0.2353</b>	<b>2.9400e-003</b>	<b>0.2383</b>		<b>695.8573</b>	<b>695.8573</b>	<b>0.0119</b>	<b>0.0137</b>	<b>700.2456</b>

MVMG Phase 2 (Construction Only) - 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 Non-Asphalt Surfaces	0.00	0.00	0.00		
Place of Worship	0.00	0.00	0.00		
User Defined Educational	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Place of Worship	9.50	7.30	7.30	0.00	95.00	5.00	64	25	11
User Defined Educational	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

MVMG Phase 2 (Construction Only) - Alameda County, Summer

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

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.573117	0.056467	0.176478	0.111811	0.020328	0.005383	0.015207	0.013118	0.000775	0.000513	0.024109	0.000363	0.002332
Place of Worship	0.573117	0.056467	0.176478	0.111811	0.020328	0.005383	0.015207	0.013118	0.000775	0.000513	0.024109	0.000363	0.002332
User Defined Educational	0.573117	0.056467	0.176478	0.111811	0.020328	0.005383	0.015207	0.013118	0.000775	0.000513	0.024109	0.000363	0.002332

**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

MVMG Phase 2 (Construction Only) - 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**

**Unmitigated**

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

MVMG Phase 2 (Construction Only) - 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 Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	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
User Defined Educational	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**

MVMG Phase 2 (Construction Only) - 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
Category	lb/day										lb/day					
Mitigated	4.6000e-004	4.0000e-005	4.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0108	0.0108	3.0000e-005		0.0114
Unmitigated	4.6000e-004	4.0000e-005	4.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0108	0.0108	3.0000e-005		0.0114

**6.2 Area by SubCategory**

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.6000e-004	4.0000e-005	4.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0108	0.0108	3.0000e-005		0.0114
<b>Total</b>	<b>4.6000e-004</b>	<b>4.0000e-005</b>	<b>4.9900e-003</b>	<b>0.0000</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>0.0108</b>	<b>0.0108</b>	<b>3.0000e-005</b>		<b>0.0114</b>



MVMG Phase 2 (Construction Only) - 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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.6000e-004	4.0000e-005	4.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0108	0.0108	3.0000e-005		0.0114
<b>Total</b>	<b>4.6000e-004</b>	<b>4.0000e-005</b>	<b>4.9900e-003</b>	<b>0.0000</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>0.0108</b>	<b>0.0108</b>	<b>3.0000e-005</b>		<b>0.0114</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

MVMG Phase 2 (Construction Only) - 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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MVMG Phase 2 (Construction Only) - Alameda County, Winter

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

**MVMG Phase 2 (Construction Only)**

**Alameda County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	20.00	1000sqft	0.46	20,000.00	0
User Defined Educational	24.00	User Defined Unit	24.00	1,045,440.00	0
Other Non-Asphalt Surfaces	5.10	Acre	5.10	222,156.00	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>	2030
<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 - 20,000 SF Columbarium and Mausoleum, 24 acres of burial lots, 5.1 acres of roads (decomposed granite)

Construction Phase - Per Applicant's construction schedule

Off-road Equipment -

Off-road Equipment - Assumed additional equipment for utility trenching

Grading - Phase 2 40.3 acres

Vehicle Trips - Transportation emissions in Phase I emissions estimates.

Energy Use - Construction Only - Energy Use in Phase I emissions

Water And Wastewater - Construction Only - Water Emissions estimated in Phase I emissions

Solid Waste - Construction Only - Waste emissions are in Phase I emissions.

MVMG Phase 2 (Construction Only) - Alameda County, Winter

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

Construction Off-road Equipment Mitigation - BAAQMD standard dust measures

Area Mitigation -

Energy Mitigation - Solar estimated in Phase I emissions

Operational Off-Road Equipment - burial tractors in Phase I emissions

Stationary Sources - Emergency Generators and Fire Pumps - Emergency generator in Phase I emissions

Consumer Products - Construction Only

Area Coating - Construction Only

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	532720	0
tblAreaCoating	Area_Nonresidential_Interior	1598160	0
tblAreaCoating	Area_Parking	13329	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	35.00	60.00
tblConstructionPhase	NumDays	440.00	270.00
tblConstructionPhase	NumDays	45.00	180.00
tblConstructionPhase	NumDays	35.00	60.00
tblConstructionPhase	NumDays	20.00	60.00
tblConsumerProducts	ROG_EF	2.14E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblEnergyUse	LightingElect	3.08	0.00
tblEnergyUse	NT24E	3.70	0.00
tblEnergyUse	NT24NG	6.67	0.00
tblEnergyUse	T24E	1.32	0.00
tblEnergyUse	T24NG	19.51	0.00
tblGrading	AcresOfGrading	540.00	40.30
tblGrading	AcresOfGrading	90.00	40.30

MVMG Phase 2 (Construction Only) - Alameda County, Winter

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

tblLandUse	LandUseSquareFeet	0.00	1,045,440.00
tblLandUse	LotAcreage	0.00	24.00
tblSolidWaste	SolidWasteGenerationRate	114.00	0.00
tblVehicleTrips	ST_TR	5.99	0.00
tblVehicleTrips	SU_TR	27.63	0.00
tblVehicleTrips	WD_TR	6.95	0.00
tblWater	IndoorWaterUseRate	625,778.17	0.00
tblWater	OutdoorWaterUseRate	978,781.24	0.00

**2.0 Emissions Summary**

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MVMG Phase 2 (Construction Only) - 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					
2027	3.5603	33.3130	34.6213	0.0979	18.9264	1.4351	20.0138	10.0468	1.3203	11.0472	0.0000	10,107.1944	10,107.1944	2.3006	0.7146	10,338.7068
2028	2.6964	22.4790	28.1870	0.0963	5.8744	0.6000	6.4744	1.5906	0.5649	2.1555	0.0000	9,958.2850	9,958.2850	0.7362	0.6984	10,184.8013
2029	187.1176	8.5987	14.8297	0.0236	0.8872	0.4190	0.9419	0.2353	0.3855	0.4181	0.0000	2,296.5080	2,296.5080	0.7156	0.0158	2,315.0543
<b>Maximum</b>	<b>187.1176</b>	<b>33.3130</b>	<b>34.6213</b>	<b>0.0979</b>	<b>18.9264</b>	<b>1.4351</b>	<b>20.0138</b>	<b>10.0468</b>	<b>1.3203</b>	<b>11.0472</b>	<b>0.0000</b>	<b>10,107.1944</b>	<b>10,107.1944</b>	<b>2.3006</b>	<b>0.7146</b>	<b>10,338.7068</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					
2027	3.5603	33.3130	34.6213	0.0979	8.5982	1.4351	9.6856	4.5426	1.3203	5.5431	0.0000	10,107.1944	10,107.1944	2.3006	0.7146	10,338.7068
2028	2.6964	22.4790	28.1870	0.0963	5.8744	0.6000	6.4744	1.5906	0.5649	2.1555	0.0000	9,958.2850	9,958.2850	0.7362	0.6984	10,184.8013
2029	187.1176	8.5987	14.8297	0.0236	0.8872	0.4190	0.9419	0.2353	0.3855	0.4181	0.0000	2,296.5080	2,296.5080	0.7156	0.0158	2,315.0543
<b>Maximum</b>	<b>187.1176</b>	<b>33.3130</b>	<b>34.6213</b>	<b>0.0979</b>	<b>8.5982</b>	<b>1.4351</b>	<b>9.6856</b>	<b>4.5426</b>	<b>1.3203</b>	<b>5.5431</b>	<b>0.0000</b>	<b>10,107.1944</b>	<b>10,107.1944</b>	<b>2.3006</b>	<b>0.7146</b>	<b>10,338.7068</b>

## MVMG Phase 2 (Construction Only) - 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	40.21	0.00	37.65	46.36	0.00	40.41	0.00	0.00	0.00	0.00	0.00	0.00

MVMG Phase 2 (Construction Only) - 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	4.6000e-004	4.0000e-005	4.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0108	0.0108	3.0000e-005		0.0114
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>4.6000e-004</b>	<b>4.0000e-005</b>	<b>4.9900e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>0.0108</b>	<b>0.0108</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>0.0114</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	4.6000e-004	4.0000e-005	4.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0108	0.0108	3.0000e-005		0.0114
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>4.6000e-004</b>	<b>4.0000e-005</b>	<b>4.9900e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>0.0108</b>	<b>0.0108</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>0.0114</b>



MVMG Phase 2 (Construction Only) - 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	Site Preparation	Site Preparation	1/4/2027	3/26/2027	5	60	
2	Grading	Grading	3/27/2027	12/3/2027	5	180	
3	Utilities	Trenching	9/11/2027	12/3/2027	5	60	
4	Building Construction	Building Construction	12/4/2027	12/15/2028	5	270	
5	Paving	Paving	12/16/2028	3/9/2029	5	60	
6	Architectural Coating	Architectural Coating	3/10/2029	6/1/2029	5	60	

**Acres of Grading (Site Preparation Phase): 40.3**

**Acres of Grading (Grading Phase): 40.3**

**Acres of Paving: 5.1**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,598,160; Non-Residential Outdoor: 532,720; Striped Parking Area: 13,329 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40

MVMG Phase 2 (Construction Only) - Alameda County, Winter

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

Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Utilities	Excavators	1	8.00	158	0.38
Utilities	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Utilities	Trenchers	1	8.00	78	0.50
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utilities	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	541.00	211.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	108.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

MVMG Phase 2 (Construction Only) - Alameda County, Winter

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

**3.2 Site Preparation - 2027**

**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					18.7786	0.0000	18.7786	10.0076	0.0000	10.0076			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999		3,689.1037	3,689.1037	1.1931		3,718.9320
<b>Total</b>	<b>2.4727</b>	<b>25.2339</b>	<b>17.9118</b>	<b>0.0381</b>	<b>18.7786</b>	<b>1.0868</b>	<b>19.8654</b>	<b>10.0076</b>	<b>0.9999</b>	<b>11.0074</b>		<b>3,689.1037</b>	<b>3,689.1037</b>	<b>1.1931</b>		<b>3,718.9320</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	0.0401	0.0238	0.3287	1.0600e-003	0.1479	6.1000e-004	0.1485	0.0392	5.6000e-004	0.0398		111.8357	111.8357	2.6900e-003	2.8700e-003	112.7576
<b>Total</b>	<b>0.0401</b>	<b>0.0238</b>	<b>0.3287</b>	<b>1.0600e-003</b>	<b>0.1479</b>	<b>6.1000e-004</b>	<b>0.1485</b>	<b>0.0392</b>	<b>5.6000e-004</b>	<b>0.0398</b>		<b>111.8357</b>	<b>111.8357</b>	<b>2.6900e-003</b>	<b>2.8700e-003</b>	<b>112.7576</b>

MVMG Phase 2 (Construction Only) - Alameda County, Winter

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

**3.2 Site Preparation - 2027**

**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					8.4504	0.0000	8.4504	4.5034	0.0000	4.5034			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320
<b>Total</b>	<b>2.4727</b>	<b>25.2339</b>	<b>17.9118</b>	<b>0.0381</b>	<b>8.4504</b>	<b>1.0868</b>	<b>9.5371</b>	<b>4.5034</b>	<b>0.9999</b>	<b>5.5033</b>	<b>0.0000</b>	<b>3,689.1037</b>	<b>3,689.1037</b>	<b>1.1931</b>		<b>3,718.9320</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	0.0401	0.0238	0.3287	1.0600e-003	0.1479	6.1000e-004	0.1485	0.0392	5.6000e-004	0.0398		111.8357	111.8357	2.6900e-003	2.8700e-003	112.7576
<b>Total</b>	<b>0.0401</b>	<b>0.0238</b>	<b>0.3287</b>	<b>1.0600e-003</b>	<b>0.1479</b>	<b>6.1000e-004</b>	<b>0.1485</b>	<b>0.0392</b>	<b>5.6000e-004</b>	<b>0.0398</b>		<b>111.8357</b>	<b>111.8357</b>	<b>2.6900e-003</b>	<b>2.8700e-003</b>	<b>112.7576</b>

MVMG Phase 2 (Construction Only) - Alameda County, Winter

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

**3.3 Grading - 2027**

**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					6.2595	0.0000	6.2595	3.3359	0.0000	3.3359			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404		6,008.281 4	6,008.281 4	1.9432		6,056.861 4
<b>Total</b>	<b>2.9012</b>	<b>27.9429</b>	<b>26.3311</b>	<b>0.0621</b>	<b>6.2595</b>	<b>1.1309</b>	<b>7.3904</b>	<b>3.3359</b>	<b>1.0404</b>	<b>4.3763</b>		<b>6,008.281 4</b>	<b>6,008.281 4</b>	<b>1.9432</b>		<b>6,056.861 4</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	0.0445	0.0264	0.3652	1.1700e-003	0.1643	6.8000e-004	0.1650	0.0436	6.2000e-004	0.0442		124.2619	124.2619	2.9900e-003	3.1900e-003	125.2862
<b>Total</b>	<b>0.0445</b>	<b>0.0264</b>	<b>0.3652</b>	<b>1.1700e-003</b>	<b>0.1643</b>	<b>6.8000e-004</b>	<b>0.1650</b>	<b>0.0436</b>	<b>6.2000e-004</b>	<b>0.0442</b>		<b>124.2619</b>	<b>124.2619</b>	<b>2.9900e-003</b>	<b>3.1900e-003</b>	<b>125.2862</b>

MVMG Phase 2 (Construction Only) - Alameda County, Winter

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

**3.3 Grading - 2027**

**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					2.8168	0.0000	2.8168	1.5011	0.0000	1.5011			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614
<b>Total</b>	<b>2.9012</b>	<b>27.9429</b>	<b>26.3311</b>	<b>0.0621</b>	<b>2.8168</b>	<b>1.1309</b>	<b>3.9477</b>	<b>1.5011</b>	<b>1.0404</b>	<b>2.5416</b>	<b>0.0000</b>	<b>6,008.2814</b>	<b>6,008.2814</b>	<b>1.9432</b>		<b>6,056.8614</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	0.0445	0.0264	0.3652	1.1700e-003	0.1643	6.8000e-004	0.1650	0.0436	6.2000e-004	0.0442		124.2619	124.2619	2.9900e-003	3.1900e-003	125.2862
<b>Total</b>	<b>0.0445</b>	<b>0.0264</b>	<b>0.3652</b>	<b>1.1700e-003</b>	<b>0.1643</b>	<b>6.8000e-004</b>	<b>0.1650</b>	<b>0.0436</b>	<b>6.2000e-004</b>	<b>0.0442</b>		<b>124.2619</b>	<b>124.2619</b>	<b>2.9900e-003</b>	<b>3.1900e-003</b>	<b>125.2862</b>

MVMG Phase 2 (Construction Only) - Alameda County, Winter

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

**3.4 Utilities - 2027**

**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	0.5967	5.3331	7.7790	0.0113		0.3033	0.3033		0.2790	0.2790		1,091.9819	1,091.9819	0.3532		1,100.8111
<b>Total</b>	<b>0.5967</b>	<b>5.3331</b>	<b>7.7790</b>	<b>0.0113</b>		<b>0.3033</b>	<b>0.3033</b>		<b>0.2790</b>	<b>0.2790</b>		<b>1,091.9819</b>	<b>1,091.9819</b>	<b>0.3532</b>		<b>1,100.8111</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	0.0178	0.0106	0.1461	4.7000e-004	0.0657	2.7000e-004	0.0660	0.0174	2.5000e-004	0.0177		49.7048	49.7048	1.2000e-003	1.2700e-003	50.1145
<b>Total</b>	<b>0.0178</b>	<b>0.0106</b>	<b>0.1461</b>	<b>4.7000e-004</b>	<b>0.0657</b>	<b>2.7000e-004</b>	<b>0.0660</b>	<b>0.0174</b>	<b>2.5000e-004</b>	<b>0.0177</b>		<b>49.7048</b>	<b>49.7048</b>	<b>1.2000e-003</b>	<b>1.2700e-003</b>	<b>50.1145</b>

MVMG Phase 2 (Construction Only) - Alameda County, Winter

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

**3.4 Utilities - 2027**

**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	0.5967	5.3331	7.7790	0.0113		0.3033	0.3033		0.2790	0.2790	0.0000	1,091.9819	1,091.9819	0.3532		1,100.8111
<b>Total</b>	<b>0.5967</b>	<b>5.3331</b>	<b>7.7790</b>	<b>0.0113</b>		<b>0.3033</b>	<b>0.3033</b>		<b>0.2790</b>	<b>0.2790</b>	<b>0.0000</b>	<b>1,091.9819</b>	<b>1,091.9819</b>	<b>0.3532</b>		<b>1,100.8111</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	0.0178	0.0106	0.1461	4.7000e-004	0.0657	2.7000e-004	0.0660	0.0174	2.5000e-004	0.0177		49.7048	49.7048	1.2000e-003	1.2700e-003	50.1145
<b>Total</b>	<b>0.0178</b>	<b>0.0106</b>	<b>0.1461</b>	<b>4.7000e-004</b>	<b>0.0657</b>	<b>2.7000e-004</b>	<b>0.0660</b>	<b>0.0174</b>	<b>2.5000e-004</b>	<b>0.0177</b>		<b>49.7048</b>	<b>49.7048</b>	<b>1.2000e-003</b>	<b>1.2700e-003</b>	<b>50.1145</b>



MVMG Phase 2 (Construction Only) - Alameda County, Winter

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

**3.5 Building Construction - 2027**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1
<b>Total</b>	<b>1.3674</b>	<b>12.4697</b>	<b>16.0847</b>	<b>0.0270</b>		<b>0.5276</b>	<b>0.5276</b>		<b>0.4963</b>	<b>0.4963</b>		<b>2,556.474 4</b>	<b>2,556.474 4</b>	<b>0.6010</b>		<b>2,571.498 1</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	0.1910	9.3822	2.6732	0.0392	1.4302	0.0557	1.4859	0.4118	0.0533	0.4651		4,189.434 9	4,189.434 9	0.0606	0.6284	4,378.217 1
Worker	1.2046	0.7143	9.8782	0.0318	4.4442	0.0183	4.4625	1.1788	0.0168	1.1956		3,361.285 1	3,361.285 1	0.0809	0.0862	3,388.991 6
<b>Total</b>	<b>1.3956</b>	<b>10.0965</b>	<b>12.5515</b>	<b>0.0710</b>	<b>5.8744</b>	<b>0.0740</b>	<b>5.9483</b>	<b>1.5906</b>	<b>0.0701</b>	<b>1.6607</b>		<b>7,550.720 0</b>	<b>7,550.720 0</b>	<b>0.1415</b>	<b>0.7146</b>	<b>7,767.208 7</b>

MVMG Phase 2 (Construction Only) - Alameda County, Winter

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

**3.5 Building Construction - 2027**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
<b>Total</b>	<b>1.3674</b>	<b>12.4697</b>	<b>16.0847</b>	<b>0.0270</b>		<b>0.5276</b>	<b>0.5276</b>		<b>0.4963</b>	<b>0.4963</b>	<b>0.0000</b>	<b>2,556.474 4</b>	<b>2,556.474 4</b>	<b>0.6010</b>		<b>2,571.498 1</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	0.1910	9.3822	2.6732	0.0392	1.4302	0.0557	1.4859	0.4118	0.0533	0.4651		4,189.434 9	4,189.434 9	0.0606	0.6284	4,378.217 1
Worker	1.2046	0.7143	9.8782	0.0318	4.4442	0.0183	4.4625	1.1788	0.0168	1.1956		3,361.285 1	3,361.285 1	0.0809	0.0862	3,388.991 6
<b>Total</b>	<b>1.3956</b>	<b>10.0965</b>	<b>12.5515</b>	<b>0.0710</b>	<b>5.8744</b>	<b>0.0740</b>	<b>5.9483</b>	<b>1.5906</b>	<b>0.0701</b>	<b>1.6607</b>		<b>7,550.720 0</b>	<b>7,550.720 0</b>	<b>0.1415</b>	<b>0.7146</b>	<b>7,767.208 7</b>

MVMG Phase 2 (Construction Only) - Alameda County, Winter

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

**3.5 Building Construction - 2028**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1
<b>Total</b>	<b>1.3674</b>	<b>12.4697</b>	<b>16.0847</b>	<b>0.0270</b>		<b>0.5276</b>	<b>0.5276</b>		<b>0.4963</b>	<b>0.4963</b>		<b>2,556.474 4</b>	<b>2,556.474 4</b>	<b>0.6010</b>		<b>2,571.498 1</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	0.1882	9.3490	2.6499	0.0384	1.4302	0.0553	1.4855	0.4118	0.0529	0.4647		4,105.851 3	4,105.851 3	0.0605	0.6159	4,290.894 8
Worker	1.1409	0.6603	9.4525	0.0309	4.4442	0.0171	4.4613	1.1788	0.0157	1.1946		3,295.959 4	3,295.959 4	0.0747	0.0825	3,322.408 5
<b>Total</b>	<b>1.3290</b>	<b>10.0093</b>	<b>12.1024</b>	<b>0.0694</b>	<b>5.8744</b>	<b>0.0724</b>	<b>5.9468</b>	<b>1.5906</b>	<b>0.0686</b>	<b>1.6593</b>		<b>7,401.810 6</b>	<b>7,401.810 6</b>	<b>0.1352</b>	<b>0.6984</b>	<b>7,613.303 2</b>

MVMG Phase 2 (Construction Only) - Alameda County, Winter

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

**3.5 Building Construction - 2028**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
<b>Total</b>	<b>1.3674</b>	<b>12.4697</b>	<b>16.0847</b>	<b>0.0270</b>		<b>0.5276</b>	<b>0.5276</b>		<b>0.4963</b>	<b>0.4963</b>	<b>0.0000</b>	<b>2,556.474 4</b>	<b>2,556.474 4</b>	<b>0.6010</b>		<b>2,571.498 1</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	0.1882	9.3490	2.6499	0.0384	1.4302	0.0553	1.4855	0.4118	0.0529	0.4647		4,105.851 3	4,105.851 3	0.0605	0.6159	4,290.894 8
Worker	1.1409	0.6603	9.4525	0.0309	4.4442	0.0171	4.4613	1.1788	0.0157	1.1946		3,295.959 4	3,295.959 4	0.0747	0.0825	3,322.408 5
<b>Total</b>	<b>1.3290</b>	<b>10.0093</b>	<b>12.1024</b>	<b>0.0694</b>	<b>5.8744</b>	<b>0.0724</b>	<b>5.9468</b>	<b>1.5906</b>	<b>0.0686</b>	<b>1.6593</b>		<b>7,401.810 6</b>	<b>7,401.810 6</b>	<b>0.1352</b>	<b>0.6984</b>	<b>7,613.303 2</b>

MVMG Phase 2 (Construction Only) - Alameda County, Winter

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

**3.6 Paving - 2028**

**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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.9152</b>	<b>8.5816</b>	<b>14.5780</b>	<b>0.0228</b>		<b>0.4185</b>	<b>0.4185</b>		<b>0.3850</b>	<b>0.3850</b>		<b>2,206.7452</b>	<b>2,206.7452</b>	<b>0.7137</b>		<b>2,224.5878</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	0.0316	0.0183	0.2621	8.6000e-004	0.1232	4.7000e-004	0.1237	0.0327	4.4000e-004	0.0331		91.3852	91.3852	2.0700e-003	2.2900e-003	92.1185
<b>Total</b>	<b>0.0316</b>	<b>0.0183</b>	<b>0.2621</b>	<b>8.6000e-004</b>	<b>0.1232</b>	<b>4.7000e-004</b>	<b>0.1237</b>	<b>0.0327</b>	<b>4.4000e-004</b>	<b>0.0331</b>		<b>91.3852</b>	<b>91.3852</b>	<b>2.0700e-003</b>	<b>2.2900e-003</b>	<b>92.1185</b>

MVMG Phase 2 (Construction Only) - Alameda County, Winter

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

**3.6 Paving - 2028**

**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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.745 2	2,206.745 2	0.7137		2,224.587 8
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.9152</b>	<b>8.5816</b>	<b>14.5780</b>	<b>0.0228</b>		<b>0.4185</b>	<b>0.4185</b>		<b>0.3850</b>	<b>0.3850</b>	<b>0.0000</b>	<b>2,206.745 2</b>	<b>2,206.745 2</b>	<b>0.7137</b>		<b>2,224.587 8</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	0.0316	0.0183	0.2621	8.6000e-004	0.1232	4.7000e-004	0.1237	0.0327	4.4000e-004	0.0331		91.3852	91.3852	2.0700e-003	2.2900e-003	92.1185
<b>Total</b>	<b>0.0316</b>	<b>0.0183</b>	<b>0.2621</b>	<b>8.6000e-004</b>	<b>0.1232</b>	<b>4.7000e-004</b>	<b>0.1237</b>	<b>0.0327</b>	<b>4.4000e-004</b>	<b>0.0331</b>		<b>91.3852</b>	<b>91.3852</b>	<b>2.0700e-003</b>	<b>2.2900e-003</b>	<b>92.1185</b>

MVMG Phase 2 (Construction Only) - Alameda County, Winter

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

**3.6 Paving - 2029**

**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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.745 2	2,206.745 2	0.7137		2,224.587 8
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.9152</b>	<b>8.5816</b>	<b>14.5780</b>	<b>0.0228</b>		<b>0.4185</b>	<b>0.4185</b>		<b>0.3850</b>	<b>0.3850</b>		<b>2,206.745 2</b>	<b>2,206.745 2</b>	<b>0.7137</b>		<b>2,224.587 8</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	0.0299	0.0170	0.2518	8.4000e-004	0.1232	4.4000e-004	0.1237	0.0327	4.1000e-004	0.0331		89.7628	89.7628	1.9200e-003	2.2000e-003	90.4665
<b>Total</b>	<b>0.0299</b>	<b>0.0170</b>	<b>0.2518</b>	<b>8.4000e-004</b>	<b>0.1232</b>	<b>4.4000e-004</b>	<b>0.1237</b>	<b>0.0327</b>	<b>4.1000e-004</b>	<b>0.0331</b>		<b>89.7628</b>	<b>89.7628</b>	<b>1.9200e-003</b>	<b>2.2000e-003</b>	<b>90.4665</b>

MVMG Phase 2 (Construction Only) - Alameda County, Winter

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

**3.6 Paving - 2029**

**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	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.745 2	2,206.745 2	0.7137		2,224.587 8
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.9152</b>	<b>8.5816</b>	<b>14.5780</b>	<b>0.0228</b>		<b>0.4185</b>	<b>0.4185</b>		<b>0.3850</b>	<b>0.3850</b>	<b>0.0000</b>	<b>2,206.745 2</b>	<b>2,206.745 2</b>	<b>0.7137</b>		<b>2,224.587 8</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	0.0299	0.0170	0.2518	8.4000e-004	0.1232	4.4000e-004	0.1237	0.0327	4.1000e-004	0.0331		89.7628	89.7628	1.9200e-003	2.2000e-003	90.4665
<b>Total</b>	<b>0.0299</b>	<b>0.0170</b>	<b>0.2518</b>	<b>8.4000e-004</b>	<b>0.1232</b>	<b>4.4000e-004</b>	<b>0.1237</b>	<b>0.0327</b>	<b>4.1000e-004</b>	<b>0.0331</b>		<b>89.7628</b>	<b>89.7628</b>	<b>1.9200e-003</b>	<b>2.2000e-003</b>	<b>90.4665</b>



MVMG Phase 2 (Construction Only) - Alameda County, Winter

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

**3.7 Architectural Coating - 2029**

**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					
Archit. Coating	186.7313					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
<b>Total</b>	<b>186.9022</b>	<b>1.1455</b>	<b>1.8091</b>	<b>2.9700e-003</b>		<b>0.0515</b>	<b>0.0515</b>		<b>0.0515</b>	<b>0.0515</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0154</b>		<b>281.8319</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	0.2154	0.1226	1.8126	6.0200e-003	0.8872	3.2000e-003	0.8904	0.2353	2.9400e-003	0.2383		646.2924	646.2924	0.0138	0.0158	651.3587
<b>Total</b>	<b>0.2154</b>	<b>0.1226</b>	<b>1.8126</b>	<b>6.0200e-003</b>	<b>0.8872</b>	<b>3.2000e-003</b>	<b>0.8904</b>	<b>0.2353</b>	<b>2.9400e-003</b>	<b>0.2383</b>		<b>646.2924</b>	<b>646.2924</b>	<b>0.0138</b>	<b>0.0158</b>	<b>651.3587</b>

MVMG Phase 2 (Construction Only) - Alameda County, Winter

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

**3.7 Architectural Coating - 2029**

**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					
Archit. Coating	186.7313					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
<b>Total</b>	<b>186.9022</b>	<b>1.1455</b>	<b>1.8091</b>	<b>2.9700e-003</b>		<b>0.0515</b>	<b>0.0515</b>		<b>0.0515</b>	<b>0.0515</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0154</b>		<b>281.8319</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	0.2154	0.1226	1.8126	6.0200e-003	0.8872	3.2000e-003	0.8904	0.2353	2.9400e-003	0.2383		646.2924	646.2924	0.0138	0.0158	651.3587
<b>Total</b>	<b>0.2154</b>	<b>0.1226</b>	<b>1.8126</b>	<b>6.0200e-003</b>	<b>0.8872</b>	<b>3.2000e-003</b>	<b>0.8904</b>	<b>0.2353</b>	<b>2.9400e-003</b>	<b>0.2383</b>		<b>646.2924</b>	<b>646.2924</b>	<b>0.0138</b>	<b>0.0158</b>	<b>651.3587</b>

MVMG Phase 2 (Construction Only) - 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 Non-Asphalt Surfaces	0.00	0.00	0.00		
Place of Worship	0.00	0.00	0.00		
User Defined Educational	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Place of Worship	9.50	7.30	7.30	0.00	95.00	5.00	64	25	11
User Defined Educational	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

MVMG Phase 2 (Construction Only) - Alameda County, Winter

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

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.573117	0.056467	0.176478	0.111811	0.020328	0.005383	0.015207	0.013118	0.000775	0.000513	0.024109	0.000363	0.002332
Place of Worship	0.573117	0.056467	0.176478	0.111811	0.020328	0.005383	0.015207	0.013118	0.000775	0.000513	0.024109	0.000363	0.002332
User Defined Educational	0.573117	0.056467	0.176478	0.111811	0.020328	0.005383	0.015207	0.013118	0.000775	0.000513	0.024109	0.000363	0.002332

**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

MVMG Phase 2 (Construction Only) - 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 - Natural Gas**

Unmitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	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
User Defined Educational	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>

MVMG Phase 2 (Construction Only) - 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 Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	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
User Defined Educational	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**

MVMG Phase 2 (Construction Only) - 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
Category	lb/day										lb/day					
Mitigated	4.6000e-004	4.0000e-005	4.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0108	0.0108	3.0000e-005		0.0114
Unmitigated	4.6000e-004	4.0000e-005	4.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0108	0.0108	3.0000e-005		0.0114

**6.2 Area by SubCategory**

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.6000e-004	4.0000e-005	4.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0108	0.0108	3.0000e-005		0.0114
<b>Total</b>	<b>4.6000e-004</b>	<b>4.0000e-005</b>	<b>4.9900e-003</b>	<b>0.0000</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>0.0108</b>	<b>0.0108</b>	<b>3.0000e-005</b>		<b>0.0114</b>

MVMG Phase 2 (Construction Only) - 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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.6000e-004	4.0000e-005	4.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0108	0.0108	3.0000e-005		0.0114
<b>Total</b>	<b>4.6000e-004</b>	<b>4.0000e-005</b>	<b>4.9900e-003</b>	<b>0.0000</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>0.0108</b>	<b>0.0108</b>	<b>3.0000e-005</b>		<b>0.0114</b>

**7.0 Water Detail**

---

**7.1 Mitigation Measures Water**



MVMG Phase 2 (Construction Only) - 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**

---

**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

---

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

**10.0 Stationary Equipment**

---

**Fire Pumps and Emergency Generators**

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

**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

**User Defined Equipment**

Equipment Type	Number
----------------	--------

**11.0 Vegetation**

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# Health Risk Assessment Monte Vista Memorial Gardens

Livermore, California

July 29, 2021

Prepared For:  
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## SECTION 1: INTRODUCTION

### 1.1 Background and Project Location

Environmental Permitting Specialists (EPS) has been retained by RCH Group to evaluate public health risks associated with the proposed Monte Vista Memorial Gardens crematory (Project) to be located in Livermore (Alameda County County), California. Up to 1,000 cremations are planned annually using a natural gas fired incinerator equipped with an afterburner to control emissions. This risk analysis is in support of the Environmental Impact Report and the Conditional Use Permit being prepared by Alameda County Planning Department.

The proposed Project would be located at 3656 Las Colinas Road in Livermore. It would occupy approximately 47 acres of a 104 acre lot. Figures 1-1 and 1-2 illustrate the project location and site map respectively.

The objective of the risk assessment is to determine if the operation of the proposed project is likely to expose nearby residents or workers to significant health risks. The criteria used to determine if health risks are significant is discussed later in this Section.

Three (4) types of risks are evaluated. These risks are:

1. Individual Cancer Risk
2. Chronic Non-Cancer Risk
3. Acute Non-Cancer Risk
4. Exposure to fine particulate matter (PM-2.5) concentration

Individual cancer risk refers to the increased probability that an individual would contract cancer after long-term exposure, typically 25 to 70 years. For residences, a 30 year exposure is recommended by OEHHA. For workers, including schools, a 25 year exposure is recommended.

Chronic (non-cancer) risk is reported as a ratio of the average concentration of a specific TAC associated with the project divided by the recommended exposure level for that TAC. A hazard index below 1 indicates that chronic non-cancer health effects are not expected.

Acute (non-cancer) risk is reported as a ratio of 1-hour concentration of a specific TAC associated with the project divided by the recommended exposure level for that TAC. A hazard index below 1 indicates that acute non-cancer health effects are not expected.

Chronic (long-term) exposure assumes that TACs are emitted continuously and that the pollutant concentrations are annual averages. Acute exposure assumes a maximum hour concentration.

Non-cancer residential health risks associated with exposure to concentration of PM-2.5 assume an exposure duration of 1 year to concentrations of PM-2.5 released from the crematory.

## 1.2 Scope of the Health Risk Assessment

Preparation of risk assessments is a three-step process. The first step is to identify sources of toxic air contaminants (TACs) that may lead to public health risks. The second step is to assess the amounts of contaminants that may reach the public (exposure assessment). The last step is to calculate the magnitude of the health risk as a result of exposure to harmful contaminants (risk characterization).

The Office of Environmental Health Hazard Assessment (OEHHA), and the Bay Area Air Quality Management District (BAAQMD)<sup>1</sup> have provided guidance on the procedures that should be used, including, the types of risks to be evaluated for each TAC, toxicological data for individual contaminants and recommended exposure pathways. The current analysis relies on guidance from both of these agencies.

## 1.3 Significance Criteria

The following significance criteria are used in this report to assess the significance of public health risks. These criteria are based on the BAAQMD Guidelines for Assessing and Mitigating Air Quality Impacts and District Regulation 11-18. These Guidelines and Regulations are designed to inform the public and the Lead Agencies of the extent of airborne emissions from stationary sources and the potential public health impacts associated with exposure to such emissions.

<b>Table 1-1 Significance Thresholds for Public Health Risks</b>	
<b>Risk Metric</b>	<b>Project Level</b>
Residential Lifetime Cancer Risk 30 years exposure	>10 cancers per million
Workplace Cancer Risk 25 years exposure	>10 cancers per million
Chronic Hazard Index 30 years exposure	>1
Acute Hazard Index 1-Hour exposure	>1
Annual PM-2.5 Concentration	0.3 ug/m3

## 1.4 Report Organization

This report is divided into seven Sections and two Appendices as follows:

<sup>1</sup> BAAQMD Air Toxics NSR Program HRA Guidelines December 2016.

- Section 1: Introduction
- Section 2: Emissions Summary
- Section 3: Exposure Assessment
- Section 4: Health Risk Analysis
- Section 5: Cumulative Cancer Risk Evaluation
- Section 6: Results and Conclusions
- Section 7: Uncertainties in Risk Evaluation
- Section 8: References

Technical data and calculations appear in Appendices A thru C.

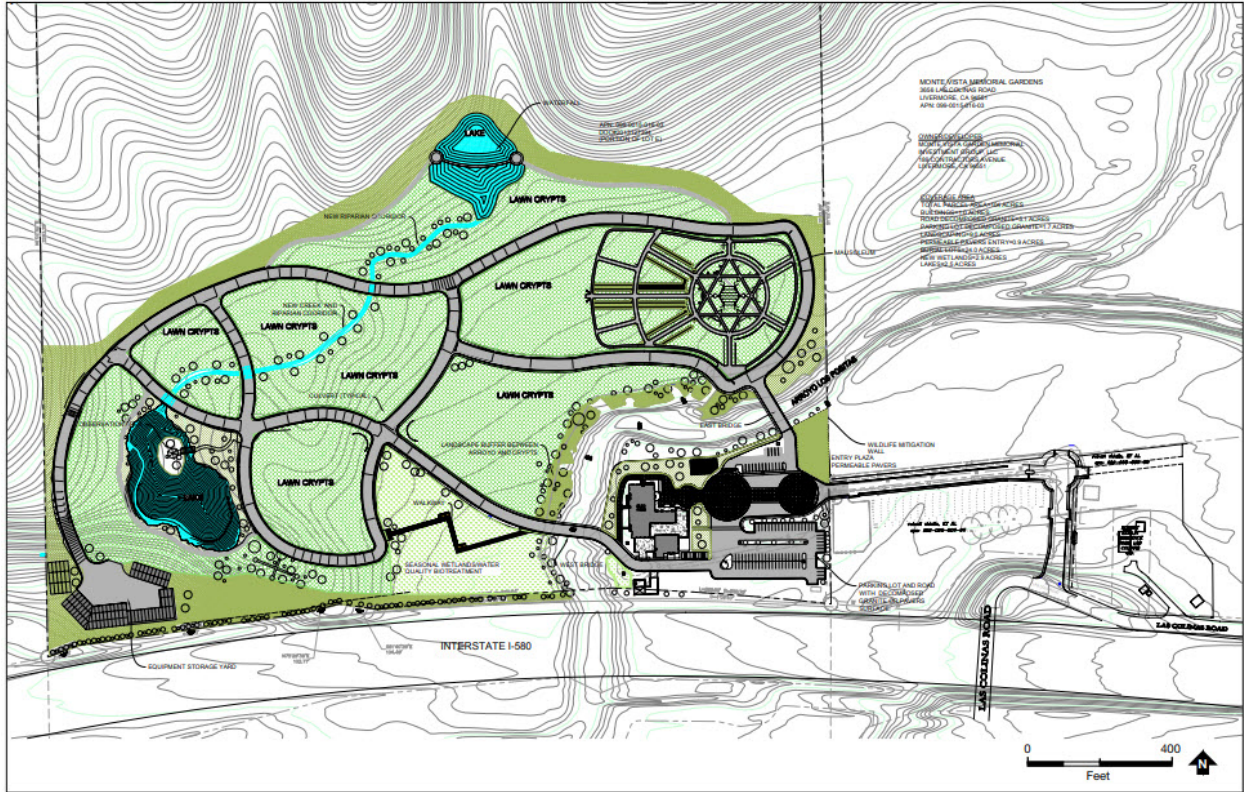


Figure 1-1  
Vicinity Map



# Figure 1-2 Site Map

Source: RCH Group





## SECTION 2: EMISSIONS SUMMARY

The Project consists on a natural gas fired crematory furnace equipped with an afterburner to control emissions. The crematory furnace would emit toxic air contaminants from the combustion of human remains, caskets and natural gas. EPS relied on BAAQMD approved emission factors for crematories such as the recently completed for Irvington Memorial Crematory in Fremont<sup>2</sup>. The annual and hourly toxic emissions based on 1,000 cremations per year are summarized in Table 2-1.

**Table 2-1  
Summary of Toxic Emissions Based on 1,000 Cremations per Year**

<b>Toxic Air Contaminant</b>	<b>EFs (lbs/body)</b>	<b>Emissions (lbs/yr)</b>	<b>Emissions (lbs/hr)</b>
Acetaldehyde	1.30E-04	1.30E-01	4.45E-05
Arsenic	1.50E-05	1.50E-02	5.14E-06
Beryllium	1.40E-06	1.40E-03	4.79E-07
Cadmium	1.10E-05	1.10E-02	3.77E-06
Chrome +6	1.40E-05	1.40E-02	4.79E-06
Copper	2.70E-05	2.70E-02	9.25E-06
Formaldehyde	3.40E-05	3.40E-02	1.16E-05
Hydrogen Chloride	7.20E-02	7.20E+01	2.47E-02
Hydrogen Fluoride	6.60E-04	6.60E-01	2.26E-04
Lead	6.60E-05	6.60E-02	2.26E-05
Mercury	3.40E-03	3.40E+00	1.16E-03
Nickel	3.80E-05	3.80E-02	1.30E-05
Selenium	2.20E-05	2.20E-02	7.53E-06
Dioxins	1.10E-09	1.10E-06	3.77E-10
PAHs	2.40E-08	2.40E-05	8.22E-09
Manganese	1.90E-04	1.90E-01	6.51E-05
NOTES:			
Annual Bodies Cremated:	1,000	bodies/yr	
Operation: 8 hrs/day x 365 days/yr	2,920	hrs/yr	
Calculations:			
Annual Emissions (lbs/yr): EF (lbs/body) x No. of bodies cremated per yr			
Hourly Emissions (lbs/hr): [Annual Emissions (lbs/yr)] / [2,920 hrs/yr]			
Emission Factors (EF) Ref: Irvington Memorial Crematory Table 6. Available at: <a href="https://www.baaqmd.gov/~/_/media/files/ab617-community-health/facility-risk-reduction/hra-facilities/fid4134/fid4134_draft_hra_report_052820.pdf.pdf?la=en">https://www.baaqmd.gov/~/_/media/files/ab617-community-health/facility-risk-reduction/hra-facilities/fid4134/fid4134_draft_hra_report_052820.pdf.pdf?la=en</a>			

<sup>2</sup> BAAQMD (2020) Health Risk Assessment Facility # A4134 Irvington Memorial Cemetery, Fremont, CA.

For PM-2.5 emissions, the analysis relied on emission factors from San Diego County Air Pollution Control District. The recommended emission factor is 6.5 pounds of PM per ton of bodies charged. It is assumed that all PM is equivalent to PM-2.5. On this basis, it is estimated that annual PM-2.5 emissions would equal 487.5 pounds per year. Detailed calculations are provided in Table 2-2.

<b>Table 2-2</b>			
<b>Estimate of Annual PM-2.5 Emissions</b>			
Emission Factor (PM-10)	6.5	<i>lbs/ton charged</i>	<i>Ref: SDCAPCD</i>
Bodies Charged	1,000	<i>bodies/yr</i>	
Wt. per Body	150	<i>lbs/body</i>	
Annual Wt.	150,000	<i>lbs/yr</i>	
	75	<i>tons/yr</i>	
Emissions PM-10	487.5	<i>lbs/yr</i>	
Fraction PM-2.5/PM-10	100%		
Emissions PM-2.5	487.5	<i>lbs/yr</i>	
	5.57E-02	<i>lbs/hr</i>	
	2.53E+01	<i>grams/hr</i>	
	7.02E-03	<i>grams/sec</i>	

We note that more recent source test data<sup>3</sup> from Northern California crematories indicate that PM-10 emissions range from 2.67 to 0.7 pounds of PM per ton charged. As a result, the PM-10/PM-2.5 annual emissions calculated above are a conservative estimate of emissions.

<sup>3</sup> Blue Sky Environmental (May 17, 2021). Personal communication related to test results from 6 different crematory source tests.

## SECTION 3: EXPOSURE ASSESSMENT

Exposure assessment involves translating the emission rate (e.g., lbs/hr) of individual toxic air contaminants (presented in Tables 2-1 and 2-2) into the concentration (e.g., grams/cubic meter or parts per million) of each toxic air contaminant. The key step in performing an exposure assessment is the application of an air dispersion model. The dispersion model incorporates the local meteorological data (wind speed, wind direction, local temperature, inversion heights, etc.), stack height, exhaust flow characteristics, into the concentration of individual air contaminant. EPA and the BAAQMD recommended AERMOD dispersion model (Version 19191) was employed in the current exposure assessment. The plot files created using Lakes Environmental (AERMODVIEW) Version 9.8.3 were exported into the HARP risk model.

This section discusses the model set-up, the extent of the modeling area, and the choice and duration of meteorological data used in the current analysis.

### 3.1 Model Set-Up

The following regulatory default options were used. They are based on the latest EPA and BAAQMD guidance on running AERMOD.

- Use of Calm Wind Processing
- Use of Missing Data Processing
- Use of Terrain Adjustment

The emissions were modeled as a single point source, 32 feet high. Exhaust flow rate and temperature were based on data from other, similar, crematories. Adjustment due to changes in elevation in the modeling area were included using the digital elevation model (DEM)<sup>4</sup> terrain data. Detailed model inputs are provided in Appendix A.

### 3.2 Modeling Grid and Coordinate System

A rectangular (x-y) Cartesian coordinate system was used. A region 1,875 x 1,875 meters (1.2 miles x 1.2 miles) was used. The modeling region divided into 75 meter cells for a total of 2,500 individual receptors in the vicinity of the project area. In addition to the modeling grid, discrete receptors were located at nearby homes and businesses. See Figure 3-1 for a layout of the modeling grid.

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<sup>4</sup> Information available at: [https://www.usgs.gov/fags/what-are-digital-elevation-models-dems?qt-news\\_science\\_products=0#qt-news\\_science\\_products](https://www.usgs.gov/fags/what-are-digital-elevation-models-dems?qt-news_science_products=0#qt-news_science_products)

### 3.3 Meteorological Data

Five years of hourly meteorological data from 2009 to 2014 (total 43,800 hours) was used in the exposure assessment. The surface data (wind speed, wind direction, temperature, etc.) were recorded at Livermore Municipal Airport located 3 miles to the West. These data were obtained from the California Air Resources Board<sup>5</sup> and are considered representative of the project site.

In addition to surface meteorological data, hourly inversion height data are also required. Five years of data from the nearest upper air station (Oakland, CA) were used to develop hourly inversion heights.

---

<sup>5</sup> CARB AERMOD Meteorological Files. Available at: <https://ww2.arb.ca.gov/resources/documents/harp-aermod-meteorological-files>

**Figure 3-1  
Lay-Out of Modeling Grid**



## SECTION 4: HEALTH RISK ANALYSIS

Health risks from exposure to various toxic air contaminants is discussed in this section. The emission rates of various TACs discussed in Section 2 are used as a basis to quantify various health risks. EPS used the HARP risk model developed by CARB and the Office of Environmental Health Hazard Assessment (OEHHA)<sup>6</sup> to calculate the actual health risks. The HARP (Hotspots Analysis and Reporting Program)<sup>7</sup> model options used are summarized in Table 4-1.

<b>Parameter</b>	<b>Value</b>
Exposure Durations	1-Hour 30 years (Residential) 25 years (Worker)
Intake Rate Percentile	OEHHA Derived
Deposition Velocity	0.02 meters/sec
Exposure Pathways	Minimum Mandatory Pathways Recommended for Chronic Risk Inhalation Only for Acute Risk
Age Sensitive Factors	Option Used for Residential Receptors
Fraction of Time at Home	73% for age 16 to 30 years 72% for age 2 to 16 years 85% of time for age 0 to 2 years

### 4.1 Residential Cancer Risk

The spatial distribution of residential cancer risk is shown in Figure 4-1. The results show that the cancer risk varies between 0.13 to less than 0.001 cancers per million depending on location. The maximum residential cancer risk occurs East of the project site. The cancer risk at this location is 0.13 cancers per million as shown in Figure 4-1. Risk at other residences is below 0.01 cancers per million. Excerpts of the HARP2 model are provided in Appendix B.

<sup>6</sup> OEHHA Hotspots Analysis and Reporting Program (HARP) available at:

<https://ww3.arb.ca.gov/toxics/harp/harp.htm>

<sup>7</sup> HARP: The Hotspots Analysis and Reporting Program (HARP) is a software suite that addresses the programmatic requirements of the Air Toxics "Hot Spots" Program (Assembly Bill 2588). The current risk analysis, however, is not intended to satisfy requirements of AB-2588 reporting program.

## 4.2 Workplace Cancer Risk

The maximum worker risk varies between 0.00043 to less than 0.00001 cancer per million. The maximum worker risk is Southwest of the project site as shown in Figure 4-2.

## 4.3 Non-Cancer Health Risk

The maximum non-cancer risks at this location are calculated in terms of a hazard index (HI) as follows:

Maximum Chronic Hazard Index (HI): 0.0148

Maximum Acute Hazard Index (HI): 0.0060

Excerpts of the HARP model showing the calculated HIs are provided in Appendix B.



Figure 4-1  
Spatial Variation of Residential Cancer Risk per Million





Figure 4-2  
Spatial Variation of Worker Cancer Risk per Million

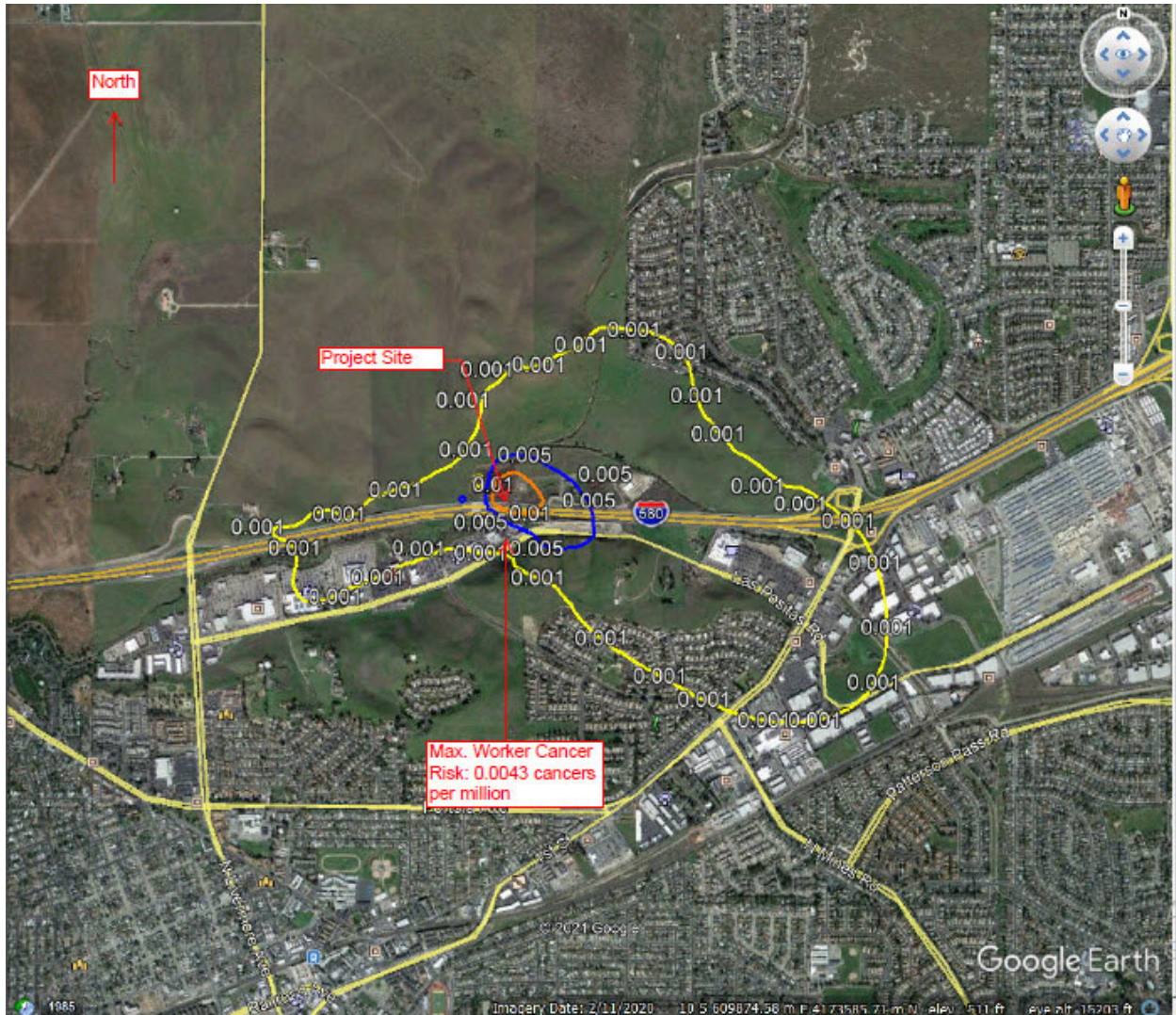




Figure 4-3  
Spatial Variation of Chronic Hazard Index

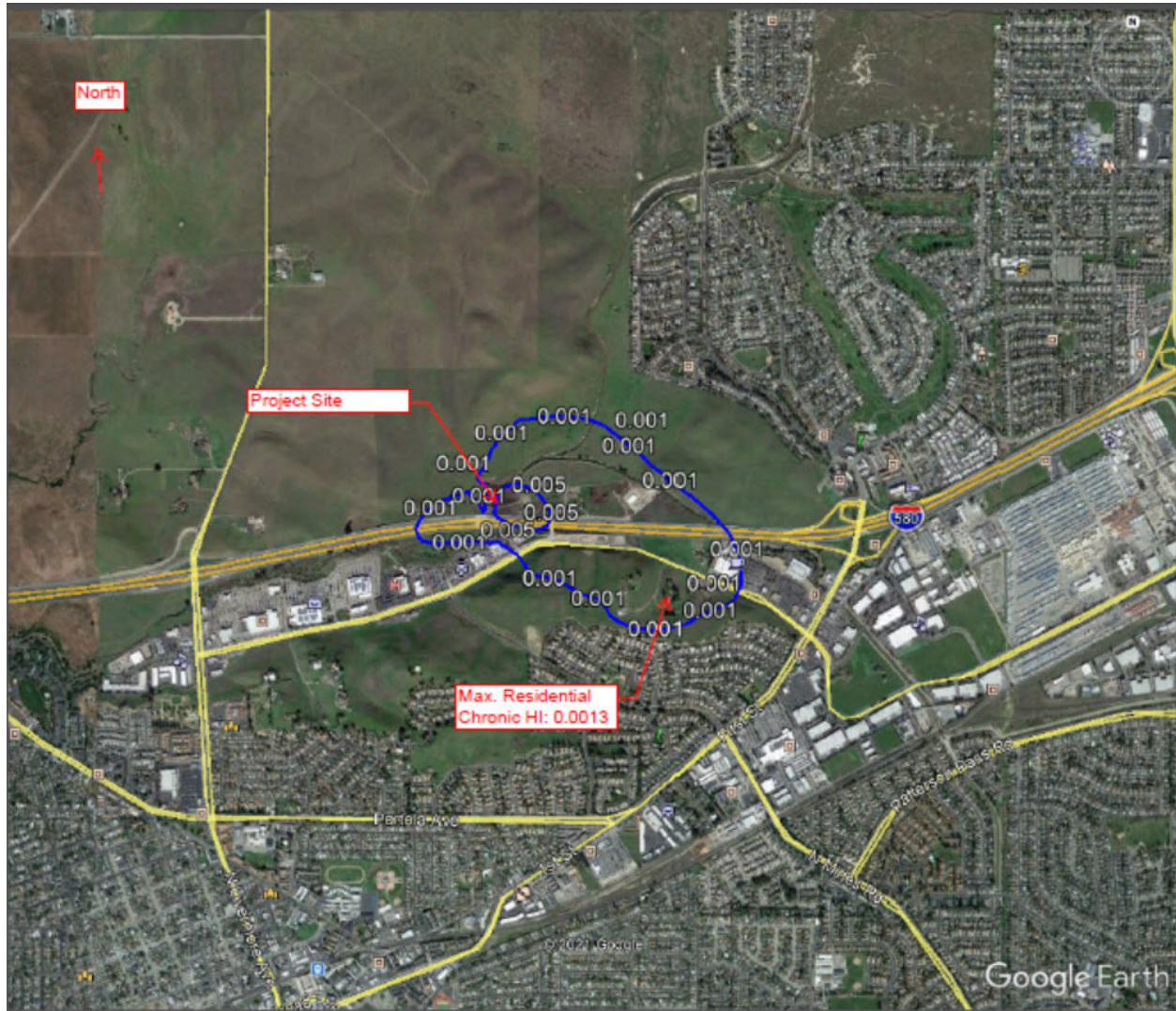
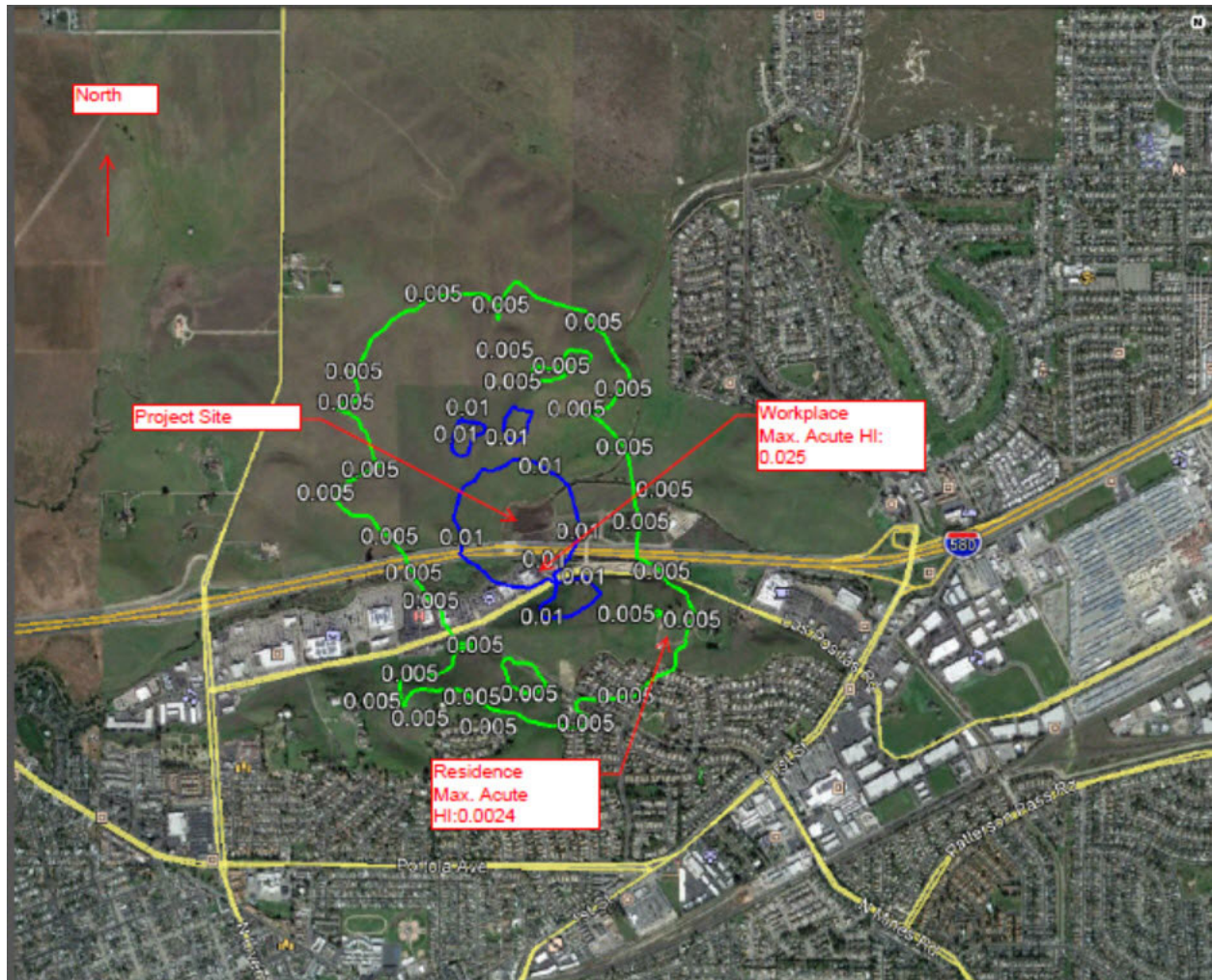


Figure 4-4  
Spatial Variation of Acute Hazard Index

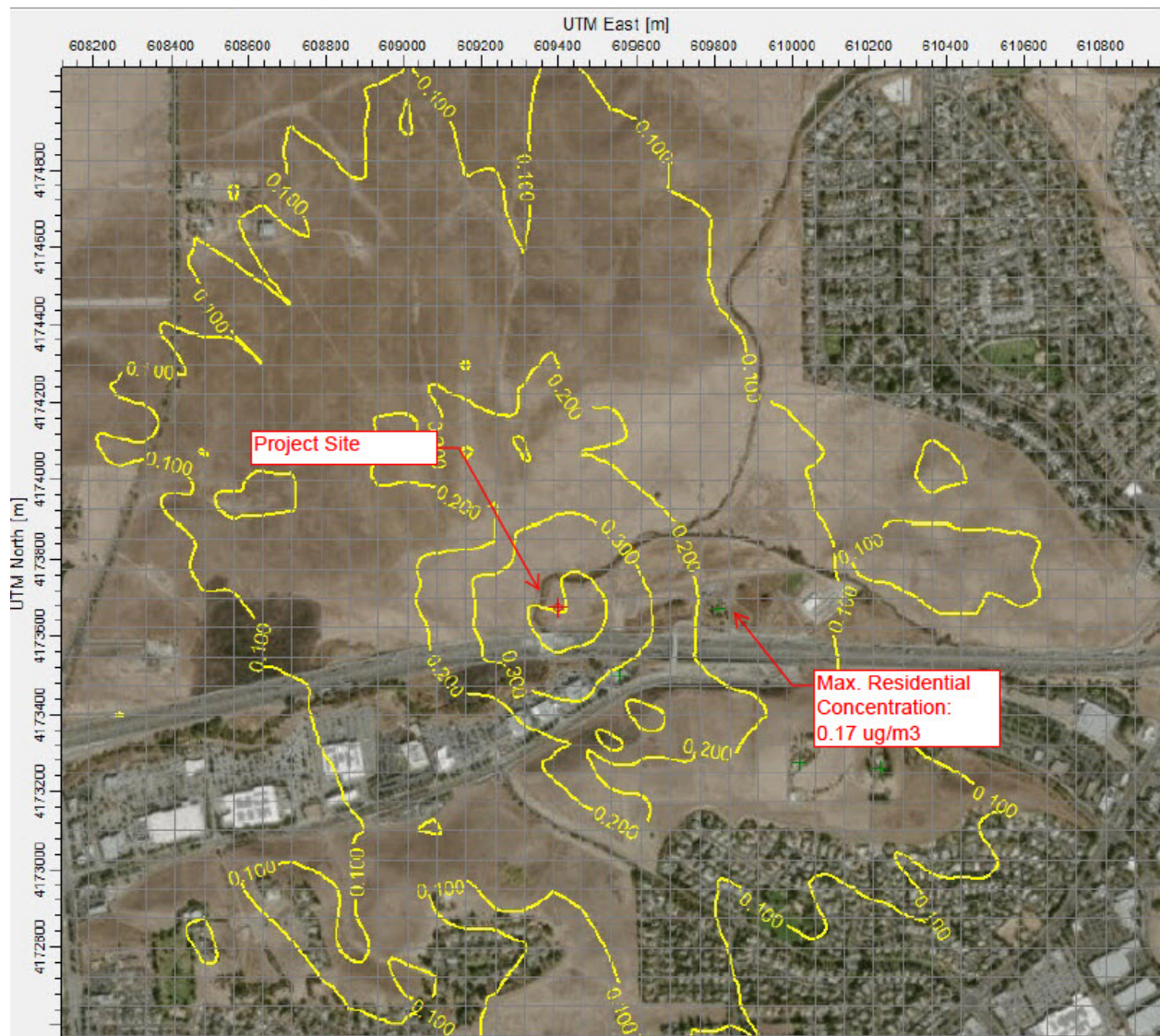




#### 4.4 Non-Cancer Health Risks (PM-2.5)

The results of the annual PM-2.5 concentration modeling are presented in Figure 4-5. The maximum annual PM-2.5 concentration at the nearest home is 0.17 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ).

Figure 4-5  
Spatial Variation of Annual PM-2.5 Concentration  
(in micrograms per cubic meter)



## SECTION 5: CUMULATIVE CANCER RISK

EPS evaluated cumulative cancer risk that included any sources of toxic emissions within 1,000 feet of the project site. The 1,000 foot requirement is stipulated in the BAAQMD CEQA Guidelines.

There are no other stationary sources of toxic air contaminants within 1,000 feet of the project site. However, portions of I-580 are within 1,000 feet of the project site. The main toxic air contaminant released from I-580 is diesel particulate matter from heavy duty diesel trucks. EPS reviewed the daily average traffic data from CalTrans<sup>8</sup> for 2018 and typical emissions from HD trucks (EMFAC 2017 for the Bay Area)<sup>9</sup>. HD trucks refers to trucks with 5 or more axels. Average daily truck traffic along I-580 near North Livermore Avenue is 11,991 trucks per day with a DPM emission rate of 0.059 grams per mile. The emission rate of PM-2.5 calculated using EMFAC 2017 is used as a surrogate for DPM. Detailed calculations are provided in Appendix C.

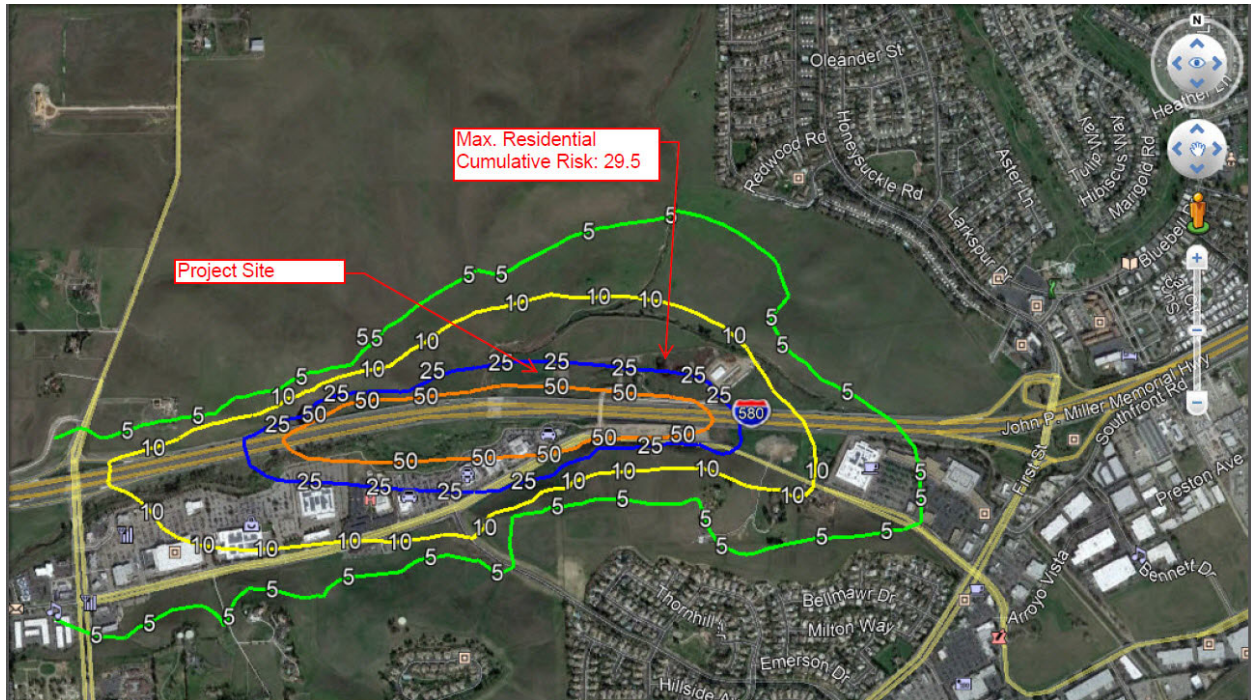
The results of the cumulative cancer risk analysis are presented in Figure 4-6. The cumulative cancer risk at the nearest residence East of the project site is estimate to equal 29.5 cancers per million.

---

<sup>8</sup> CalTrans (2021) "Traffic Censes Program". Available at: <https://dot.ca.gov/programs/traffic-operations/census>

<sup>9</sup> EMFAC 2017 "Mobile Source Emissions Inventory EMFAC 2017 Web Database. Available at: <https://arb.ca.gov/emfac/2017/>

Figure 4-6  
Spatial Variation of Cumulative Cancer Risk  
(per one million)





## SECTION 6: RESULTS AND CONCLUSIONS

The results of the current analysis are summarized in Table 5-1. These results demonstrate that public health risks associated with the operation of the proposed crematory would not lead to significant public health risks.

Risk Metric	Risk Value	Significance Threshold	Significant?
Maximum Residential Cancer Risk	0.13 (per million)	10 (per million)	No
Maximum Worker Cancer Risk	0.0043 (per million)	10 (per million)	No
Maximum Chronic Hazard Index	0.0148	1.0	No
Maximum Acute Hazard Index	0.006	1.0	No
Annual PM-2.5 Concentration	0.17	0.3	No
Cumulative Cancer Risk	29.5	100	No

The risk assessment process contains numerous, conservative assumption to ensure that public health risks are not underestimated. These assumptions are related to the exposure duration, toxicity data and use of Gaussian type statistical atmospheric dispersion models. For example, it is very unlikely any individual would remain at the same location for 30 years. As a result, this assumption substantially overstated the exposure and the health risks presented in this report. This is discussed in the next section.

## SECTION 7: UNCERTAINTIES IN RISK EVALUATION

The HRA presented in this report contains numerous assumptions and uncertainties associated with estimates of emissions, dispersion modeling and risk characterization. The estimated risks in this HRA are based primarily on a series of conservative assumptions related to predicted environmental concentrations, exposure and chemical toxicity. As a result, the actual risks to nearby residents or workers would be 10 to 50 times lower than estimates presented in this report. These assumptions and uncertainties are discussed in this section.

### Emissions Estimates

For long-term risk evaluation, EPS used emissions based on 1,000 cremations per year and that these emissions would remain unchanged over the next 30 years. In reality, emissions will decline in the future in response to future, more stringent, regulations.

### Estimate of Exposure Concentration

The algorithms used in the AERMOD dispersion model tend to over-predict the actual concentration. According to the EPA<sup>10</sup>, errors of +/- 10% to 40% are typical for the highest predicted concentrations due to limitations in the algorithms. As a result, the methodology used by EPS will overstate the actual concentration of DPM.

### Exposure Assumptions

The 2015 OEHHA Guidelines assume that individuals spend 73% of the time at home. This is very conservative in that residents near the project site are likely to stay home every day for 30 years. This overestimate of exposure directly leads to an over estimate of cancer risk

---

<sup>10</sup> USEPA 2005: "Guidelines on Air Quality Models (Revised), 40 CFR 51, Appendix W. Available at: [https://www.epa.gov/ttn/scram/guidance\\_permit.htm#appw](https://www.epa.gov/ttn/scram/guidance_permit.htm#appw)



## SECTION 8: REFERENCES

BAAQMD: Air Toxics NSR Program HRA Guidelines December 2016.

BAAQMD: CEQA Guidelines May 2017. Available at:  
[https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa\\_guidelines\\_may2017-pdf.pdf?la=en](https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en)

CalEPA (2012) “Technical Support Document for Exposure Assessment and Stochastic Analysis. Office of Environmental Health Hazard Assessment. California Environmental Protection Agency, August 2012.

CARB (2003) HARP User’s Guide. Available at: <http://www.arb.ca.gov/toxics/harp/harp.htm>  
[December 2003](#).

CARB (2004) Final Report to Research Division “Internal Combustion Engines (ICE) Air Toxics Emissions” Prepared by Zhu, Durbin, Norbeck and Cocker (July 2004).

EPA (2004) “User’s Guide for the AMS/EPA Regulatory Model – AERMOD”. EPA Document No. EPA=454/B-03-001 September 2004.

OEHHA (2014) Consolidated Table of Approved health Risk Values. Cal EPA, Office of Environmental Health Hazard Assessment. Available at:  
<file:///C:/2014%20Feather%20River%20AQMD/Hollycross%20Cemetery/OEHHA%20contable.pdf>. July 3, 2014.

SDCAPCD (2021) Crematory and Incinerator Emissions. Available at:  
[https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Misc/EFT/Crematory\\_and\\_Incinerator/A\\_PCD\\_Crematory\\_Natural\\_Gas\\_Fired\\_Human\\_Remains\\_Controlled\\_Air.pdf](https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Misc/EFT/Crematory_and_Incinerator/A_PCD_Crematory_Natural_Gas_Fired_Human_Remains_Controlled_Air.pdf)

## APPENDIX A

### Excerpts of AERMOD Model Report

```

**
*****
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.9.0
** Lakes Environmental Software Inc.
** Date: 2/21/2021
** File: C:\Lakes\AERMOD View\Monte_Vista\Monte_Vista.ADI
**
*****
**
**
*****
** AERMOD Control Pathway
*****
**
**
CO STARTING
  TITLEONE C:\Lakes\AERMOD View\Monte_Vista\Monte_Vista.isc
  TITLETWO Monte Vista memorial - Plot File Creation 32 feet stack
  MODELOPT DFAULT CONC
  AVERTIME 1 PERIOD
  URBANOPT 500000
  POLLUTID GENERIC
  RUNORNOT RUN
  ERRORFIL Monte_Vista.err
CO FINISHED
**
*****
** AERMOD Source Pathway
*****
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
  LOCATION STCK1      POINT      609400.000  4173673.530    147.000
** DESCRSRC Crematory Stack
** Source Parameters **
  SRCPARAM STCK1      1.0      9.754  1028.000  4.67721    0.700
  URBANSRC STCK1
  SRCGROUP STCK1      STCK1
  SRCGROUP ALL
SO FINISHED
**
*****
** AERMOD Receptor Pathway
*****
**
**
RE STARTING
  INCLUDED Monte_Vista.rou
RE FINISHED
**
*****

```

```
** AERMOD Meteorology Pathway
*****
**
**
ME STARTING
SURFFILE "..\0 0 0 Met Data\Livermore\724927.SFC"
PROFFILE "..\0 0 0 Met Data\Livermore\724927.PFL"
SURFDATA 23285 2009
UAIRDATA 23230 2009 OAKLAND/WSO_AP
PROFBASE 100.58 METERS
ME FINISHED
**
*****
** AERMOD Output Pathway
*****
**
**
OU STARTING
RECTABLE ALLAVE 1ST
RECTABLE 1 1ST
** Auto-Generated Plotfiles
PLOTFILE 1 ALL 1ST Monte_Vista.AD\01H1GALL.PLT 31
PLOTFILE 1 STCK1 1ST Monte_Vista.AD\01H1G001.PLT 32
PLOTFILE PERIOD ALL Monte_Vista.AD\PE00GALL.PLT 33
PLOTFILE PERIOD STCK1 Monte_Vista.AD\PE00G000.PLT 34
SUMMFILE Monte_Vista.sum
OU FINISHED

*****
*** SETUP Finishes Successfully ***
*****
```

-----  
\*\*\*                    MODEL SETUP OPTIONS SUMMARY                    \*\*\*  
-----

\*\*Model Is Setup For Calculation of Average CONCentration Values.

-- DEPOSITION LOGIC --  
\*\*NO GAS DEPOSITION Data Provided.  
\*\*NO PARTICLE DEPOSITION Data Provided.  
\*\*Model Uses NO DRY DEPLETION.    DRYDPLT    =    F  
\*\*Model Uses NO WET DEPLETION.    WETDPLT    =    F

\*\*Model Uses URBAN Dispersion Algorithm for the SBL for        1 Source(s),  
for Total of        1 Urban Area(s):  
Urban Population =        500000.0 ; Urban Roughness Length = 1.000 m

\*\*Model Uses Regulatory DEFAULT Options:  
1. Stack-tip Downwash.  
2. Model Accounts for ELEVated Terrain Effects.  
3. Use Calms Processing Routine.  
4. Use Missing Data Processing Routine.  
5. No Exponential Decay.  
6. Urban Roughness Length of 1.0 Meter Assumed.

\*\*Other Options Specified:  
CCVR\_Sub - Meteorological data includes CCVR substitutions  
TEMP\_Sub - Meteorological data includes TEMP substitutions

\*\*Model Assumes No FLAGPOLE Receptor Heights.

\*\*The User Specified a Pollutant Type of:    GENERIC

\*\*Model Calculates 1 Short Term Average(s) of:    1-HR  
and Calculates PERIOD Averages

\*\*This Run Includes:        1 Source(s);        2 Source Group(s); and        2500 Receptor(s)

with:        1 POINT(s), including  
             0 POINTCAP(s) and        0 POINTHOR(s)  
and:        0 VOLUME source(s)  
and:        0 AREA type source(s)  
and:        0 LINE source(s)  
and:        0 RLINE/RLINEXT source(s)  
and:        0 OPENPIT source(s)  
and:        0 BUOYANT LINE source(s) with        0 line(s)

\*\*Model Set To Continue RUNning After the Setup Testing.

\*\*The AERMET Input Meteorological Data Version Date: 14134

\*\*Output Options Selected:  
Model Outputs Tables of PERIOD Averages by Receptor  
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)  
Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

\*\*NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours  
m for Missing Hours  
b for Both Calm and Missing Hours

\*\*Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 100.58 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0  
Emission Units = GRAMS/SEC ; Emission Rate Unit Factor = 0.10000E+07  
Output Units = MICROGRAMS/M\*\*3

\*\*Approximate Storage Requirements of Model = 3.9 MB of RAM.

\*\*Input Runstream File: aermod.inp  
\*\*Output Print File: aermod.out

\*\*Detailed Error/Message File: Monte\_Vista.err  
\*\*File for Summary of Results: Monte\_Vista.sum







\*\*\* AERMOD - VERSION 19191 \*\*\*    \*\*\* C:\Lakes\AERMOD View\Monte\_Vista\Monte\_Vista.isc  
\*\*\* AERMET - VERSION 14134 \*\*\*    \*\*\* Monte Vista memorial - Plot File Creation 32 feet stack

\*\*\*                    02/21/21  
\*\*\*                    20:22:43  
\*\*\*                    PAGE    4

\*\*\* MODELOPTs:    RegDEFAULT    CONC    ELEV    URBAN

\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES \*\*\*

URBAN ID	URBAN POP	SOURCE IDs
-----	-----	-----

	500000.	STCK1 ,
--	---------	---------



\*\*\* AERMOD - VERSION 19191 \*\*\*    \*\*\* C:\Lakes\AERMOD View\Monte\_Vista\Monte\_Vista.isc  
 \*\*\* AERMET - VERSION 14134 \*\*\*    \*\*\* Monte Vista memorial - Plot File Creation 32 feet stack

\*\*\*                    02/21/21  
 \*\*\*                    20:22:43  
 \*\*\*                    PAGE    6

\*\*\* MODELOPTs:    RegDEFAULT    CONC    ELEV    URBAN

\*\*\* NETWORK ID: UCART1    ;    NETWORK TYPE: GRIDCART \*\*\*

\* ELEVATION HEIGHTS IN METERS \*

Y-COORD (METERS)	608036.41	608111.41	608186.41	608261.41	608336.41	608411.41	608486.41	608561.41	608636.41
4175423.39	158.00	158.00	158.00	158.00	159.00	160.60	162.10	163.60	164.80
4175348.39	157.00	157.40	157.80	158.00	159.00	160.10	162.10	163.60	165.10
4175273.39	156.90	157.00	157.20	157.70	159.00	160.00	162.00	163.60	165.40
4175198.39	156.00	156.00	157.00	157.60	158.00	159.60	162.50	165.40	166.30
4175123.39	155.30	156.00	157.00	157.00	158.10	160.60	164.10	165.60	167.80
4175048.39	155.00	155.40	156.10	157.60	159.10	161.70	164.30	165.70	167.10
4174973.39	154.10	155.00	156.10	157.60	159.80	162.60	165.00	165.60	165.30
4174898.39	154.00	155.00	156.10	157.60	159.90	162.60	164.80	164.00	165.20
4174823.39	154.00	155.00	156.10	157.60	160.10	163.60	165.70	165.70	168.40
4174748.39	153.80	154.60	157.10	159.10	161.30	163.80	166.40	169.80	172.40
4174673.39	152.30	154.60	157.10	159.30	162.20	165.60	167.90	171.60	174.90
4174598.39	152.00	154.60	157.30	159.80	163.10	164.20	168.30	170.40	174.90
4174523.39	153.70	155.50	158.80	161.90	163.80	166.60	170.70	170.90	173.20
4174448.39	155.00	156.60	158.10	163.20	166.10	167.80	170.30	171.70	173.40
4174373.39	154.20	157.30	158.30	164.20	167.10	169.40	171.10	172.50	171.00
4174298.39	157.50	162.90	166.70	165.00	167.40	170.70	172.00	171.40	170.00
4174223.39	158.60	166.20	171.10	170.00	168.10	170.10	171.00	171.90	169.60
4174148.39	153.90	160.90	169.20	170.40	168.80	168.90	170.10	171.20	167.50
4174073.39	152.20	158.50	169.20	171.00	166.20	168.30	168.30	168.40	166.10
4173998.39	152.10	157.50	165.00	162.60	157.90	160.30	163.40	163.60	161.50
4173923.39	152.10	155.70	157.20	155.20	154.30	166.40	162.60	157.00	158.60
4173848.39	153.10	154.60	153.70	152.80	159.30	166.20	169.50	166.80	166.50
4173773.39	153.00	153.60	152.00	151.30	153.30	157.80	166.40	169.20	167.50
4173698.39	152.80	152.40	151.10	154.50	157.30	157.70	160.30	158.20	164.80
4173623.39	152.70	151.60	150.20	154.80	159.00	158.90	157.90	154.70	157.20
4173548.39	152.60	148.10	150.80	154.00	159.30	161.00	159.80	155.70	149.70
4173473.39	150.00	147.50	157.70	158.50	155.70	153.20	147.60	145.20	145.70
4173398.39	147.80	145.80	149.40	146.00	144.20	142.80	140.80	141.20	140.70
4173323.39	144.40	141.80	140.50	140.00	140.00	140.00	140.00	140.00	140.00
4173248.39	140.70	140.00	140.00	140.00	140.90	140.20	140.00	141.10	142.00
4173173.39	139.10	140.60	141.10	141.70	142.00	141.90	141.80	142.70	143.70
4173098.39	139.10	141.00	142.00	143.00	143.30	144.20	144.30	145.20	145.20
4173023.39	139.00	140.60	142.80	144.40	145.10	145.90	148.20	152.20	161.20
4172948.39	139.00	140.60	143.30	145.10	148.60	159.10	161.90	152.40	172.40
4172873.39	139.00	140.60	144.80	147.50	159.80	170.10	170.20	153.30	160.10
4172798.39	143.20	146.10	148.00	156.20	161.80	165.40	172.60	161.70	155.20
4172723.39	146.30	146.80	150.60	152.80	156.30	162.60	167.90	169.50	159.00
4172648.39	145.00	145.80	146.00	147.30	149.90	153.80	159.50	164.60	164.20
4172573.39	144.00	144.70	145.00	146.00	146.70	150.00	153.60	156.30	157.60
4172498.39	143.80	144.00	145.00	145.00	146.00	147.60	150.80	151.80	153.90

\*\*\* AERMOD - VERSION 19191 \*\*\*    \*\*\* C:\Lakes\AERMOD View\Monte\_Vista\Monte\_Vista.isc  
\*\*\* AERMET - VERSION 14134 \*\*\*    \*\*\* Monte Vista memorial - Plot File Creation 32 feet stack

\*\*\*                    02/21/21  
\*\*\*                    20:22:43  
\*\*\*                    PAGE    7

\*\*\* MODELOPTs:    RegDFAULT    CONC    ELEV    URBAN

\*\*\* NETWORK ID: UCART1    ;    NETWORK TYPE: GRIDCART \*\*\*

\* ELEVATION HEIGHTS IN METERS \*

Y-COORD (METERS)	608036.41	608111.41	608186.41	608261.41	608336.41	608411.41	608486.41	608561.41	608636.41
4172423.39	143.00	144.00	145.00	145.00	146.00	146.60	148.30	150.10	152.10
4172348.39	143.00	143.40	144.00	145.00	145.10	146.00	147.10	148.90	151.80
4172273.39	142.30	143.60	144.00	144.70	145.00	145.70	146.10	148.10	150.30
4172198.39	142.30	143.00	144.00	144.00	145.00	145.40	146.00	147.40	148.80
4172123.39	143.00	143.00	144.00	144.00	145.00	145.00	146.00	146.60	148.00
4172048.39	143.00	143.00	144.00	144.00	145.00	145.00	146.00	146.00	147.10
4171973.39	143.00	143.60	144.00	144.00	145.00	145.00	146.00	146.00	147.00
4171898.39	143.00	144.00	144.00	144.70	145.00	145.10	146.00	146.00	147.00
4171823.39	143.00	144.00	144.10	145.00	145.10	146.00	146.00	146.90	147.10
4171748.39	143.10	144.00	145.00	145.00	146.00	146.00	147.00	147.00	147.30

```

*** AERMOD - VERSION 19191 ***   *** C:\Lakes\AERMOD View\Monte_Vista\Monte_Vista.isc   ***   02/21/21
*** AERMET - VERSION 14134 ***   *** Monte Vista memorial - Plot File Creation 32 feet stack ***   20:22:43
                                                                    PAGE 95

```

```

*** MODELOPTs:   RegDFAULT  CONC  ELEV  URBAN

```

```

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):   STCK1

```

```

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

```

```

** CONC OF GENERIC IN MICROGRAMS/M**3 **

```

Y-COORD (METERS)	611411.41	611486.41	X-COORD (METERS) 611561.41	611636.41	611711.41
4172423.4	9.16608 (12022704)	9.04924 (12123118)	8.70863 (11122504)	8.39229 (11122504)	8.14471 (10121819)
4172348.4	9.10582 (10020321)	8.89070 (10020321)	8.70496 (12123118)	8.56826 (12123118)	8.25685 (11122504)
4172273.4	8.97293 (10120324)	8.67665 (10020321)	8.68335 (10020321)	8.43991 (12022704)	8.32021 (12123118)
4172198.4	8.81017 (09122007)	8.67752 (10120324)	8.42847 (10120324)	8.38519 (10020321)	8.21179 (10020321)
4172123.4	8.39445 (10010822)	8.46582 (09122007)	8.37436 (09122007)	8.26738 (10120324)	7.99254 (10020321)
4172048.4	8.46815 (11122602)	8.15481 (10010822)	8.07826 (09122007)	8.13887 (09122007)	8.00617 (10120324)
4171973.4	8.43950 (13122908)	8.19127 (11122602)	7.90701 (11122602)	7.67047 (09122007)	7.85242 (09122007)
4171898.4	8.33607 (13012505)	8.15718 (13012505)	7.95604 (13122908)	7.73661 (11122602)	7.47759 (10010822)
4171823.4	7.73600 (09050924)	8.04143 (13012505)	7.94266 (13012505)	7.75235 (13122908)	7.54204 (11122602)
4171748.4	7.64898 (13022722)	7.50096 (09050924)	7.75674 (13012505)	7.72415 (13012505)	7.54944 (13122908)





\*\*\* AERMOD - VERSION 19191 \*\*\*    \*\*\* C:\Lakes\AERMOD View\Monte\_Vista\Monte\_Vista.isc  
\*\*\* AERMET - VERSION 14134 \*\*\*    \*\*\* Monte Vista memorial - Plot File Creation 32 feet stack

\*\*\*                    02/21/21  
\*\*\*                    20:22:43  
\*\*\*                    PAGE 98

\*\*\* MODELOPTs:    RegDEFAULT    CONC    ELEV    URBAN

\*\*\* Message Summary : AERMOD Model Execution \*\*\*

----- Summary of Total Messages -----

A Total of                    0 Fatal Error Message(s)  
A Total of                    0 Warning Message(s)  
A Total of                    15235 Informational Message(s)  
  
A Total of                    43872 Hours Were Processed  
  
A Total of                    13448 Calm Hours Identified  
  
A Total of                    1787 Missing Hours Identified ( 4.07 Percent)

\*\*\*\*\* FATAL ERROR MESSAGES \*\*\*\*\*  
\*\*\*    NONE    \*\*\*

\*\*\*\*\* WARNING MESSAGES \*\*\*\*\*  
\*\*\*    NONE    \*\*\*

\*\*\*\*\*  
\*\*\* AERMOD Finishes Successfully \*\*\*  
\*\*\*\*\*



## APPENDIX B

### Excerpts of the HARP2 Risk Model

# Emissions Inventory

HARP2 - Air Dispersion & Risk Tool (dated 19121)

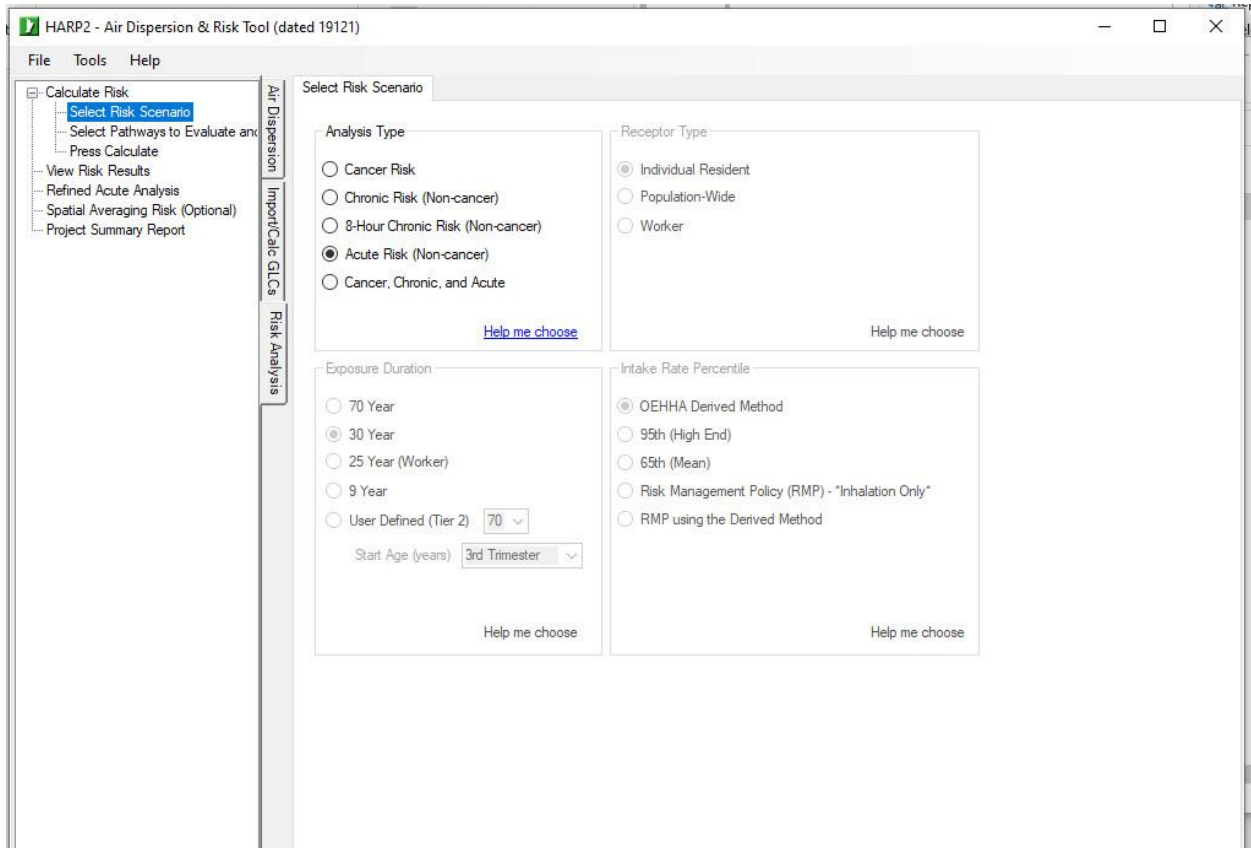
File Tools Help

Emission Inventory									
	Add	Import	Export	Delete All	Options	Filter: All	All	All	
SrcID	StkID	ProID	PolID	PolAbbrev	Multiplier	Annual Ems (lbs/yr)	Max Hr Ems (lbs/hr)	MWAF	
STCK1	0	0	75070	Acetaldehyde	1	0.13	4.45E-05	1	
STCK1	0	0	7440382	Arsenic	1	0.015	5.14E-06	1	
STCK1	0	0	7440439	Cadmium	1	0.011	3.77E-06	1	
STCK1	0	0	7440508	Copper	1	0.027	9.25E-06	1	
STCK1	0	0	50000	Formaldehyde	1	0.034	1.16E-05	1	
STCK1	0	0	7647010	HCl	1	72	0.0247	1	
STCK1	0	0	7439921	Lead	1	0.066	2.26E-05	1	
STCK1	0	0	7439976	Mercury	1	0	0.00115	1	
STCK1	0	0	7440020	Nickel	1	0.038	1.3E-05	1	
STCK1	0	0	1746016	2,3,7,8-TCDD	1	1.1E-06	3.77E-10	1	
STCK1	0	0	7439965	Manganese	1	0.19	6.51E-05	1	
STCK1	0	0	7440439	Cadmium	1	0.011	3.77E-06	1	
STCK1	0	0	7440417	Beryllium	1	0.0014	4.79E-07	1	
STCK1	0	0	7647010	HCl	1	72	0.0247	1	
STCK1	0	0	7664393	HF	1	0.66	0.000226	1	
STCK1	0	0	1151	PAHs-w/o	1	2.4E-05	8.22E-09	1	

- GLC Calc Setup
  - ... PLOTFILE List (non-pollutant spe
  - ... Emission Inventory
  - ... Background Concentrations
  - ... Screening Adjustment Factors
- Calculate\Import GLCs
  - ... Pathway\Spatial Avg GLCs
  - ... Contour GLCs (AERPLOT.EXE)
- Post Process
  - ... Max 30-Day Rolling Ave for Pb
  - ... Daily 8-Hr Ave GLCs for 8-Hr RE
  - ... Refined Worker Period Ave for C

Air Dispersion | Import/Calc GLCs | Risk Analysis

# Risk Selection



# Exposure Pathway Selection

The screenshot displays the HARP2 - Air Dispersion & Risk Tool (dated 19121) window. The main window title is "HARP2 - Air Dispersion & Risk Tool (dated 19121)". The menu bar includes "File", "Tools", and "Help".

The left sidebar contains a tree view with the following items:

- Calculate Risk
  - Select Risk Scenario
  - Select Pathways to Evaluate and Define Site Parameters
  - Press Calculate
  - View Risk Results
  - Refined Acute Analysis
  - Spatial Averaging Risk (Optional)
  - Project Summary Report
- Air Dispersion
- Import/Calc GILCs
- Risk Analysis

The main content area is titled "Select Pathways to Evaluate and Define Site Parameters". It features a "Pathways to Evaluate" row with radio buttons for: Inh (green), Soil (green), Derm (green), MMilk (green), Drink Water (red), Fish (red), HG Produce (red), Beef & Dairy (red), and Pig, Chick (red).

Below this, there are several sections of options:

- Inhalation Only
- Mandatory Minimum Pathways
- Worker Pathways
- User Defined

Under "Inhalation (Always On)", there is a checked checkbox. Below that, several checkboxes are listed and unchecked:

- Soil Ingestion
- Dermal
- Mother's Milk
- Drinking Water
- Fish
- Homegrown Produce
- Beef
- Dairy Cows
- Pigs
- Chickens
- Eggs

There are two links at the bottom of the dialog:

- [Help me choose](#)
- [Click to select SCAQMD mandatory minimum pathways](#)

On the right side of the dialog, there are two sections:

- Deposition Rate (for noninhalation pathways only)**
  - 0.05 m/s (uncontrolled sources)
  - 0.02 m/s (controlled sources)
  - Other
- Advanced Options (Tier 2) - For noninhalation pathways only**
  - Change exposure frequency (days/year):  [What's this do?](#)

# Residential Cancer Risk Results

HARP2 - Air Dispersion & Risk Tool (dated 19121)

File Tools Help

- Calculate Risk
  - Select Risk Scenario
  - Select Pathways to Evaluate and
  - Press Calculate
- View Risk Results
  - Refined Acute Analysis
  - Spatial Averaging Risk (Optional)
  - Project Summary Report

Air Dispersion | Import/Calc GICs | Risk Analysis

View Risk Results

Cancer Chronic 8-hour Acute

Load File Risk Views Options Export

REC	GRP	NETID	X	Y	RISK_SUM	SCENARIO
1	ALL	UCART1	608036.41	4171748.39	4.1592e-09	30YrCancerDerived_InhSoilDemMMilk
2	ALL	UCART1	608111.41	4171748.39	3.9872e-09	30YrCancerDerived_InhSoilDemMMilk
3	ALL	UCART1	608186.41	4171748.39	3.8194e-09	30YrCancerDerived_InhSoilDemMMilk
4	ALL	UCART1	608261.41	4171748.39	3.6175e-09	30YrCancerDerived_InhSoilDemMMilk
5	ALL	UCART1	608336.41	4171748.39	3.4344e-09	30YrCancerDerived_InhSoilDemMMilk
6	ALL	UCART1	608411.41	4171748.39	3.2371e-09	30YrCancerDerived_InhSoilDemMMilk
7	ALL	UCART1	608486.41	4171748.39	2.9466e-09	30YrCancerDerived_InhSoilDemMMilk
8	ALL	UCART1	608561.41	4171748.39	2.7668e-09	30YrCancerDerived_InhSoilDemMMilk
9	ALL	UCART1	608636.41	4171748.39	2.5824e-09	30YrCancerDerived_InhSoilDemMMilk
10	ALL	UCART1	608711.41	4171748.39	2.3763e-09	30YrCancerDerived_InhSoilDemMMilk
11	ALL	UCART1	608786.41	4171748.39	2.2440e-09	30YrCancerDerived_InhSoilDemMMilk
12	ALL	UCART1	608861.41	4171748.39	2.1282e-09	30YrCancerDerived_InhSoilDemMMilk
13	ALL	UCART1	608936.41	4171748.39	2.0798e-09	30YrCancerDerived_InhSoilDemMMilk
14	ALL	UCART1	609011.41	4171748.39	2.0042e-09	30YrCancerDerived_InhSoilDemMMilk
15	ALL	UCART1	609086.41	4171748.39	1.9687e-09	30YrCancerDerived_InhSoilDemMMilk
16	ALL	UCART1	609161.41	4171748.39	1.9203e-09	30YrCancerDerived_InhSoilDemMMilk
17	ALL	UCART1	609236.41	4171748.39	1.8714e-09	30YrCancerDerived_InhSoilDemMMilk
18	ALL	UCART1	609311.41	4171748.39	1.8452e-09	30YrCancerDerived_InhSoilDemMMilk
19	ALL	UCART1	609386.41	4171748.39	1.8318e-09	30YrCancerDerived_InhSoilDemMMilk
20	ALL	UCART1	609461.41	4171748.39	1.8083e-09	30YrCancerDerived_InhSoilDemMMilk
21	ALL	UCART1	609536.41	4171748.39	1.7958e-09	30YrCancerDerived_InhSoilDemMMilk
22	ALL	UCART1	609611.41	4171748.39	1.8083e-09	30YrCancerDerived_InhSoilDemMMilk
23	ALL	UCART1	609686.41	4171748.39	1.8378e-09	30YrCancerDerived_InhSoilDemMMilk
24	ALL	UCART1	609761.41	4171748.39	1.8691e-09	30YrCancerDerived_InhSoilDemMMilk
25	ALL	UCART1	609836.41	4171748.39	1.9318e-09	30YrCancerDerived_InhSoilDemMMilk

Ready

# Chronic Hazard Index Results by Receptor

HARP2 - Air Dispersion & Risk Tool (dated 19121)

File Tools Help

- Calculate Risk
  - Select Risk Scenario
  - Select Pathways to Evaluate and
  - Press Calculate
- View Risk Results
  - Refined Acute Analysis
  - Spatial Averaging Risk (Optional)
  - Project Summary Report

Air Dispersion Impact Calc D/GCs Risk Analysis

View Risk Results

Cancer Chronic 8-hour Acute

Load File Risk Views Export

REC	GRP	NETID	X	Y	SCENARIO	CV	CNS	IMMUN	KIDNEY
1	ALL	UCART1	608036.41	4171748.39	NonCancerChron...	5.7160e-05	5.9899e-05	2.5950e-07	1.945
2	ALL	UCART1	608111.41	4171748.39	NonCancerChron...	5.4796e-05	5.7422e-05	2.4877e-07	1.864
3	ALL	UCART1	608186.41	4171748.39	NonCancerChron...	5.2490e-05	5.5005e-05	2.3830e-07	1.786
4	ALL	UCART1	608261.41	4171748.39	NonCancerChron...	4.9715e-05	5.2097e-05	2.2570e-07	1.691
5	ALL	UCART1	608336.41	4171748.39	NonCancerChron...	4.7199e-05	4.9461e-05	2.1428e-07	1.606
6	ALL	UCART1	608411.41	4171748.39	NonCancerChron...	4.4487e-05	4.6619e-05	2.0197e-07	1.513
7	ALL	UCART1	608486.41	4171748.39	NonCancerChron...	4.0495e-05	4.2436e-05	1.8385e-07	1.378
8	ALL	UCART1	608561.41	4171748.39	NonCancerChron...	3.8024e-05	3.9846e-05	1.7263e-07	1.293
9	ALL	UCART1	608636.41	4171748.39	NonCancerChron...	3.5490e-05	3.7190e-05	1.6112e-07	1.207
10	ALL	UCART1	608711.41	4171748.39	NonCancerChron...	3.2657e-05	3.4222e-05	1.4826e-07	1.111
11	ALL	UCART1	608786.41	4171748.39	NonCancerChron...	3.0839e-05	3.2317e-05	1.4001e-07	1.049
12	ALL	UCART1	608861.41	4171748.39	NonCancerChron...	2.9248e-05	3.0650e-05	1.3279e-07	9.953
13	ALL	UCART1	608936.41	4171748.39	NonCancerChron...	2.8583e-05	2.9953e-05	1.2977e-07	9.726
14	ALL	UCART1	609011.41	4171748.39	NonCancerChron...	2.7544e-05	2.8864e-05	1.2505e-07	9.373
15	ALL	UCART1	609086.41	4171748.39	NonCancerChron...	2.7056e-05	2.8353e-05	1.2283e-07	9.206
16	ALL	UCART1	609161.41	4171748.39	NonCancerChron...	2.6391e-05	2.7655e-05	1.1981e-07	8.980
17	ALL	UCART1	609236.41	4171748.39	NonCancerChron...	2.5719e-05	2.6952e-05	1.1676e-07	8.752
18	ALL	UCART1	609311.41	4171748.39	NonCancerChron...	2.5358e-05	2.6573e-05	1.1512e-07	8.629
19	ALL	UCART1	609386.41	4171748.39	NonCancerChron...	2.5174e-05	2.6380e-05	1.1429e-07	8.566
20	ALL	UCART1	609461.41	4171748.39	NonCancerChron...	2.4851e-05	2.6042e-05	1.1282e-07	8.456
21	ALL	UCART1	609536.41	4171748.39	NonCancerChron...	2.4680e-05	2.5863e-05	1.1205e-07	8.398
22	ALL	UCART1	609611.41	4171748.39	NonCancerChron...	2.4851e-05	2.6042e-05	1.1282e-07	8.456
23	ALL	UCART1	609686.41	4171748.39	NonCancerChron...	2.5256e-05	2.6467e-05	1.1466e-07	8.594
24	ALL	UCART1	609761.41	4171748.39	NonCancerChron...	2.5687e-05	2.6918e-05	1.1662e-07	8.741
25	ALL	UCART1	609836.41	4171748.39	NonCancerChron...	2.6549e-05	2.7821e-05	1.2053e-07	9.034
26	ALL	UCART1	609911.41	4171748.39	NonCancerChron...	2.7303e-05	2.8612e-05	1.2395e-07	9.291
27	ALL	UCART1	609986.41	4171748.39	NonCancerChron...	2.8513e-05	2.9880e-05	1.2945e-07	9.702
28	ALL	UCART1	610061.41	4171748.39	NonCancerChron...	3.0585e-05	3.2051e-05	1.3886e-07	1.040
29	ALL	UCART1	610136.41	4171748.39	NonCancerChron...	3.1637e-05	3.3153e-05	1.4363e-07	1.076
30	ALL	UCART1	610211.41	4171748.39	NonCancerChron...	3.4603e-05	3.6261e-05	1.5709e-07	1.177
31	ALL	UCART1	610286.41	4171748.39	NonCancerChron...	3.8316e-05	4.0152e-05	1.7395e-07	1.303
32	ALL	UCART1	610361.41	4171748.39	NonCancerChron...	4.2250e-05	4.4275e-05	1.9181e-07	1.437
33	ALL	UCART1	610436.41	4171748.39	NonCancerChron...	4.6857e-05	4.9102e-05	2.1273e-07	1.594
34	ALL	UCART1	610511.41	4171748.39	NonCancerChron...	5.1768e-05	5.4248e-05	2.3802e-07	1.761



# Acute Hazard Index Results by Receptor

HARP2 - Air Dispersion & Risk Tool (dated 19121)

File Tools Help

Calculate Risk  
 Select Risk Scenario  
 Select Pathways to Evaluate and Press Calculate  
 View Risk Results  
 Refined Acute Analysis  
 Spatial Averaging Risk (Optional)  
 Project Summary Report

Air Dispersion  
 Import/Calc SLCs  
 Risk Analysis

View Risk Results

Cancer Chronic 8-hour Acute

Load File Risk Views Export

REC	GRP	NETID	X	Y	SCENARIO	CV	CNS	IMMUN	KIDNEY
1	ALL	UCART1	608036.41	4171748.39	NonCancerAcute	3.0152e-05	2.2789e-03	7.6261e-05	0.0000
2	ALL	UCART1	608111.41	4171748.39	NonCancerAcute	3.1183e-05	2.3568e-03	7.8868e-05	0.0000
3	ALL	UCART1	608186.41	4171748.39	NonCancerAcute	3.2000e-05	2.4185e-03	8.0935e-05	0.0000
4	ALL	UCART1	608261.41	4171748.39	NonCancerAcute	3.2607e-05	2.4644e-03	8.2470e-05	0.0000
5	ALL	UCART1	608336.41	4171748.39	NonCancerAcute	3.3118e-05	2.5030e-03	8.3760e-05	0.0000
6	ALL	UCART1	608411.41	4171748.39	NonCancerAcute	3.3711e-05	2.5479e-03	8.5262e-05	0.0000
7	ALL	UCART1	608486.41	4171748.39	NonCancerAcute	3.3628e-05	2.5415e-03	8.5050e-05	0.0000
8	ALL	UCART1	608561.41	4171748.39	NonCancerAcute	3.4350e-05	2.5961e-03	8.6877e-05	0.0000
9	ALL	UCART1	608636.41	4171748.39	NonCancerAcute	3.4341e-05	2.5954e-03	8.6854e-05	0.0000
10	ALL	UCART1	608711.41	4171748.39	NonCancerAcute	3.4657e-05	2.6193e-03	8.7654e-05	0.0000
11	ALL	UCART1	608786.41	4171748.39	NonCancerAcute	3.2247e-05	2.4371e-03	8.1557e-05	0.0000
12	ALL	UCART1	608861.41	4171748.39	NonCancerAcute	3.4872e-05	2.6356e-03	8.8199e-05	0.0000
13	ALL	UCART1	608936.41	4171748.39	NonCancerAcute	3.5159e-05	2.6573e-03	8.8924e-05	0.0000
14	ALL	UCART1	609011.41	4171748.39	NonCancerAcute	3.4926e-05	2.6396e-03	8.8334e-05	0.0000
15	ALL	UCART1	609086.41	4171748.39	NonCancerAcute	3.2646e-05	2.4673e-03	8.2567e-05	0.0000
16	ALL	UCART1	609161.41	4171748.39	NonCancerAcute	3.3053e-05	2.4981e-03	8.3597e-05	0.0000
17	ALL	UCART1	609236.41	4171748.39	NonCancerAcute	3.5022e-05	2.6469e-03	8.8576e-05	0.0000
18	ALL	UCART1	609311.41	4171748.39	NonCancerAcute	3.3850e-05	2.5583e-03	8.5612e-05	0.0000
19	ALL	UCART1	609386.41	4171748.39	NonCancerAcute	3.4406e-05	2.6004e-03	8.7020e-05	0.0000
20	ALL	UCART1	609461.41	4171748.39	NonCancerAcute	3.4309e-05	2.5930e-03	8.6774e-05	0.0000
21	ALL	UCART1	609536.41	4171748.39	NonCancerAcute	3.3769e-05	2.5522e-03	8.5408e-05	0.0000
22	ALL	UCART1	609611.41	4171748.39	NonCancerAcute	3.3521e-05	2.5335e-03	8.4781e-05	0.0000
23	ALL	UCART1	609686.41	4171748.39	NonCancerAcute	3.2294e-05	2.4407e-03	8.1677e-05	0.0000
24	ALL	UCART1	609761.41	4171748.39	NonCancerAcute	3.3988e-05	2.5687e-03	8.5961e-05	0.0000
25	ALL	UCART1	609836.41	4171748.39	NonCancerAcute	3.4027e-05	2.5717e-03	8.6059e-05	0.0000
26	ALL	UCART1	609911.41	4171748.39	NonCancerAcute	3.2814e-05	2.4800e-03	8.2992e-05	0.0000
27	ALL	UCART1	609986.41	4171748.39	NonCancerAcute	3.2853e-05	2.4829e-03	8.3090e-05	0.0000
28	ALL	UCART1	610061.41	4171748.39	NonCancerAcute	3.2997e-05	2.4938e-03	8.3455e-05	0.0000
29	ALL	UCART1	610136.41	4171748.39	NonCancerAcute	3.2056e-05	2.4228e-03	8.1077e-05	0.0000
30	ALL	UCART1	610211.41	4171748.39	NonCancerAcute	3.2094e-05	2.4256e-03	8.1172e-05	0.0000
31	ALL	UCART1	610286.41	4171748.39	NonCancerAcute	3.2362e-05	2.4458e-03	8.1848e-05	0.0000
32	ALL	UCART1	610361.41	4171748.39	NonCancerAcute	3.1570e-05	2.3860e-03	7.9847e-05	0.0000
33	ALL	UCART1	610436.41	4171748.39	NonCancerAcute	2.9396e-05	2.2217e-03	7.4347e-05	0.0000
34	ALL	UCART1	610511.41	4171748.39	NonCancerAcute	3.0456e-05	2.3019e-03	7.7030e-05	0.0000

## APPENDIX C

### Emissions of DPM from I-580



## Calculation of Annual Emissions DPM from I-580

	<i>2018</i>	<i>%</i>	<i>AADT</i>	
	<i>Truck AADT</i>	<i>5+ Axel</i>	<i>5+ Axel</i>	
Leg A	23,534	76.50%	18,004	From CalTrans 2018 Traffic AADT (Hwy 580)
Leg B	8,650	69.12%	5,979	at First Street
<b>Average</b>	<b>16,092</b>		<b>11,991</b>	

Length of Roadway (1,000 ft)      0.379 miles

Average EF for PM-2.5/DPM      0.059 gram/mile      From EMFAC 2017 for SF Region  
 HD Trucks @ 55 MPH

Emissions (all Trucks)      268.0 grams/day  
    0.59 lbs/day  
    215.5 lbs/yr

EMFAC2017 (v1.0.2) Emission Rates											
Region Type: Air Basin											
Region: SAN FRANCISCO BAY AREA											
Calendar Year: 2021											
Season: Annual											
Vehicle Classification: EMFAC2011 Categories											
Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW. Note 'day' in the unit is operation day.											
Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	NOx_RUNEX	PM2.5_RUNEX	M10_RUNEX	CO2_RUNEX	CH4_RUNEX	N2O_RUNEX
SAN FRANCISCO	2021	instate heavy-duty	Aggregate	55	DSL	1.847803	0.057255927	0.059845	817.638	0.002939	0.128521

## Calculation of Annual Emissions DPM from I-580

### CalTrans Truck Traffic Counts on I-580 at First Street, Livermore.

RTE	DIST	CNTY	POST MILE	L E G	DESCRIPTION	VEHICLE	TRUCK	TRUCK	TRUCK AADT				%	TRUCK AADT				EAL (1000)	YEAR VER/ EST
						AADT TOTAL	AADT TOTAL	% TOT VEH	-----By Axle-----					-----By Axle-----					
									2	3	4	5+	2.00	3.00	4.00	5+			
580	10	SJ	0	A	JCT. RTE. 5	28000	3381	16.10	850	113	53	2,365	25.13	3.34	1.56	69.96	864	06E	
580	10	SJ	4.344	A	JCT. RTE. 132 EAST	28800	5118	17.77	1,285	177	81	3,576	25.10	3.45	1.58	69.87	1,361	07V	
580	10	SJ	8.149	A	CORRAL HOLLOW RD INTERCHANGE	40600	5700	14.04	1,382	225	107	3,985	24.25	3.95	1.88	69.92	1,460	16V	
580	04	ALA	.39R	A	JCT. RTE. 205 EAST	15900	1988	12.50	245	54	42	1,648	12.30	2.70	2.10	82.90	629	96E	
580	04	ALA	10.689	A	FIRST ST	192900	23534	12.20	4,307	730	494	18,004	18.30	3.10	2.10	76.50	6,977	96E	
580	04	ALA	10.689	B	FIRST ST	190100	8650	4.55	1,779	526	366	5,979	20.57	6.08	4.23	69.12	2,390	08V	