



Date: September 1, 2022
To: Mr. Aaron Rivani
From: M. S. Hatch Consulting, LLC
Subject: Air Quality Study – Tentative Tract Map (TTM) 84256 Housing Development –Northeast Corner of 37th Street West and Avenue J-8, Lancaster, CA

M. S. Hatch Consulting, LLC (MSHC) appreciates the opportunity to prepare the air quality study for the proposed construction and operation of the housing development shown on Tentative Tract Map (TTM) 73344 for Global Investment and Development, LLC (Global). The project consists of 18 single family homes on 4.19 acres in the City of Lancaster. This air quality study includes the estimated criteria pollutant and greenhouse gas emissions from the construction and operation of the proposed project.

Executive Summary

Table 1 and Table 2 compare the estimated annual and daily emissions summaries from the construction and operation of the proposed housing development to the significant emission thresholds described in the Antelope Valley Air Quality Management District (AVAQMD) California Environmental Quality Act (CEQA) and Federal Conformity Guidelines, dated August 2016, included in Attachment A. The estimated emissions of criteria pollutants and greenhouse gases for each year of construction and the total operational emissions **are well below the applicable thresholds**. Greenhouse gas emissions are presented in units of carbon dioxide equivalent (CO₂e). The proposed project is not considered one of the project types that the AVAQMD CEQA Guidelines require to be evaluated for potentially exposing sensitive receptors to substantial pollutant concentrations.¹ As such, hazardous air pollutants (HAP) emissions were not calculated, and the project was not evaluated for potential health risks to sensitive receptors.

Table 1. Annual Emissions Summary and Significance Thresholds

Emissions Source	Total Emissions (tons per year)						
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}	CO ₂ e
Year 1 Construction Emissions (2023)	0.09	0.90	0.95	< 0.01	0.13	0.08	164
Year 2 Construction Emissions (2024)	0.29	0.90	1.10	< 0.01	0.05	0.04	166
Total Operational Emissions	0.33	0.16	1.05	< 0.01	0.19	0.05	246
Significant Emissions Threshold	25	25	100	25	15	12	100,000

¹ Residences, schools, daycare centers, playgrounds and medical facilities are considered sensitive receptor land uses. The following project types proposed for sites within the specified distance to an existing or planned (zoned) sensitive receptor land use must be evaluated using significance threshold criteria number 4 (refer to the significance threshold discussion): any industrial project within 1000 feet; a distribution center (40 or more trucks per day) within 1000 feet; a major transportation project (50,000 or more vehicles per day) within 1000 feet; a dry cleaner using perchloroethylene within 500 feet; or a gasoline dispensing facility within 300 feet.

Table 2. Daily Emissions Summary and Significance Thresholds

Emissions Source	Total Emissions (pounds per day)						
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}	CO _{2e}
Year 1 Construction Emissions (2023)	2.73	27.71	18.94	0.04	9.10	5.15	4,031
Year 2 Construction Emissions (2024)	22.53	14.85	18.56	0.03	0.83	0.68	3,060
Total Operational Emissions	1.98	1.10	7.07	0.01	1.08	0.33	1,627
Significant Emissions Threshold	137	137	548	137	82	65	548,000

ROG: Reactive Organic Compounds, used interchangeably with Volatile Organic Compounds (VOC); NO_x: oxides of nitrogen; CO: Carbon monoxide; SO_x: Oxides of sulfur; PM_{2.5}: particulate matter less than 2.5 micrometers in diameter; PM₁₀: particulate matter less than 10 micrometers in diameter; CO_{2e}: Carbon dioxide equivalent

Project Description

The proposed project includes the construction of 18 single family homes and residential streets on 4.19 acres of land. The project location is currently a vacant lot located north of Avenue J-8 and east of 37th Street West in Lancaster, California. The site location is included in Figure 1 and the proposed site plan is included in Figure 2.

Figure 1. Regional Vicinity

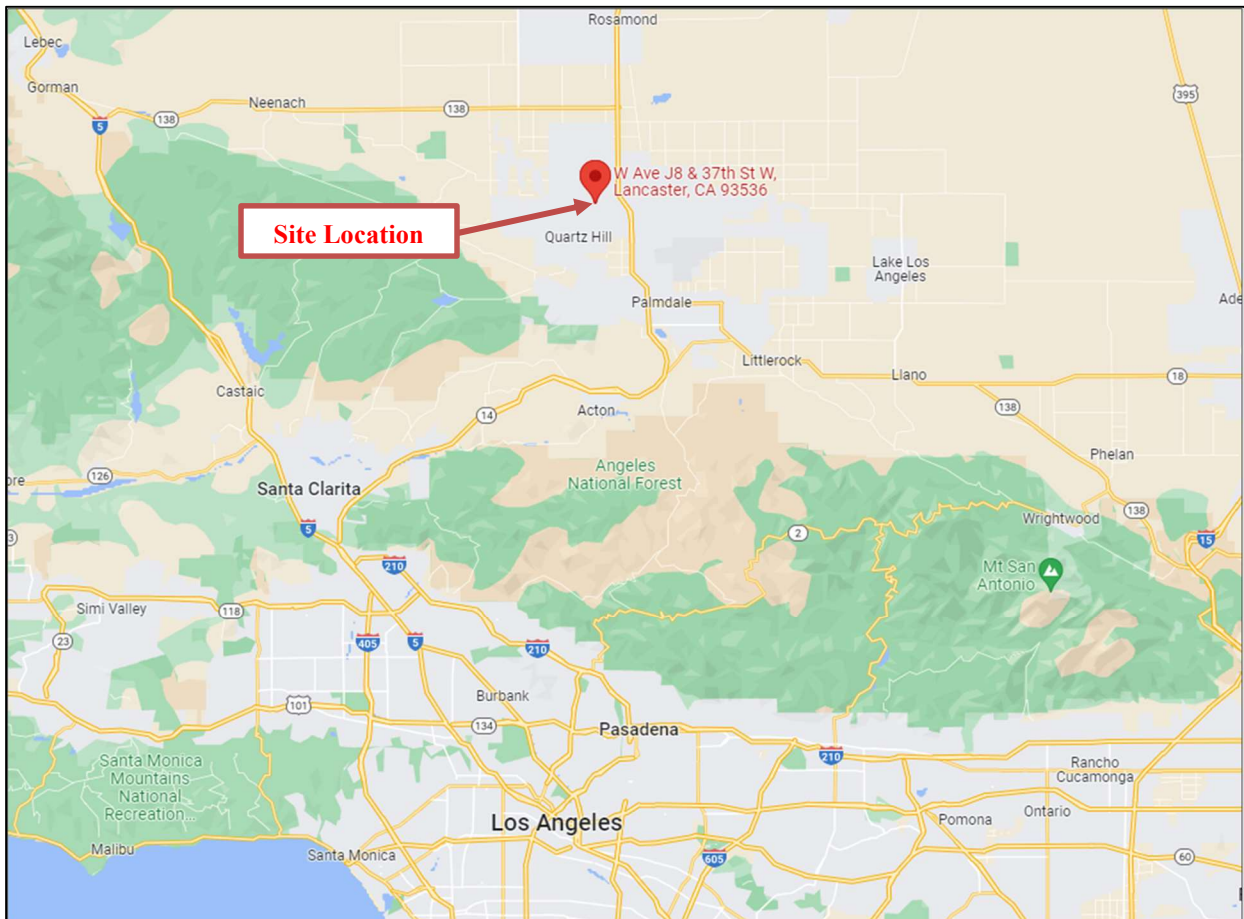
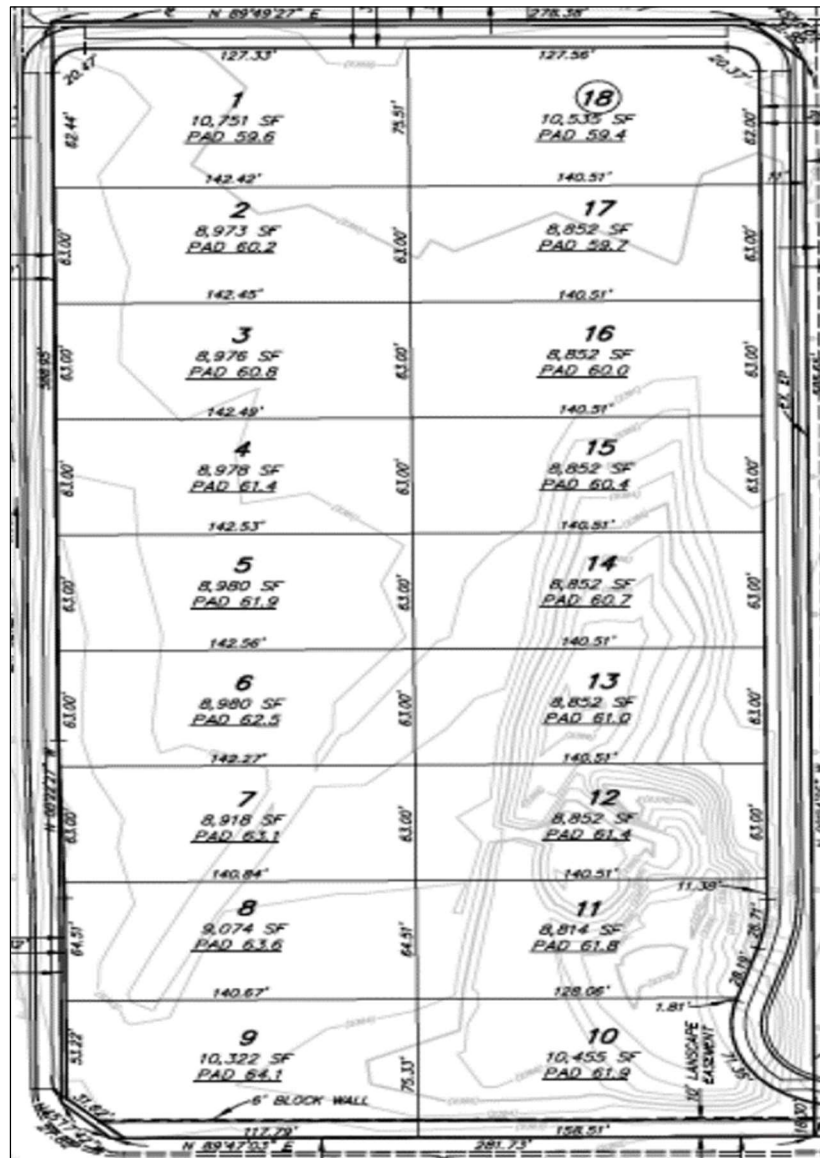


Figure 2. Site Plan – Proposed Housing Development - TTM 73344, Lancaster, CA



Sources of Emissions

The emissions associated with the proposed project consist of construction and operational emissions from the housing development. Construction emissions are temporary and include emissions of criteria pollutants and greenhouse gases from construction activities during site preparation, grading, paving, building construction, and the application of architectural coatings. Operational emissions consist of area sources (i.e., re-applying architectural coatings, consumer products, and landscaping equipment), energy use (i.e., electricity and natural gas), mobile sources (e.g., commuting), solid waste disposal, and water and wastewater use (i.e., supplying and treating water and wastewater).

Emissions Estimates

Table 3 and 4 present the annual and daily emissions summaries from the construction and operation of the proposed project, respectively. Emissions were estimated using CalEEMod Version 2020.4.0. The detailed emissions model outputs are included in Attachment B.

This project is not considered one of the project types that the AVAQMD CEQA Guidelines require to be evaluated for potentially exposing sensitive receptors to substantial pollutant concentrations. As such, HAP emissions were not calculated, and the project was not evaluated for potential health risks to sensitive receptors.

Table 3. Annual Construction and Operational Emissions Summary

Emissions Source	Total Emissions (tons per year)						
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}	CO _{2e}
Construction Emissions							
Year 1 Construction Emissions (2023)	0.09	0.90	0.95	< 0.01	0.13	0.08	164
Year 2 Construction Emissions (2024)	0.29	0.90	1.10	< 0.01	0.05	0.04	166
Operational Emissions							
Area Sources	0.24	0.01	0.14	< 0.01	< 0.01	< 0.01	14
Energy	< 0.01	0.02	0.01	< 0.01	< 0.01	< 0.01	50
Mobile	0.09	0.13	0.90	< 0.01	0.18	0.05	165
Waste	N/A	N/A	N/A	N/A	0.00	0.00	11
Water	N/A	N/A	N/A	N/A	0.00	0.00	6
Total Operational Emissions	0.33	0.16	1.05	< 0.01	0.19	0.05	246
Significant Emissions Threshold	25	25	100	25	15	12	100,000

Table 4. Daily Construction and Operational Emissions Summary

Emissions Source	Total Emissions (pounds per day)						
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}	CO _{2e}
Construction Emissions							
Year 1 Construction Emissions (2023)	2.73	27.71	18.94	0.04	9.10	5.15	4,031
Year 2 Construction Emissions (2024)	22.53	14.85	18.56	0.03	0.83	0.68	3,060
Operational Emissions							
Area Sources	1.34	0.32	1.61	< 0.01	0.03	0.03	386
Energy	0.01	0.12	0.05	< 0.01	0.01	0.01	149
Mobile	0.62	0.66	5.41	0.01	1.04	0.28	1092
Waste	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Operational Emissions	1.98	1.10	7.07	0.01	1.08	0.33	1,627
Significant Emissions Threshold	137	137	548	137	82	65	548,000

ROG: Reactive Organic Compounds, used interchangeably with Volatile Organic Compounds (VOC); NO_x: oxides of nitrogen; CO: Carbon monoxide; SO_x: Oxides of sulfur; PM_{2.5}: particulate matter less than 2.5 micrometers in diameter; PM₁₀: particulate matter less than 10 micrometers in diameter; CO_{2e}: Carbon dioxide equivalent

Emissions Calculation Methodology

Construction and operational emissions were based on three CalEEMod land use types: *Single Family Housing*, *City Park*, *Other Asphalt Surfaces*, and *Other Non-Asphalt Surfaces*. A discussion on the land use types that were used for the emissions modeling is included below.

CalEEMod Land Use Type: Single Family Housing

The *Single Family Housing* land use type was used to model the emissions associated with the proposed housing development. The total building square footage (54,000 square feet) was calculated based on the number of homes (18) and the average square footage per home (3,000 square feet), which was provided by Global. The residential acreage (3.83 acres) was also provided by Global.

CalEEMod Land Use Type: City Park

The *City Park* land use type was used to model the emissions associated with any open space (e.g., detention basins, landscaped area, parkways, etc.) within the proposed housing development. The acreage for the landscaping easement along Avenue J-8 (0.11 acres) was provided by Global.

CalEEMod Land Use Type: Other Asphalt Surfaces

The *Other Asphalt Surfaces* land use type was used to model the emissions associated with the residential streets within the proposed housing development. The street acreage (0.08 acres) was provided by Global.

CalEEMod Land Use Type: Other Non-Asphalt Surfaces

The *Other Non-Asphalt Surfaces* land use type was used to model the emissions associated with the sidewalks within the proposed housing development. The total sidewalk acreage (0.17 acres) was provided by Global.

Construction Emissions

Construction emissions were calculated using CalEEMod defaults and input provided by Global. Global reviewed and verified the list of construction equipment and the anticipated construction schedule.

Table 5 provides the anticipated construction schedule. Global provided the proposed start date (7/1/2023) and end date for the project (7/1/2024) and indicated that work would be conducted five days per week. The phase durations for the *Site Preparation* and *Architectural Coating* phases are CalEEMod defaults. Based on input from Global, thirty days were added to the *Grading* phase default and forty-five days were added to the *Paving* phase default to accommodate the size of the development. The *Building Construction* phase was shortened to meet the project's completion date.²

² Global confirmed the adjusted construction schedule via email on 8/29/22.

Table 6 provides the anticipated number of equipment that will be used during each construction phase, the hours per day the equipment will be operated, and the horsepower of the equipment. The values in Table 6 are based on CalEEMod default values.

Based on input provided by Global, there will be 50 cubic yards of material export during the *Site Preparation* phase and 4,978 cubic yards of material import during the *Grading* phase.³ For fugitive dust emissions, CalEEMod defaults do not include any control of fugitive dust from construction sites. AVAQMD Rule 403 requires that fugitive dust from any “active operation, open storage pile, or disturbed surface area” be controlled so that no presence of dust remains visible beyond the property line. To meet this requirement, the standard operation is watering active sites three times per day. Although the addition of watering for dust control is listed as a mitigation measure in CalEEMod, within the AVAQMD this is a requirement, and is therefore included.

For architectural coating operations, VOC emissions were calculated based on the assumption that the coatings would be compliant with the VOC content limits of AVAQMD Rule 1113.⁴

Table 5. Construction Schedule

Construction Phase	Start Date	End Date	Days/week	Total Days
Demolition	N/A	N/A	N/A	N/A
Site Preparation	7/1/2023	7/7/2023	5	5
Grading	7/8/2023	8/30/2023	5	38
Paving	8/31/2023	11/27/2023	5	63
Building Construction	11/28/2023	7/1/2024	5	155
Architectural Coating	6/6/2024	7/1/2024	5	18

Table 6. Construction Equipment

Construction Phase	Equipment	Number of Equipment	Hours per day	Horsepower
Site Preparation	Rubber Tired Dozers	3	8	247
	Tractors/Loaders/Backhoes	4	8	97
Grading	Excavators	1	8	158
	Graders	1	8	187
	Rubber Tired Dozers	1	8	247
	Tractors/Loaders/Backhoes	3	8	97
Building Construction	Cranes	1	7	231
	Forklifts	3	8	89
	Generator Sets	1	8	84
	Tractors/Loaders/Backhoes	3	7	97
	Welders	1	8	46

³ Global provided the amount of material import and export on 7/11/22.

⁴ For building coatings, assumed to be 90% flat paints (50 g/L) and 10% non-flat paints (100 g/L). For road marking paints, assumed to be compliant with the Traffic Marking Coating category (100 g/L). VOC limits based on AVAQMD Rule 1113.

Table 6. Construction Equipment

Construction Phase	Equipment	Number of Equipment	Hours per day	Horsepower
Paving	Cement and Mortar Mixers	2	6	9
	Pavers	1	8	130
	Paving Equipment	2	6	132
	Rollers	2	6	80
	Tractors/Loaders/Backhoes	1	8	97
Architectural Coating	Air Compressors	1	6	78

Operational Emissions

Operational emissions consist of area sources (i.e., re-applying architectural coatings, consumer products, fireplaces, and landscaping equipment), energy use (i.e., electricity and natural gas), mobile sources (e.g., commuting), solid waste disposal, and water and wastewater use (i.e., supplying and treating water and wastewater).

For area-source emissions, it was determined that woodstoves would not be installed, and natural gas fireplaces would be installed in every home.⁵ For architectural coating operations (i.e., re-applying coatings), VOC emissions were calculated based on the assumption that the coatings would be compliant with the VOC content limits of AVAQMD Rule 1113.⁶ All other operational emissions sources were calculated using CalEEMod default factors.

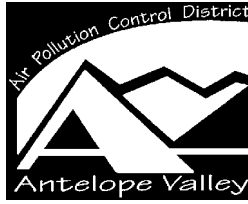
Findings

The estimated emissions of criteria pollutants and greenhouse gases for each year of construction and the total operational emissions **are well below the applicable AVAQMD Significant Emissions Thresholds**; therefore, this project does not have a significant air quality impact on the environment. In addition, this project is not expected to expose sensitive receptors to substantial pollutant concentrations. Since the construction and operational emissions are below the significance thresholds, emissions mitigation measures are not required.

⁵ Global confirmed via data request form that woodstoves would not be installed and that each home would have a natural gas fireplace.

⁶ For building coatings, assumed to be 90% flat paints (50 g/L) and 10% non-flat paints (100 g/L). For road marking paints, assumed to be compliant with the Traffic Marking Coating category (100 g/L). VOC limits based on AVAQMD Rule 1113.

**ATTACHMENT A – Antelope Valley AQMD California Environmental Quality Act
(CEQA) and Federal Conformity Guidelines**



Antelope Valley AQMD

California Environmental Quality Act
(CEQA)

and

Federal Conformity

Guidelines

August 2016

AVAQMD Planning, Rule-making and Grants Section
AVAQMD Air Monitoring Section

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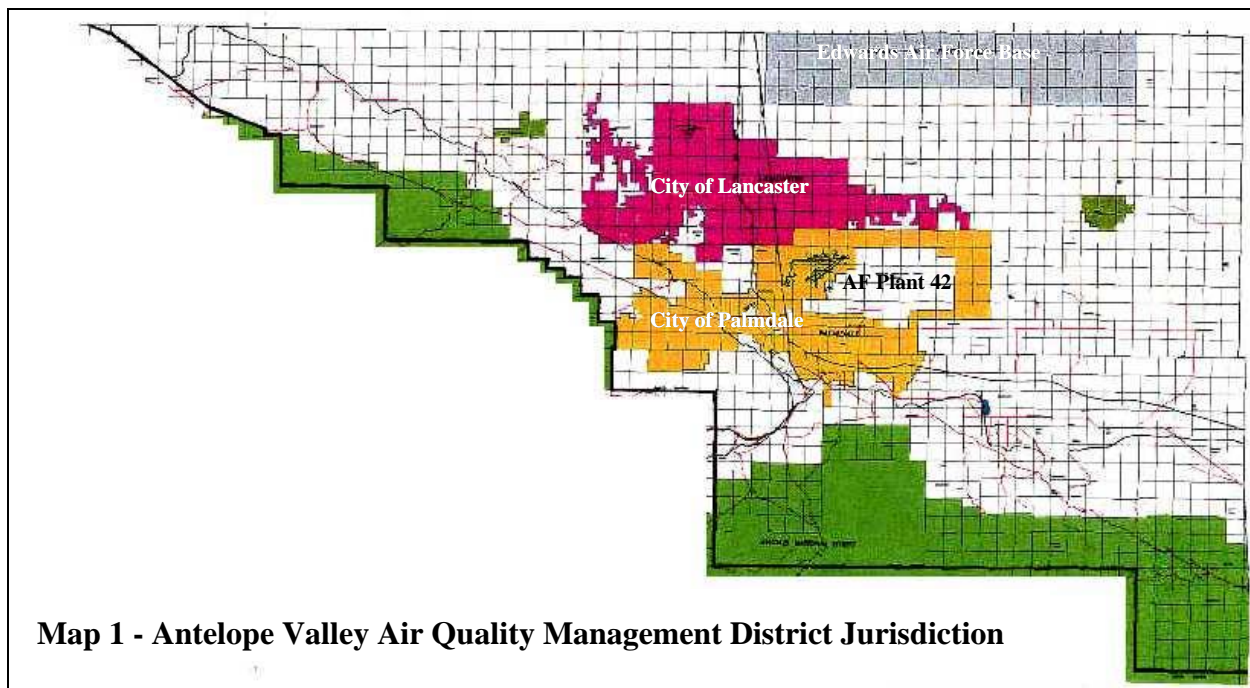
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Background

Under the California Environmental Quality Act (CEQA), the AVAQMD (District) is an expert commenting agency on air quality and related matters within its jurisdiction (or impacting on its jurisdiction). The District has dedicated resources to reviewing projects to ensure that they will not: (1) cause or contribute to any new violation of any air quality standard; (2) increase the frequency or severity of any existing violation of any air quality standard; or (3) delay timely attainment of any air quality standard or any required interim emission reductions or other milestones of any federal attainment plan. The District has adopted a federal attainment plan for ozone pursuant to the Federal Clean Air Act.

Purpose

These Guidelines are intended to assist persons preparing environmental analysis or review documents for any project within the jurisdiction of the District by providing background information and guidance on the preferred analysis approach.



Jurisdiction

The District has jurisdiction over the northern, desert portion of Los Angeles County (please refer to Map 1). This region includes the incorporated cities of Lancaster and Palmdale, Air Force Plant 42, and the southern portion of Edwards Air Force Base. The Kern County-Los Angeles County boundary forms the northern boundary of the District; the San Bernardino-Los Angeles County boundary forms the eastern boundary of the District.

Non-attainment Designations and Classification Status

The United States Environmental Protection Agency and the California Air Resources Board have designated portions of the District non-attainment for a variety of pollutants, and some of those designations have an associated classification. Please refer to Table 1 for a chart of these designations and classifications.

Table 1 – AVAQMD Designations and Classifications

Ambient Air Quality Standard	AVAQMD
One-hour Ozone (Federal) – standard has been revoked, this is historical information only	Proposed attainment in 2014; historical classification Severe-17
Eight-hour Ozone (Federal 84 ppb (1997))	Subpart 2 Nonattainment; classified Severe-15
Eight-hour Ozone (Federal 75 ppb (2008))	Nonattainment, classified Severe-15
Eight-hour Ozone (Federal 70 ppb (2015))	Expected nonattainment; classification to be determined
Ozone (State)	Nonattainment; classified Extreme
PM ₁₀ 24-hour (Federal)	Unclassifiable/attainment
PM _{2.5} Annual (Federal)	Unclassified/attainment
PM _{2.5} 24-hour (Federal)	Unclassified/attainment
PM _{2.5} (State)	Unclassified
PM ₁₀ (State)	Nonattainment
Carbon Monoxide (State and Federal)	Attainment
Nitrogen Dioxide (State and Federal)	Attainment/unclassified
Sulfur Dioxide (State and Federal)	Attainment/unclassified
Lead (State and Federal)	Attainment
Particulate Sulfate (State)	Unclassified
Hydrogen Sulfide (State)	Unclassified
Visibility Reducing Particles (State)	Unclassified

Attainment Plans

The District has adopted a single attainment plan for ozone. Please refer to Table 2 for information regarding this attainment plan.

Table 2 – AVAQMD Attainment Plans

Name of Plan	Date of Adoption	Standard(s) Targeted	Applicable Area	Pollutant(s) Targeted	Attainment Date*
AVAQMD 2004 Ozone Attainment Plan (State and Federal)	4/2004	Federal one hour ozone	Entire District	NO _x and VOC	2007
AVAQMD Federal 8-Hour Ozone Attainment Plan	5/20/2008	Federal eight hour ozone (84 ppb)	Entire District	NO _x and VOC	2019 (revised from 2021)

*Note: A historical attainment date given in an attainment plan does not necessarily mean that the affected area has been re-designated to attainment; please refer to Table 1.

Rules and Regulations

The District maintains a set of Rules and Regulations to improve air quality and maintain good air quality. Please contact the District to obtain a copy of the District rulebook, or visit www.avaqmd.ca.gov.

Recommended Environmental Setting Elements

Air Quality Data

The District gathers a variety of air quality data at the Lancaster monitoring site. Table 3 details the data available from the District for this site.

Table 3 - Available Air Quality Data

Site	Address	Pollutants	Dates
Lancaster	W. Ponderosa	O ₃ , NO _x , CO, PM ₁₀ (Hi-Vol and TEOM)	7/1/97 to 11/01
Lancaster	W. Ponderosa	PM _{2.5}	1/1/99 to 11/01
Lancaster	43301 Division St.	O ₃ , NO _x , CO, PM ₁₀ (hourly), PM _{2.5}	11/01 to present

Meteorological Data

A variety of meteorological data is available from the District for the Lancaster site. Table 4 contains a list of the data available for the Lancaster site.

Table 4 - Available Meteorological Data

Site	Address	Data	Dates
Lancaster	W. Ponderosa	Wind speed/direction, pressure, temperature, humidity	7/1/97 to 11/01
Lancaster	43301 Division St.	Wind speed/direction, pressure, temperature, humidity	11/01 to present

Topography and Climate Discussion

The District covers a western portion of the Mojave Desert Air Basin (MDAB). The MDAB is an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes. Many of the lower mountains which dot the vast terrain rise from 1,000 to 4,000 feet above the valley floor. Prevailing winds in the MDAB are out of the west and southwest. These prevailing winds are due to the proximity of the MDAB to coastal and central regions and the blocking nature of the Sierra Nevada mountains to the north; air masses pushed onshore in southern California by differential heating are channeled through the MDAB. The MDAB is separated from the southern California coastal and central California valley regions by mountains (highest elevation approximately 10,000 feet), whose passes form the main channels for these air masses. The Antelope Valley is bordered in the northwest by the Tehachapi Mountains, separated from the Sierra Nevadas in the north by the Tehachapi Pass (3,800 ft elevation). The Antelope Valley is bordered in the south by the San Gabriel Mountains, bisected by Soledad Canyon (3,300 ft).

During the summer the MDAB is generally influenced by a Pacific Subtropical High cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced by cold air masses moving south from Canada and Alaska, as these frontal systems are weak and diffuse by the time they reach the desert. Most desert moisture arrives from infrequent warm, moist and unstable air masses from the south. MDAB annual average precipitation is presented in Table 5; the data displayed is 1981-2010 averages from the NOAA National Climate Data Center. The MDAB is classified as a dry-hot desert climate (BWh), with portions classified as dry-very hot desert (BWwh), to indicate at least three months have maximum average temperatures over 100.4° F.

Table 5 - MDAB Average Annual Precipitation

Site	County	District	Precipitation (inches)
Baker	San Bernardino	MDAQMD	4.48
Barstow Daggett Airport	San Bernardino	MDAQMD	4.06
Barstow	San Bernardino	MDAQMD	5.30
Blythe Airport	Riverside	MDAQMD	3.77
Desert Center 2 NNE	Riverside	SCAQMD	3.92
Eagle Mountain	Riverside	SCAQMD	4.10
Goldstone Echo Number 2	San Bernardino	MDAQMD	5.88
Joshua Tree	San Bernardino	MDAQMD	5.11
Lancaster Wm J Fox Field	Los Angeles	AVAQMD	7.38
Mitchell Caverns	San Bernardino	MDAQMD	11.50
Mojave	Kern	EKAPCD	6.67
Mountain Pass 1 SE	San Bernardino	MDAQMD	9.94
Needles Airport	San Bernardino	MDAQMD	4.62
Palmdale Airport	Los Angeles	AVAQMD	8.30
Palmdale	Los Angeles	AVAQMD	7.40

Site	County	District	Precipitation (inches)
Parker Reservoir	San Bernardino	MDAQMD	6.16
Pearblossom	Los Angeles	AVAQMD	6.73
Randsburg	Kern	EKAPCD	7.26
Trona	San Bernardino	MDAQMD	3.88
Twentynine Palms	San Bernardino	MDAQMD	4.46
Victorville Pump Plant	San Bernardino	MDAQMD	6.15
Wrightwood	Los Angeles	AVAQMD	22.61

Recommended Impacts Discussion Elements

Direct Impacts

Direct impacts are the result of the project itself (from its construction and operation), in the form of project activity and trips generated by the project. For example, in the case of a subdivision project, construction emissions (equipment exhaust, wind erosion, vehicle exhaust), housing use activity (natural gas consumption) and trips to and from the housing (vehicle exhaust, tire wear) represent direct impacts. In the case of a new mine project, construction emissions (equipment exhaust, wind erosion, vehicle exhaust), material handling (drilling, blasting, transfers, crushing, screening, bagging), operational emissions (wind erosion, vehicle travel, vehicle exhaust, tire wear), and employee/customer/delivery travel (vehicle exhaust, tire wear) represent direct impacts.

Indirect Impacts

Indirect impacts are the result of changes that would not occur without the project. In the case of a subdivision project, indirect impacts on the surrounding community can be generated in many ways: nearby construction of roadways (or roadway modifications) and other infrastructure to support the subdivision, construction and operation of new commercial/retail establishments, changes in traffic/circulation patterns that result in increased congestion/delays, etc. In the case of a new mine project, indirect impacts can be generated by nearby construction of infrastructure to support the mine, housing constructed and/or occupied by mine employees, changes in traffic/circulation patterns that result in increased congestion/delays, etc.

Cumulative Impacts

Cumulative impacts are similar to direct and indirect impacts of the project, which the project contributes to. In the case of a subdivision project, a given project has a cumulative impact with all other subdivision projects, from the standpoint of each type of impact (cumulative construction emissions, residential natural gas consumption, solvent use, transportation emissions, congestion, etc.). Similarly, a new mine project has a cumulative impact with all other mining projects, from the standpoint of each type of impact (cumulative construction emissions, diesel equipment emissions, blasting emissions, fugitive emissions, transportation, congestion, etc.).

Conformity Impacts

A project is non-conforming if it conflicts with or delays implementation of any applicable attainment or maintenance plan. A project is conforming if it complies with all applicable District rules and regulations, complies with all proposed control measures that are not yet adopted from the applicable plan(s), and is consistent with the growth forecasts in the applicable plan(s) (or is directly included in the applicable plan). Conformity with growth forecasts can be established by demonstrating that the project is consistent with the land use plan that was used to generate the growth forecast. An example of a non-conforming project would be one that increases the gross number of dwelling units, increases the number of trips, and/or increases the overall vehicle miles traveled in an affected area (relative to the applicable land use plan).

Sensitive Receptor Land Uses

Residences, schools, daycare centers, playgrounds and medical facilities are considered sensitive receptor land uses. The following project types proposed for sites within the specified distance to an existing or planned (zoned) sensitive receptor land use must be evaluated using significance threshold criteria number 4 (refer to the significance threshold discussion):

- Any industrial project within 1000 feet;
- A distribution center (40 or more trucks per day) within 1000 feet;
- A major transportation project (50,000 or more vehicles per day) within 1000 feet;
- A dry cleaner using perchloroethylene within 500 feet;
- A gasoline dispensing facility within 300 feet.

Recommended Substantiation Discussion Elements

For projects applying the emissions-based significance thresholds, project emissions quantification is required. In addition the environmental documentation must include support for the quantification methodology used, including emission factors, emission factors source, assumptions, and sample calculations where necessary. For projects using a calculation tool such as CalEEMod or URBEMIS, the support section must specify the inputs and settings used for the evaluation.

Significance Thresholds

Any project is significant if it triggers or exceeds the most appropriate evaluation criteria. The District will clarify upon request which threshold is most appropriate for a given project; in general, the emissions comparison (criteria number 1) is sufficient:

1. Generates total emissions (direct and indirect) in excess of the thresholds given in Table 6;
2. Generates a violation of any ambient air quality standard when added to the local background;
3. Does not conform with the applicable attainment or maintenance plan(s)¹;

¹ A project is deemed to not exceed this threshold, and hence not be significant, if it is consistent with the existing land use plan. Zoning changes, specific plans, general plan amendments and similar land use plan changes which do not increase dwelling unit density, do not increase vehicle trips, and do not increase vehicle miles traveled are also deemed to not exceed this threshold.

4. Exposes sensitive receptors to substantial pollutant concentrations, including those resulting in a cancer risk greater than or equal to 10 in a million and/or a Hazard Index (HI) (non-cancerous) greater than or equal to 1.*

**Refer to the Sensitive Receptor Land Use discussion above*

A significant project must incorporate mitigation sufficient to reduce its impact to a level that is not significant. A project that cannot be mitigated to a level that is not significant must incorporate all feasible mitigation. Note that the emission thresholds are given as a daily value and an annual value, so that a multi-phased project (such as a project with a construction phase and a separate operational phase) with phases shorter than one year can be compared to the daily value.

Table 6 – Significant Emissions Thresholds

Criteria Pollutant	Annual Threshold (tons)	Daily Threshold (pounds)
Greenhouse Gases (CO ₂ e)	100,000	548,000
Carbon Monoxide (CO)	100	548
Oxides of Nitrogen (NO _x)	25	137
Volatile Organic Compounds (VOC)	25	137
Oxides of Sulfur (SO _x)	25	137
Particulate Matter (PM ₁₀)	15	82
Particulate Matter (PM _{2.5})	12	65
Hydrogen Sulfide (H ₂ S)	10	54
Lead (Pb)	0.6	3

District Contacts

If an address is not listed, please use the general address, to the attention of the listed individual.

AVAQMD General and Rulebook	Crystal Goree (661) 723-8070 x1 Mailing and Physical Address: 43301 Division St., Suite 206 Lancaster, CA 93535-4649
Planning and Rules	Tracy Walters (760) 245-1661 x6122
Air Quality and Meteorological Data	Orlando Salinas (760) 245-1661 x1810
CEQA and Conformity	Alan De Salvio (760) 245-1661 x6726
Permitting	Bret Banks (661) 723-8070 x2

Appendix A – Basic Definitions of Major Air Pollutants

Technical and/or legal definitions exist for many of these pollutants, depending on context. The following definitions are for general, introductory purposes only:

Carbon Dioxide (CO₂) – Common product of combustion. Not a criteria pollutant, but considered an important “greenhouse gas.” Important on a national or global scale.

Carbon Monoxide (CO) – Common product of incomplete combustion. A criteria pollutant with state and federal standards. Not a primary photochemical reaction compound, but involved in photochemical reactions. Dissipates rapidly, and is therefore only important on a local scale near sources.

Criteria Pollutants – Those air pollutants specifically identified for control under the Federal Clean Air Act (currently six: carbon monoxide, nitrogen oxides, lead, sulfur oxides, ozone and particulates).

Lead (Pb) – A heavy metal, present in the environment mainly due to historical use in motor vehicle fuel. Primarily associated with lead smelting operations. A criteria pollutant with state and federal standards. Primarily of concern near sources.

Oxides of Nitrogen (NO_x) – Common product of combustion in the presence of nitrogen. Includes NO₂, which is a criteria pollutant with state and federal standards. Locally and regionally important due to its involvement in the photochemical formation of ozone.

Oxides of Sulfur (SO_x) – Common product of combustion in the presence of sulfur. Associated primarily with diesel and coal burning. Includes SO₂, a criteria pollutant with state and federal standards. Primarily of concern near sources.

Ozone (O₃) – A gas mainly produced by a photochemical reaction between reactive organic gases and oxides of nitrogen in the presence of sunlight (also produced by molecular oxygen in the presence of ultraviolet light or electrical discharge). A strong oxidant that is damaging at ground level but necessary at high altitude (in the stratosphere, where it absorbs dangerous ultraviolet light). Also considered an important greenhouse gas. A criteria pollutant with state and federal standards.

Particulate Matter (TSP or PM₃₀) – Solid or liquid matter suspended in the atmosphere, excluding water. Includes aerosols and droplets that form in the atmosphere. Locally and regionally important.

Reactive/Volatile Organic Compounds/Gases (ROG, VOC, NMOG, NMOC) – A portion of total organic compounds or gases, excludes methane, ethane and acetone (due to low photochemical reactivity). “ROG” is generally used by the California Air Resources Board, “VOC” is generally used by the United States Environmental Protection Agency, but all four terms are interchangeable for most uses. Regionally important due to its involvement in the photochemical reaction that produces ozone.

Respirable Particulate Matter (coarse or PM₁₀, and fine or PM_{2.5}) – That portion of particulate matter that tends to penetrate into the human lung. The subscript refers to aerodynamic diameter. Criteria pollutants with state and federal standards. Locally and regionally important.

Total Organic Compounds/Gases (TOC or TOG) – Compounds containing at least one atom of carbon, except carbon monoxide, carbon dioxide, carbonic acid, metallic carbides and metallic carbonates. Primarily methane in the atmosphere, a “greenhouse gas.”

ATTACHMENT B – CalEEMod Emissions Model Output

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Annual

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

**Air Quality Study - TTM 73344, Lancaster, CA
Antelope Valley APCD Air District, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	0.08	Acre	0.08	3,484.80	0
Other Non-Asphalt Surfaces	0.17	Acre	0.17	7,405.20	0
City Park	0.11	Acre	0.11	4,791.60	0
Single Family Housing	18.00	Dwelling Unit	3.83	54,000.00	51

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	9			Operational Year	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	390.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Information provided by client.

Construction Phase - Schedule adjusted to the start and end date on the data request form. Number of days for grading and paving phases was increased based on input from client.

Grading - Material export for Site Preparation phase provided by client on the data request form.
Material import for Grading phase provided by client on the data request form.

Architectural Coating - VOC limits from AVAQMD Rule 1113. For the building, assumes 90% flat paint (50 g/L) and 10% non-flat (100 g/L). For parking lot coatings, assumed to be compliant with the Traffic Marking Coating category VOC limit of 100 g/L.

Vehicle Trips - All areas modeled as a City Park are within the housing development and no vehicle trips are expected.

Woodstoves - Based on client input on the data request form no woodstoves will be installed and each home will have a gas fireplace.

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Annual

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

Area Coating - VOC limits from AVAQMD Rule 1113. For the building, assumes 90% flat paint (50 g/L) and 10% non-flat (100 g/L). For parking lot coatings, assumed to be compliant with the Traffic Marking Coating category VOC limit of 100 g/L.

Construction Off-road Equipment Mitigation - Assumes that construction site will be watered 3 times per day to be in compliance with AVAQMD Rule 403.

Area Mitigation - -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	55.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	55.00
tblArchitecturalCoating	EF_Parking	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	55.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	55.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	55
tblAreaCoating	Area_EF_Nonresidential_Interior	250	55
tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	55
tblAreaCoating	Area_EF_Residential_Interior	250	55
tblConstructionPhase	NumDays	230.00	155.00
tblConstructionPhase	NumDays	8.00	38.00
tblConstructionPhase	NumDays	18.00	63.00
tblFireplaces	NumberGas	9.90	18.00
tblFireplaces	NumberNoFireplace	1.80	0.00
tblFireplaces	NumberWood	6.30	0.00
tblGrading	MaterialExported	0.00	50.00
tblGrading	MaterialImported	0.00	4,978.00
tblLandUse	LandUseSquareFeet	32,400.00	54,000.00
tblLandUse	LotAcreage	5.84	3.83
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00

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tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PR_TP	66.00	0.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	WD_TR	0.78	0.00
tblWoodstoves	NumberCatalytic	0.90	0.00
tblWoodstoves	NumberNoncatalytic	0.90	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	0.0913	0.9026	0.9502	1.8400e-003	0.1987	0.0403	0.2390	0.0943	0.0373	0.1317	0.0000	162.4146	162.4146	0.0419	3.0200e-003	164.3640
2024	0.2882	0.9040	1.1041	1.9000e-003	8.8200e-003	0.0408	0.0496	2.3800e-003	0.0384	0.0408	0.0000	164.4928	164.4928	0.0363	8.5000e-004	165.6533
Maximum	0.2882	0.9040	1.1041	1.9000e-003	0.1987	0.0408	0.2390	0.0943	0.0384	0.1317	0.0000	164.4928	164.4928	0.0419	3.0200e-003	165.6533

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	0.0913	0.9026	0.9502	1.8400e-003	0.0865	0.0403	0.1268	0.0392	0.0373	0.0765	0.0000	162.4145	162.4145	0.0419	3.0200e-003	164.3639
2024	0.2882	0.9040	1.1041	1.9000e-003	8.8200e-003	0.0408	0.0496	2.3800e-003	0.0384	0.0408	0.0000	164.4926	164.4926	0.0363	8.5000e-004	165.6531
Maximum	0.2882	0.9040	1.1041	1.9000e-003	0.0865	0.0408	0.1268	0.0392	0.0384	0.0765	0.0000	164.4926	164.4926	0.0419	3.0200e-003	165.6531

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	ROG	NOx	CO	SO2	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	54.08	0.00	38.88	57.00	0.00	31.97	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	7-1-2023	9-30-2023	0.6031	0.6031
2	10-1-2023	12-31-2023	0.4003	0.4003
3	1-1-2024	3-31-2024	0.4923	0.4923
4	4-1-2024	6-30-2024	0.6906	0.6906
5	7-1-2024	9-30-2024	0.0133	0.0133
		Highest	0.6906	0.6906

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	0.2358	0.0138	0.1388	9.0000e-005		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003	0.0000	14.3960	14.3960	4.8000e-004	2.6000e-004	14.4855
Energy	2.4700e-003	0.0211	9.0000e-003	1.3000e-004		1.7100e-003	1.7100e-003		1.7100e-003	1.7100e-003	0.0000	49.5707	49.5707	2.5900e-003	7.1000e-004	49.8456
Mobile	0.0930	0.1290	0.8996	1.7500e-003	0.1801	1.4500e-003	0.1816	0.0482	1.3600e-003	0.0496	0.0000	161.9481	161.9481	0.0115	8.2000e-003	164.6800
Waste						0.0000	0.0000		0.0000	0.0000	4.2466	0.0000	4.2466	0.2510	0.0000	10.5207
Water						0.0000	0.0000		0.0000	0.0000	0.3721	4.4232	4.7953	0.0386	9.5000e-004	6.0423
Total	0.3313	0.1639	1.0474	1.9700e-003	0.1801	4.8900e-003	0.1850	0.0482	4.8000e-003	0.0530	4.6186	230.3380	234.9566	0.3041	0.0101	245.5741

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2358	0.0138	0.1388	9.0000e-005		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003	0.0000	14.3960	14.3960	4.8000e-004	2.6000e-004	14.4855
Energy	2.4700e-003	0.0211	9.0000e-003	1.3000e-004		1.7100e-003	1.7100e-003		1.7100e-003	1.7100e-003	0.0000	49.5707	49.5707	2.5900e-003	7.1000e-004	49.8456
Mobile	0.0930	0.1290	0.8996	1.7500e-003	0.1801	1.4500e-003	0.1816	0.0482	1.3600e-003	0.0496	0.0000	161.9481	161.9481	0.0115	8.2000e-003	164.6800
Waste						0.0000	0.0000		0.0000	0.0000	4.2466	0.0000	4.2466	0.2510	0.0000	10.5207
Water						0.0000	0.0000		0.0000	0.0000	0.3721	4.4232	4.7953	0.0386	9.5000e-004	6.0423
Total	0.3313	0.1639	1.0474	1.9700e-003	0.1801	4.8900e-003	0.1850	0.0482	4.8000e-003	0.0530	4.6186	230.3380	234.9566	0.3041	0.0101	245.5741

	ROG	NOx	CO	SO2	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	7/1/2023	7/7/2023	5	5	
2	Grading	Grading	7/8/2023	8/30/2023	5	38	
3	Paving	Paving	8/31/2023	11/27/2023	5	63	

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4	Building Construction	Building Construction	11/28/2023	7/1/2024	5	155
5	Architectural Coating	Architectural Coating	6/6/2024	7/1/2024	5	18

Acres of Grading (Site Preparation Phase): 7.5

Acres of Grading (Grading Phase): 38

Acres of Paving: 0.25

Residential Indoor: 109,350; Residential Outdoor: 36,450; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 653 (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	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
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
Architectural Coating	Air Compressors	1	6.00	78	0.48

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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	6.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	622.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	13.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

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					0.0492	0.0000	0.0492	0.0253	0.0000	0.0253	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6500e-003	0.0688	0.0456	1.0000e-004		3.1700e-003	3.1700e-003		2.9100e-003	2.9100e-003	0.0000	8.3627	8.3627	2.7000e-003	0.0000	8.4303
Total	6.6500e-003	0.0688	0.0456	1.0000e-004	0.0492	3.1700e-003	0.0523	0.0253	2.9100e-003	0.0282	0.0000	8.3627	8.3627	2.7000e-003	0.0000	8.4303

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3.2 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	3.7000e-004	9.0000e-005	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.1613	0.1613	0.0000	3.0000e-005	0.1688
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	1.4000e-004	1.2000e-004	1.4100e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2973	0.2973	1.0000e-005	1.0000e-005	0.3005
Total	1.5000e-004	4.9000e-004	1.5000e-003	0.0000	4.1000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.2000e-004	0.0000	0.4585	0.4585	1.0000e-005	4.0000e-005	0.4693

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					0.0192	0.0000	0.0192	9.8500e-003	0.0000	9.8500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6500e-003	0.0688	0.0456	1.0000e-004		3.1700e-003	3.1700e-003		2.9100e-003	2.9100e-003	0.0000	8.3627	8.3627	2.7000e-003	0.0000	8.4303
Total	6.6500e-003	0.0688	0.0456	1.0000e-004	0.0192	3.1700e-003	0.0223	9.8500e-003	2.9100e-003	0.0128	0.0000	8.3627	8.3627	2.7000e-003	0.0000	8.4303

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3.2 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	3.7000e-004	9.0000e-005	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.1613	0.1613	0.0000	3.0000e-005	0.1688
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	1.4000e-004	1.2000e-004	1.4100e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2973	0.2973	1.0000e-005	1.0000e-005	0.3005
Total	1.5000e-004	4.9000e-004	1.5000e-003	0.0000	4.1000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.2000e-004	0.0000	0.4585	0.4585	1.0000e-005	4.0000e-005	0.4693

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					0.1349	0.0000	0.1349	0.0651	0.0000	0.0651	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0325	0.3408	0.2803	5.6000e-004		0.0147	0.0147		0.0136	0.0136	0.0000	49.5152	49.5152	0.0160	0.0000	49.9155
Total	0.0325	0.3408	0.2803	5.6000e-004	0.1349	0.0147	0.1496	0.0651	0.0136	0.0787	0.0000	49.5152	49.5152	0.0160	0.0000	49.9155

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3.3 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.0000e-004	0.0384	9.5400e-003	1.7000e-004	5.3500e-003	2.2000e-004	5.5700e-003	1.4700e-003	2.1000e-004	1.6800e-003	0.0000	16.7177	16.7177	1.0000e-004	2.6300e-003	17.5035
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	8.9000e-004	7.3000e-004	8.9400e-003	2.0000e-005	2.3000e-003	1.0000e-005	2.3100e-003	6.1000e-004	1.0000e-005	6.2000e-004	0.0000	1.8827	1.8827	7.0000e-005	6.0000e-005	1.9030
Total	1.5900e-003	0.0391	0.0185	1.9000e-004	7.6500e-003	2.3000e-004	7.8800e-003	2.0800e-003	2.2000e-004	2.3000e-003	0.0000	18.6003	18.6003	1.7000e-004	2.6900e-003	19.4064

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					0.0526	0.0000	0.0526	0.0254	0.0000	0.0254	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0325	0.3408	0.2803	5.6000e-004		0.0147	0.0147		0.0136	0.0136	0.0000	49.5151	49.5151	0.0160	0.0000	49.9155
Total	0.0325	0.3408	0.2803	5.6000e-004	0.0526	0.0147	0.0673	0.0254	0.0136	0.0389	0.0000	49.5151	49.5151	0.0160	0.0000	49.9155

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

3.3 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.0000e-004	0.0384	9.5400e-003	1.7000e-004	5.3500e-003	2.2000e-004	5.5700e-003	1.4700e-003	2.1000e-004	1.6800e-003	0.0000	16.7177	16.7177	1.0000e-004	2.6300e-003	17.5035
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	8.9000e-004	7.3000e-004	8.9400e-003	2.0000e-005	2.3000e-003	1.0000e-005	2.3100e-003	6.1000e-004	1.0000e-005	6.2000e-004	0.0000	1.8827	1.8827	7.0000e-005	6.0000e-005	1.9030
Total	1.5900e-003	0.0391	0.0185	1.9000e-004	7.6500e-003	2.3000e-004	7.8800e-003	2.0800e-003	2.2000e-004	2.3000e-003	0.0000	18.6003	18.6003	1.7000e-004	2.6900e-003	19.4064

3.4 Paving - 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	0.0289	0.2769	0.3840	6.0000e-004		0.0137	0.0137		0.0127	0.0127	0.0000	51.5926	51.5926	0.0162	0.0000	51.9978
Paving	1.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0290	0.2769	0.3840	6.0000e-004		0.0137	0.0137		0.0127	0.0127	0.0000	51.5926	51.5926	0.0162	0.0000	51.9978

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

3.4 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	1.9700e-003	1.6200e-003	0.0198	5.0000e-005	5.0700e-003	3.0000e-005	5.1100e-003	1.3500e-003	3.0000e-005	1.3800e-003	0.0000	4.1617	4.1617	1.5000e-004	1.4000e-004	4.2065
Total	1.9700e-003	1.6200e-003	0.0198	5.0000e-005	5.0700e-003	3.0000e-005	5.1100e-003	1.3500e-003	3.0000e-005	1.3800e-003	0.0000	4.1617	4.1617	1.5000e-004	1.4000e-004	4.2065

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	0.0289	0.2769	0.3840	6.0000e-004		0.0137	0.0137		0.0127	0.0127	0.0000	51.5925	51.5925	0.0162	0.0000	51.9978
Paving	1.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0290	0.2769	0.3840	6.0000e-004		0.0137	0.0137		0.0127	0.0127	0.0000	51.5925	51.5925	0.0162	0.0000	51.9978

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

3.4 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	1.9700e-003	1.6200e-003	0.0198	5.0000e-005	5.0700e-003	3.0000e-005	5.1100e-003	1.3500e-003	3.0000e-005	1.3800e-003	0.0000	4.1617	4.1617	1.5000e-004	1.4000e-004	4.2065
Total	1.9700e-003	1.6200e-003	0.0198	5.0000e-005	5.0700e-003	3.0000e-005	5.1100e-003	1.3500e-003	3.0000e-005	1.3800e-003	0.0000	4.1617	4.1617	1.5000e-004	1.4000e-004	4.2065

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	0.0189	0.1726	0.1949	3.2000e-004		8.4000e-003	8.4000e-003		7.9000e-003	7.9000e-003	0.0000	27.8166	27.8166	6.6200e-003	0.0000	27.9820
Total	0.0189	0.1726	0.1949	3.2000e-004		8.4000e-003	8.4000e-003		7.9000e-003	7.9000e-003	0.0000	27.8166	27.8166	6.6200e-003	0.0000	27.9820

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

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	6.0000e-005	1.9500e-003	7.5000e-004	1.0000e-005	3.2000e-004	1.0000e-005	3.3000e-004	9.0000e-005	1.0000e-005	1.0000e-004	0.0000	0.8766	0.8766	1.0000e-005	1.3000e-004	0.9145
Worker	4.9000e-004	4.0000e-004	4.8900e-003	1.0000e-005	1.2600e-003	1.0000e-005	1.2600e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.0305	1.0305	4.0000e-005	3.0000e-005	1.0416
Total	5.5000e-004	2.3500e-003	5.6400e-003	2.0000e-005	1.5800e-003	2.0000e-005	1.5900e-003	4.2000e-004	2.0000e-005	4.4000e-004	0.0000	1.9071	1.9071	5.0000e-005	1.6000e-004	1.9561

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	0.0189	0.1726	0.1949	3.2000e-004		8.4000e-003	8.4000e-003		7.9000e-003	7.9000e-003	0.0000	27.8165	27.8165	6.6200e-003	0.0000	27.9820
Total	0.0189	0.1726	0.1949	3.2000e-004		8.4000e-003	8.4000e-003		7.9000e-003	7.9000e-003	0.0000	27.8165	27.8165	6.6200e-003	0.0000	27.9820

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

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	6.0000e-005	1.9500e-003	7.5000e-004	1.0000e-005	3.2000e-004	1.0000e-005	3.3000e-004	9.0000e-005	1.0000e-005	1.0000e-004	0.0000	0.8766	0.8766	1.0000e-005	1.3000e-004	0.9145
Worker	4.9000e-004	4.0000e-004	4.8900e-003	1.0000e-005	1.2600e-003	1.0000e-005	1.2600e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.0305	1.0305	4.0000e-005	3.0000e-005	1.0416
Total	5.5000e-004	2.3500e-003	5.6400e-003	2.0000e-005	1.5800e-003	2.0000e-005	1.5900e-003	4.2000e-004	2.0000e-005	4.4000e-004	0.0000	1.9071	1.9071	5.0000e-005	1.6000e-004	1.9561

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	0.0964	0.8806	1.0589	1.7700e-003		0.0402	0.0402		0.0378	0.0378	0.0000	151.8612	151.8612	0.0359	0.0000	152.7589
Total	0.0964	0.8806	1.0589	1.7700e-003		0.0402	0.0402		0.0378	0.0378	0.0000	151.8612	151.8612	0.0359	0.0000	152.7589

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

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.9000e-004	0.0104	4.0000e-003	5.0000e-005	1.7500e-003	5.0000e-005	1.8000e-003	5.0000e-004	5.0000e-005	5.5000e-004	0.0000	4.6833	4.6833	3.0000e-005	6.8000e-004	4.8852
Worker	2.4600e-003	1.9400e-003	0.0241	6.0000e-005	6.8600e-003	4.0000e-005	6.9000e-003	1.8200e-003	4.0000e-005	1.8600e-003	0.0000	5.4767	5.4767	1.9000e-004	1.7000e-004	5.5326
Total	2.7500e-003	0.0124	0.0281	1.1000e-004	8.6100e-003	9.0000e-005	8.7000e-003	2.3200e-003	9.0000e-005	2.4100e-003	0.0000	10.1600	10.1600	2.2000e-004	8.5000e-004	10.4178

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	0.0964	0.8806	1.0589	1.7700e-003		0.0402	0.0402		0.0378	0.0378	0.0000	151.8610	151.8610	0.0359	0.0000	152.7588
Total	0.0964	0.8806	1.0589	1.7700e-003		0.0402	0.0402		0.0378	0.0378	0.0000	151.8610	151.8610	0.0359	0.0000	152.7588

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

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.9000e-004	0.0104	4.0000e-003	5.0000e-005	1.7500e-003	5.0000e-005	1.8000e-003	5.0000e-004	5.0000e-005	5.5000e-004	0.0000	4.6833	4.6833	3.0000e-005	6.8000e-004	4.8852
Worker	2.4600e-003	1.9400e-003	0.0241	6.0000e-005	6.8600e-003	4.0000e-005	6.9000e-003	1.8200e-003	4.0000e-005	1.8600e-003	0.0000	5.4767	5.4767	1.9000e-004	1.7000e-004	5.5326
Total	2.7500e-003	0.0124	0.0281	1.1000e-004	8.6100e-003	9.0000e-005	8.7000e-003	2.3200e-003	9.0000e-005	2.4100e-003	0.0000	10.1600	10.1600	2.2000e-004	8.5000e-004	10.4178

3.6 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	0.1874					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6300e-003	0.0110	0.0163	3.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3012
Total	0.1890	0.0110	0.0163	3.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3012

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

3.6 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	6.0000e-005	7.6000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1737	0.1737	1.0000e-005	1.0000e-005	0.1754
Total	8.0000e-005	6.0000e-005	7.6000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1737	0.1737	1.0000e-005	1.0000e-005	0.1754

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	0.1874					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6300e-003	0.0110	0.0163	3.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3012
Total	0.1890	0.0110	0.0163	3.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3012

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

3.6 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	6.0000e-005	7.6000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1737	0.1737	1.0000e-005	1.0000e-005	0.1754
Total	8.0000e-005	6.0000e-005	7.6000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1737	0.1737	1.0000e-005	1.0000e-005	0.1754

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0930	0.1290	0.8996	1.7500e-003	0.1801	1.4500e-003	0.1816	0.0482	1.3600e-003	0.0496	0.0000	161.9481	161.9481	0.0115	8.2000e-003	164.6800
Unmitigated	0.0930	0.1290	0.8996	1.7500e-003	0.1801	1.4500e-003	0.1816	0.0482	1.3600e-003	0.0496	0.0000	161.9481	161.9481	0.0115	8.2000e-003	164.6800

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	169.92	171.72	153.90	476,824	476,824
Total	169.92	171.72	153.90	476,824	476,824

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
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Annual

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

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.592914	0.051978	0.143358	0.118868	0.026746	0.007323	0.011582	0.009144	0.000678	0.000495	0.027881	0.002501	0.006531
Other Asphalt Surfaces	0.592914	0.051978	0.143358	0.118868	0.026746	0.007323	0.011582	0.009144	0.000678	0.000495	0.027881	0.002501	0.006531
Other Non-Asphalt Surfaces	0.592914	0.051978	0.143358	0.118868	0.026746	0.007323	0.011582	0.009144	0.000678	0.000495	0.027881	0.002501	0.006531
Single Family Housing	0.592914	0.051978	0.143358	0.118868	0.026746	0.007323	0.011582	0.009144	0.000678	0.000495	0.027881	0.002501	0.006531

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	25.0843	25.0843	2.1200e-003	2.6000e-004	25.2137
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	25.0843	25.0843	2.1200e-003	2.6000e-004	25.2137
NaturalGas Mitigated	2.4700e-003	0.0211	9.0000e-003	1.3000e-004		1.7100e-003	1.7100e-003		1.7100e-003	1.7100e-003	0.0000	24.4864	24.4864	4.7000e-004	4.5000e-004	24.6319
NaturalGas Unmitigated	2.4700e-003	0.0211	9.0000e-003	1.3000e-004		1.7100e-003	1.7100e-003		1.7100e-003	1.7100e-003	0.0000	24.4864	24.4864	4.7000e-004	4.5000e-004	24.6319

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Annual

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

5.2 Energy by Land Use - NaturalGas

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					
City Park	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
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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
Single Family Housing	458857	2.4700e-003	0.0211	9.0000e-003	1.3000e-004		1.7100e-003	1.7100e-003		1.7100e-003	1.7100e-003	0.0000	24.4864	24.4864	4.7000e-004	4.5000e-004	24.6319
Total		2.4700e-003	0.0211	9.0000e-003	1.3000e-004		1.7100e-003	1.7100e-003		1.7100e-003	1.7100e-003	0.0000	24.4864	24.4864	4.7000e-004	4.5000e-004	24.6319

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Annual

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

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	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
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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
Single Family Housing	458857	2.4700e-003	0.0211	9.0000e-003	1.3000e-004		1.7100e-003	1.7100e-003		1.7100e-003	1.7100e-003	0.0000	24.4864	24.4864	4.7000e-004	4.5000e-004	24.6319
Total		2.4700e-003	0.0211	9.0000e-003	1.3000e-004		1.7100e-003	1.7100e-003		1.7100e-003	1.7100e-003	0.0000	24.4864	24.4864	4.7000e-004	4.5000e-004	24.6319

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Annual

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	141443	25.0843	2.1200e-003	2.6000e-004	25.2137
Total		25.0843	2.1200e-003	2.6000e-004	25.2137

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Annual

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

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	141443	25.0843	2.1200e-003	2.6000e-004	25.2137
Total		25.0843	2.1200e-003	2.6000e-004	25.2137

6.0 Area Detail

6.1 Mitigation Measures Area

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Annual

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2358	0.0138	0.1388	9.0000e-005		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003	0.0000	14.3960	14.3960	4.8000e-004	2.6000e-004	14.4855
Unmitigated	0.2358	0.0138	0.1388	9.0000e-005		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003	0.0000	14.3960	14.3960	4.8000e-004	2.6000e-004	14.4855

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	0.0187					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2117					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.4300e-003	0.0122	5.2100e-003	8.0000e-005		9.9000e-004	9.9000e-004		9.9000e-004	9.9000e-004	0.0000	14.1777	14.1777	2.7000e-004	2.6000e-004	14.2620
Landscaping	4.0200e-003	1.5400e-003	0.1336	1.0000e-005		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	0.2183	0.2183	2.1000e-004	0.0000	0.2236
Total	0.2358	0.0138	0.1388	9.0000e-005		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003	0.0000	14.3960	14.3960	4.8000e-004	2.6000e-004	14.4855

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Annual

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0187					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2117					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.4300e-003	0.0122	5.2100e-003	8.0000e-005		9.9000e-004	9.9000e-004		9.9000e-004	9.9000e-004	0.0000	14.1777	14.1777	2.7000e-004	2.6000e-004	14.2620
Landscaping	4.0200e-003	1.5400e-003	0.1336	1.0000e-005		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	0.2183	0.2183	2.1000e-004	0.0000	0.2236
Total	0.2358	0.0138	0.1388	9.0000e-005		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003	0.0000	14.3960	14.3960	4.8000e-004	2.6000e-004	14.4855

7.0 Water Detail

7.1 Mitigation Measures Water

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Annual

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	4.7953	0.0386	9.5000e-004	6.0423
Unmitigated	4.7953	0.0386	9.5000e-004	6.0423

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0.131063	0.2582	2.0000e-005	0.0000	0.2596
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.17277 / 0.739357	4.5370	0.0386	9.4000e-004	5.7828
Total		4.7952	0.0386	9.4000e-004	6.0423

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Annual

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

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0.131063	0.2582	2.0000e-005	0.0000	0.2596
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.17277 / 0.739357	4.5370	0.0386	9.4000e-004	5.7828
Total		4.7952	0.0386	9.4000e-004	6.0423

8.0 Waste Detail

8.1 Mitigation Measures Waste

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Annual

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

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	4.2466	0.2510	0.0000	10.5207
Unmitigated	4.2466	0.2510	0.0000	10.5207

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.01	2.0300e-003	1.2000e-004	0.0000	5.0300e-003
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	20.91	4.2445	0.2509	0.0000	10.5157
Total		4.2466	0.2510	0.0000	10.5207

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Annual

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

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.01	2.0300e-003	1.2000e-004	0.0000	5.0300e-003
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	20.91	4.2445	0.2509	0.0000	10.5157
Total		4.2466	0.2510	0.0000	10.5207

9.0 Operational Offroad

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

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

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Annual

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

Equipment Type	Number
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11.0 Vegetation

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Summer

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

Air Quality Study - TTM 73344, Lancaster, CA

Antelope Valley APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	0.08	Acre	0.08	3,484.80	0
Other Non-Asphalt Surfaces	0.17	Acre	0.17	7,405.20	0
City Park	0.11	Acre	0.11	4,791.60	0
Single Family Housing	18.00	Dwelling Unit	3.83	54,000.00	51

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	9			Operational Year	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	390.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Information provided by client.

Construction Phase - Schedule adjusted to the start and end date on the data request form. Number of days for grading and paving phases was increased based on input from client.

Grading - Material export for Site Preparation phase provided by client on the data request form.
Material import for Grading phase provided by client on the data request form.

Architectural Coating - VOC limits from AVAQMD Rule 1113. For the building, assumes 90% flat paint (50 g/L) and 10% non-flat (100 g/L). For parking lot coatings, assumed to be compliant with the Traffic Marking Coating category VOC limit of 100 g/L.

Vehicle Trips - All areas modeled as a City Park are within the housing development and no vehicle trips are expected.

Woodstoves - Based on client input on the data request form no woodstoves will be installed and each home will have a gas fireplace.

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Summer

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

Area Coating - VOC limits from AVAQMD Rule 1113. For the building, assumes 90% flat paint (50 g/L) and 10% non-flat (100 g/L). For parking lot coatings, assumed to be compliant with the Traffic Marking Coating category VOC limit of 100 g/L.

Construction Off-road Equipment Mitigation - Assumes that construction site will be watered 3 times per day to be in compliance with AVAQMD Rule 403.

Area Mitigation - -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	55.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	55.00
tblArchitecturalCoating	EF_Parking	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	55.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	55.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	55
tblAreaCoating	Area_EF_Nonresidential_Interior	250	55
tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	55
tblAreaCoating	Area_EF_Residential_Interior	250	55
tblConstructionPhase	NumDays	230.00	155.00
tblConstructionPhase	NumDays	8.00	38.00
tblConstructionPhase	NumDays	18.00	63.00
tblFireplaces	NumberGas	9.90	18.00
tblFireplaces	NumberNoFireplace	1.80	0.00
tblFireplaces	NumberWood	6.30	0.00
tblGrading	MaterialExported	0.00	50.00
tblGrading	MaterialImported	0.00	4,978.00
tblLandUse	LandUseSquareFeet	32,400.00	54,000.00
tblLandUse	LotAcreage	5.84	3.83
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00

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

tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PR_TP	66.00	0.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	WD_TR	0.78	0.00
tblWoodstoves	NumberCatalytic	0.90	0.00
tblWoodstoves	NumberNoncatalytic	0.90	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	2.7290	27.7054	18.9379	0.0402	19.8270	1.2678	21.0948	10.1476	1.1664	11.3140	0.0000	3,961.006 4	3,961.006 4	1.1977	0.1557	4,030.889 7
2024	22.5290	14.8464	18.5619	0.0319	0.1585	0.6758	0.8343	0.0427	0.6393	0.6819	0.0000	3,039.578 1	3,039.578 1	0.6244	0.0147	3,059.554 1
Maximum	22.5290	27.7054	18.9379	0.0402	19.8270	1.2678	21.0948	10.1476	1.1664	11.3140	0.0000	3,961.006 4	3,961.006 4	1.1977	0.1557	4,030.889 7

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	2.7290	27.7054	18.9379	0.0402	7.8355	1.2678	9.1033	3.9850	1.1664	5.1514	0.0000	3,961.006 4	3,961.006 4	1.1977	0.1557	4,030.889 7
2024	22.5290	14.8464	18.5619	0.0319	0.1585	0.6758	0.8343	0.0427	0.6393	0.6819	0.0000	3,039.578 1	3,039.578 1	0.6244	0.0147	3,059.554 1
Maximum	22.5290	27.7054	18.9379	0.0402	7.8355	1.2678	9.1033	3.9850	1.1664	5.1514	0.0000	3,961.006 4	3,961.006 4	1.1977	0.1557	4,030.889 7

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Summer

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	60.00	0.00	54.68	60.48	0.00	51.37	0.00	0.00	0.00	0.00	0.00	0.00

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Summer

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.3419	0.3157	1.6115	1.9800e-003		0.0324	0.0324		0.0324	0.0324	0.0000	383.8505	383.8505	9.8700e-003	6.9900e-003	386.1798
Energy	0.0136	0.1159	0.0493	7.4000e-004		9.3700e-003	9.3700e-003		9.3700e-003	9.3700e-003		147.8993	147.8993	2.8300e-003	2.7100e-003	148.7782
Mobile	0.6247	0.6638	5.4125	0.0106	1.0322	8.1800e-003	1.0404	0.2758	7.6400e-003	0.2834		1,075.9882	1,075.9882	0.0678	0.0484	1,092.1032
Total	1.9802	1.0954	7.0733	0.0133	1.0322	0.0499	1.0821	0.2758	0.0494	0.3252	0.0000	1,607.7380	1,607.7380	0.0805	0.0581	1,627.0611

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	1.3419	0.3157	1.6115	1.9800e-003		0.0324	0.0324		0.0324	0.0324	0.0000	383.8505	383.8505	9.8700e-003	6.9900e-003	386.1798
Energy	0.0136	0.1159	0.0493	7.4000e-004		9.3700e-003	9.3700e-003		9.3700e-003	9.3700e-003		147.8993	147.8993	2.8300e-003	2.7100e-003	148.7782
Mobile	0.6247	0.6638	5.4125	0.0106	1.0322	8.1800e-003	1.0404	0.2758	7.6400e-003	0.2834		1,075.9882	1,075.9882	0.0678	0.0484	1,092.1032
Total	1.9802	1.0954	7.0733	0.0133	1.0322	0.0499	1.0821	0.2758	0.0494	0.3252	0.0000	1,607.7380	1,607.7380	0.0805	0.0581	1,627.0611

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Summer

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

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2023	7/7/2023	5	5	
2	Grading	Grading	7/8/2023	8/30/2023	5	38	
3	Paving	Paving	8/31/2023	11/27/2023	5	63	
4	Building Construction	Building Construction	11/28/2023	7/1/2024	5	155	
5	Architectural Coating	Architectural Coating	6/6/2024	7/1/2024	5	18	

Acres of Grading (Site Preparation Phase): 7.5

Acres of Grading (Grading Phase): 38

Acres of Paving: 0.25

Residential Indoor: 109,350; Residential Outdoor: 36,450; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 653 (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	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Summer

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

Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
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
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	6.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	622.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	13.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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					19.6581	0.0000	19.6581	10.1026	0.0000	10.1026			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.308 1	3,687.308 1	1.1926		3,717.121 9
Total	2.6595	27.5242	18.2443	0.0381	19.6581	1.2660	20.9242	10.1026	1.1647	11.2674		3,687.308 1	3,687.308 1	1.1926		3,717.121 9

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.7900e-003	0.1398	0.0365	6.7000e-004	0.0210	8.7000e-004	0.0219	5.7600e-003	8.3000e-004	6.5900e-003		71.0515	71.0515	4.5000e-004	0.0112	74.3914
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	0.0668	0.0414	0.6571	1.4100e-003	0.1479	9.1000e-004	0.1488	0.0392	8.4000e-004	0.0401		142.9771	142.9771	4.7100e-003	4.0300e-003	144.2963
Total	0.0696	0.1812	0.6936	2.0800e-003	0.1689	1.7800e-003	0.1707	0.0450	1.6700e-003	0.0467		214.0287	214.0287	5.1600e-003	0.0152	218.6877

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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					7.6667	0.0000	7.6667	3.9400	0.0000	3.9400			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.308 1	3,687.308 1	1.1926		3,717.121 9
Total	2.6595	27.5242	18.2443	0.0381	7.6667	1.2660	8.9327	3.9400	1.1647	5.1048	0.0000	3,687.308 1	3,687.308 1	1.1926		3,717.121 9

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.7900e-003	0.1398	0.0365	6.7000e-004	0.0210	8.7000e-004	0.0219	5.7600e-003	8.3000e-004	6.5900e-003		71.0515	71.0515	4.5000e-004	0.0112	74.3914
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	0.0668	0.0414	0.6571	1.4100e-003	0.1479	9.1000e-004	0.1488	0.0392	8.4000e-004	0.0401		142.9771	142.9771	4.7100e-003	4.0300e-003	144.2963
Total	0.0696	0.1812	0.6936	2.0800e-003	0.1689	1.7800e-003	0.1707	0.0450	1.6700e-003	0.0467		214.0287	214.0287	5.1600e-003	0.0152	218.6877

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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					7.0974	0.0000	7.0974	3.4270	0.0000	3.4270			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129		2,872.6910	2,872.6910	0.9291		2,895.9182
Total	1.7109	17.9359	14.7507	0.0297	7.0974	0.7749	7.8723	3.4270	0.7129	4.1399		2,872.6910	2,872.6910	0.9291		2,895.9182

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	0.0380	1.9064	0.4980	9.1400e-003	0.2864	0.0118	0.2983	0.0785	0.0113	0.0898		969.1678	969.1678	6.1300e-003	0.1524	1,014.7246
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	0.0556	0.0345	0.5476	1.1800e-003	0.1232	7.6000e-004	0.1240	0.0327	7.0000e-004	0.0334		119.1476	119.1476	3.9300e-003	3.3600e-003	120.2469
Total	0.0936	1.9409	1.0456	0.0103	0.4097	0.0126	0.4222	0.1112	0.0120	0.1232		1,088.3154	1,088.3154	0.0101	0.1557	1,134.9715

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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					2.7680	0.0000	2.7680	1.3365	0.0000	1.3365			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129	0.0000	2,872.691 0	2,872.691 0	0.9291		2,895.918 2
Total	1.7109	17.9359	14.7507	0.0297	2.7680	0.7749	3.5429	1.3365	0.7129	2.0495	0.0000	2,872.691 0	2,872.691 0	0.9291		2,895.918 2

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	0.0380	1.9064	0.4980	9.1400e-003	0.2864	0.0118	0.2983	0.0785	0.0113	0.0898		969.1678	969.1678	6.1300e-003	0.1524	1,014.724 6
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	0.0556	0.0345	0.5476	1.1800e-003	0.1232	7.6000e-004	0.1240	0.0327	7.0000e-004	0.0334		119.1476	119.1476	3.9300e-003	3.3600e-003	120.2469
Total	0.0936	1.9409	1.0456	0.0103	0.4097	0.0126	0.4222	0.1112	0.0120	0.1232		1,088.315 4	1,088.315 4	0.0101	0.1557	1,134.971 5

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Summer

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

3.4 Paving - 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	0.9181	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025		1,805.4304	1,805.4304	0.5673		1,819.6122
Paving	3.3300e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9214	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025		1,805.4304	1,805.4304	0.5673		1,819.6122

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	0.0742	0.0461	0.7301	1.5700e-003	0.1643	1.0100e-003	0.1653	0.0436	9.3000e-004	0.0445		158.8635	158.8635	5.2300e-003	4.4800e-003	160.3292
Total	0.0742	0.0461	0.7301	1.5700e-003	0.1643	1.0100e-003	0.1653	0.0436	9.3000e-004	0.0445		158.8635	158.8635	5.2300e-003	4.4800e-003	160.3292

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Summer

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

3.4 Paving - 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	0.9181	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025	0.0000	1,805.4304	1,805.4304	0.5673		1,819.6122
Paving	3.3300e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9214	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025	0.0000	1,805.4304	1,805.4304	0.5673		1,819.6122

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	0.0742	0.0461	0.7301	1.5700e-003	0.1643	1.0100e-003	0.1653	0.0436	9.3000e-004	0.0445		158.8635	158.8635	5.2300e-003	4.4800e-003	160.3292
Total	0.0742	0.0461	0.7301	1.5700e-003	0.1643	1.0100e-003	0.1653	0.0436	9.3000e-004	0.0445		158.8635	158.8635	5.2300e-003	4.4800e-003	160.3292

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.7800e-003	0.1541	0.0619	7.6000e-004	0.0271	7.2000e-004	0.0278	7.8000e-003	6.9000e-004	8.4900e-003		80.4339	80.4339	4.7000e-004	0.0116	83.9072
Worker	0.0482	0.0299	0.4746	1.0200e-003	0.1068	6.6000e-004	0.1075	0.0283	6.1000e-004	0.0289		103.2613	103.2613	3.4000e-003	2.9100e-003	104.2140
Total	0.0530	0.1841	0.5364	1.7800e-003	0.1339	1.3800e-003	0.1353	0.0361	1.3000e-003	0.0374		183.6951	183.6951	3.8700e-003	0.0145	188.1212

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.7800e-003	0.1541	0.0619	7.6000e-004	0.0271	7.2000e-004	0.0278	7.8000e-003	6.9000e-004	8.4900e-003		80.4339	80.4339	4.7000e-004	0.0116	83.9072
Worker	0.0482	0.0299	0.4746	1.0200e-003	0.1068	6.6000e-004	0.1075	0.0283	6.1000e-004	0.0289		103.2613	103.2613	3.4000e-003	2.9100e-003	104.2140
Total	0.0530	0.1841	0.5364	1.7800e-003	0.1339	1.3800e-003	0.1353	0.0361	1.3000e-003	0.0374		183.6951	183.6951	3.8700e-003	0.0145	188.1212

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.6900e-003	0.1511	0.0602	7.5000e-004	0.0271	7.8000e-004	0.0279	7.8000e-003	7.5000e-004	8.5500e-003		78.7265	78.7265	4.6000e-004	0.0113	82.1167
Worker	0.0446	0.0266	0.4263	9.9000e-004	0.1068	6.2000e-004	0.1074	0.0283	5.7000e-004	0.0289		100.5100	100.5100	3.0500e-003	2.6900e-003	101.3882
Total	0.0493	0.1777	0.4866	1.7400e-003	0.1339	1.4000e-003	0.1353	0.0361	1.3200e-003	0.0375		179.2365	179.2365	3.5100e-003	0.0140	183.5049

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.6900e-003	0.1511	0.0602	7.5000e-004	0.0271	7.8000e-004	0.0279	7.8000e-003	7.5000e-004	8.5500e-003		78.7265	78.7265	4.6000e-004	0.0113	82.1167
Worker	0.0446	0.0266	0.4263	9.9000e-004	0.1068	6.2000e-004	0.1074	0.0283	5.7000e-004	0.0289		100.5100	100.5100	3.0500e-003	2.6900e-003	101.3882
Total	0.0493	0.1777	0.4866	1.7400e-003	0.1339	1.4000e-003	0.1353	0.0361	1.3200e-003	0.0375		179.2365	179.2365	3.5100e-003	0.0140	183.5049

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Summer

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

3.6 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	20.8171					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
Total	20.9978	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443

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	0.0103	6.1400e-003	0.0984	2.3000e-004	0.0246	1.4000e-004	0.0248	6.5400e-003	1.3000e-004	6.6700e-003		23.1946	23.1946	7.0000e-004	6.2000e-004	23.3973
Total	0.0103	6.1400e-003	0.0984	2.3000e-004	0.0246	1.4000e-004	0.0248	6.5400e-003	1.3000e-004	6.6700e-003		23.1946	23.1946	7.0000e-004	6.2000e-004	23.3973

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Summer

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

3.6 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	20.8171					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
Total	20.9978	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

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	0.0103	6.1400e-003	0.0984	2.3000e-004	0.0246	1.4000e-004	0.0248	6.5400e-003	1.3000e-004	6.6700e-003		23.1946	23.1946	7.0000e-004	6.2000e-004	23.3973
Total	0.0103	6.1400e-003	0.0984	2.3000e-004	0.0246	1.4000e-004	0.0248	6.5400e-003	1.3000e-004	6.6700e-003		23.1946	23.1946	7.0000e-004	6.2000e-004	23.3973

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Summer

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.6247	0.6638	5.4125	0.0106	1.0322	8.1800e-003	1.0404	0.2758	7.6400e-003	0.2834		1,075.9882	1,075.9882	0.0678	0.0484	1,092.1032
Unmitigated	0.6247	0.6638	5.4125	0.0106	1.0322	8.1800e-003	1.0404	0.2758	7.6400e-003	0.2834		1,075.9882	1,075.9882	0.0678	0.0484	1,092.1032

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	169.92	171.72	153.90	476,824	476,824
Total	169.92	171.72	153.90	476,824	476,824

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
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Summer

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

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
Single Family Housing	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.592914	0.051978	0.143358	0.118868	0.026746	0.007323	0.011582	0.009144	0.000678	0.000495	0.027881	0.002501	0.006531
Other Asphalt Surfaces	0.592914	0.051978	0.143358	0.118868	0.026746	0.007323	0.011582	0.009144	0.000678	0.000495	0.027881	0.002501	0.006531
Other Non-Asphalt Surfaces	0.592914	0.051978	0.143358	0.118868	0.026746	0.007323	0.011582	0.009144	0.000678	0.000495	0.027881	0.002501	0.006531
Single Family Housing	0.592914	0.051978	0.143358	0.118868	0.026746	0.007323	0.011582	0.009144	0.000678	0.000495	0.027881	0.002501	0.006531

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
NaturalGas Mitigated	0.0136	0.1159	0.0493	7.4000e-004		9.3700e-003	9.3700e-003		9.3700e-003	9.3700e-003		147.8993	147.8993	2.8300e-003	2.7100e-003	148.7782
NaturalGas Unmitigated	0.0136	0.1159	0.0493	7.4000e-004		9.3700e-003	9.3700e-003		9.3700e-003	9.3700e-003		147.8993	147.8993	2.8300e-003	2.7100e-003	148.7782

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Summer

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

5.2 Energy by Land Use - NaturalGas

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					
City Park	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
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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
Single Family Housing	1257.14	0.0136	0.1159	0.0493	7.4000e-004		9.3700e-003	9.3700e-003		9.3700e-003	9.3700e-003		147.8993	147.8993	2.8300e-003	2.7100e-003	148.7782
Total		0.0136	0.1159	0.0493	7.4000e-004		9.3700e-003	9.3700e-003		9.3700e-003	9.3700e-003		147.8993	147.8993	2.8300e-003	2.7100e-003	148.7782

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Summer

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

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	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
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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
Single Family Housing	1.25714	0.0136	0.1159	0.0493	7.4000e-004		9.3700e-003	9.3700e-003		9.3700e-003	9.3700e-003		147.8993	147.8993	2.8300e-003	2.7100e-003	148.7782
Total		0.0136	0.1159	0.0493	7.4000e-004		9.3700e-003	9.3700e-003		9.3700e-003	9.3700e-003		147.8993	147.8993	2.8300e-003	2.7100e-003	148.7782

6.0 Area Detail

6.1 Mitigation Measures Area

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Summer

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.3419	0.3157	1.6115	1.9800e-003		0.0324	0.0324		0.0324	0.0324	0.0000	383.8505	383.8505	9.8700e-003	6.9900e-003	386.1798
Unmitigated	1.3419	0.3157	1.6115	1.9800e-003		0.0324	0.0324		0.0324	0.0324	0.0000	383.8505	383.8505	9.8700e-003	6.9900e-003	386.1798

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	0.1027					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.1597					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0349	0.2986	0.1271	1.9100e-003		0.0241	0.0241		0.0241	0.0241	0.0000	381.1765	381.1765	7.3100e-003	6.9900e-003	383.4416
Landscaping	0.0446	0.0171	1.4844	8.0000e-005		8.2300e-003	8.2300e-003		8.2300e-003	8.2300e-003		2.6740	2.6740	2.5700e-003		2.7382
Total	1.3419	0.3157	1.6115	1.9900e-003		0.0324	0.0324		0.0324	0.0324	0.0000	383.8505	383.8505	9.8800e-003	6.9900e-003	386.1798

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Summer

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1027					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.1597					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0349	0.2986	0.1271	1.9100e-003		0.0241	0.0241		0.0241	0.0241	0.0000	381.1765	381.1765	7.3100e-003	6.9900e-003	383.4416
Landscaping	0.0446	0.0171	1.4844	8.0000e-005		8.2300e-003	8.2300e-003		8.2300e-003	8.2300e-003		2.6740	2.6740	2.5700e-003		2.7382
Total	1.3419	0.3157	1.6115	1.9900e-003		0.0324	0.0324		0.0324	0.0324	0.0000	383.8505	383.8505	9.8800e-003	6.9900e-003	386.1798

7.0 Water Detail

7.1 Mitigation Measures Water

Air Quality Study - TTM 73344, Lancaster, CA - Antelope Valley APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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
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10.0 Stationary Equipment

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
