



Date: December 21, 2021
To: Mr. Fred Matian
From: M. S. Hatch Consulting, LLC
Subject: Air Quality Study – Tentative Tract Map (TTM) 83553 Housing Development – Avenue L and 52nd Street West, 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) 83553 for Civil Design and Drafting, Inc (Civil Design). The project consists of 28 single family homes on approximately 10 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 (2024)	0.29	2.58	2.96	0.01	0.28	0.16	511
Year 2 Construction Emissions (2025)	0.45	1.74	2.35	< 0.01	0.14	0.08	391
Total Operational Emissions	0.45	0.23	1.49	< 0.01	0.29	0.08	366
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 (2024)	3.29	32.42	28.38	0.06	9.04	5.11	6,214
Year 2 Construction Emissions (2025)	25.59	13.24	17.84	0.03	1.06	0.64	3,303
Total Operational Emissions	2.70	1.57	10.14	0.02	1.68	0.50	2,423
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 28 single family homes and residential streets on approximately 10 acres. The project location is currently a vacant lot located northwest of the intersection of West Avenue L and 52nd 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

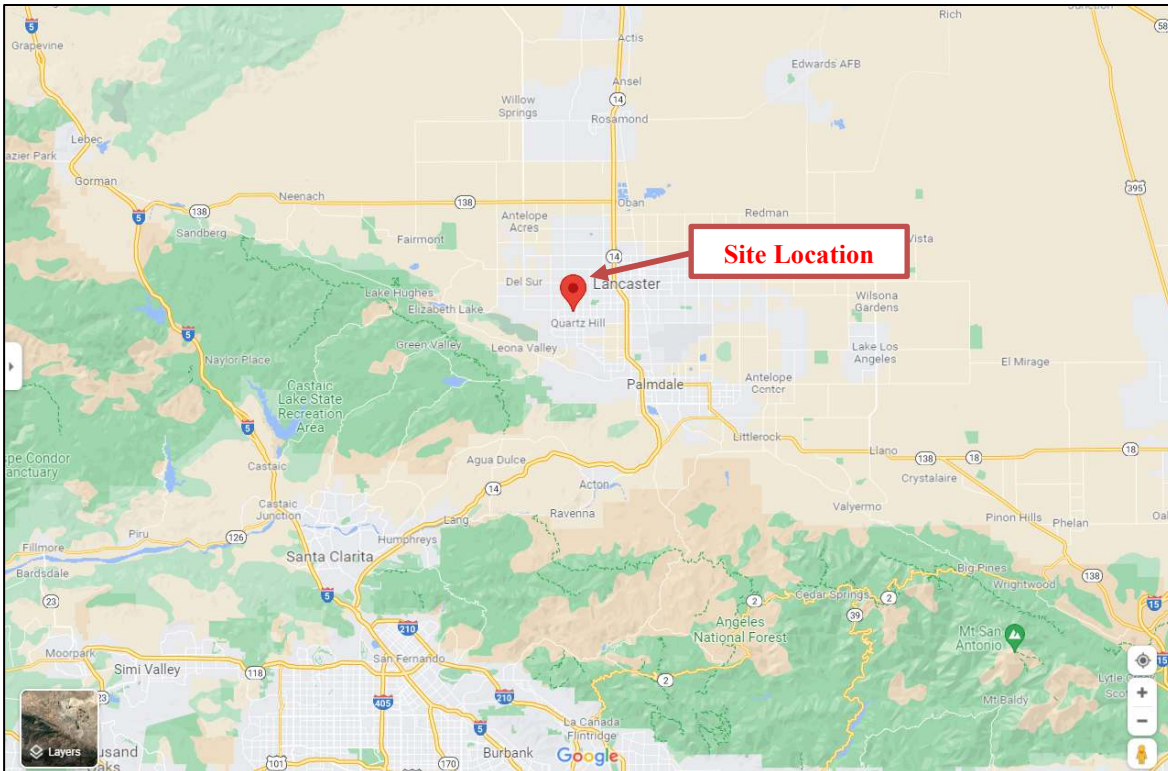


Figure 2. Site Plan – Proposed Housing Development - TTM 83553, Lancaster, CA



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, building construction, paving, 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 (2024)	0.29	2.58	2.96	0.01	0.28	0.16	511
Year 2 Construction Emissions (2025)	0.45	1.74	2.35	< 0.01	0.14	0.08	391
Operational Emissions							
Area Sources	0.31	0.02	0.22	< 0.01	< 0.01	< 0.01	23
Energy	< 0.01	0.03	0.01	< 0.01	< 0.01	< 0.01	78
Mobile	0.13	0.18	1.26	< 0.01	0.28	0.08	240
Waste	N/A	N/A	N/A	N/A	0.00	0.00	16
Water	N/A	N/A	N/A	N/A	0.00	0.00	9
Total Operational Emissions	0.45	0.23	1.49	< 0.01	0.29	0.08	366
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 (2024)	3.29	32.42	28.38	0.06	9.04	5.11	6,214
Year 2 Construction Emissions (2025)	25.59	13.24	17.84	0.03	1.06	0.64	3,303
Operational Emissions							
Area Sources	1.79	0.49	2.51	< 0.01	0.05	0.05	601
Energy	0.02	0.18	0.08	< 0.01	0.01	0.01	231
Mobile	0.89	0.90	7.56	0.02	1.62	0.44	1,591
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	2.70	1.57	10.14	0.02	1.68	0.50	2,423
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, 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 (70,000 square feet) was calculated based on the number of homes (28) and the average square footage per home (2,500 square feet) provided by Civil Design. The residential acreage (7.9 acres) was provided by Civil Design.

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 (1.1 acres) was provided by Civil Design.

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 (1.04 acres) was provided by Civil Design.

Construction Emissions

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

Table 5 provides the anticipated construction schedule. Civil Design provided the proposed start date (1/1/2024) and end date for the project (12/1/2025) and indicated that work would be conducted six days per week. Apart from the *Building Construction* phase, all phase durations are based on CalEEMod default values. The *Building Construction* phase was extended to complete the project by the anticipated end date.

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 from Civil Design, this project will not require any import or export during the *Site Preparation* or *Grading* phases. 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 1113.²

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	1/1/2024	1/11/2024	6	10
Grading	1/12/2024	2/15/2024	6	30
Building Construction	2/16/2024	10/15/2025	6	521
Paving	10/16/2025	11/7/2025	6	20
Architectural Coating	11/8/2025	12/1/2025	6	20

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	2	8	158
	Graders	1	8	187
	Rubber Tired Dozers	1	8	247
	Scrapers	2	8	367
	Tractors/Loaders/Backhoes	2	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
Paving	Pavers	2	8	130
	Paving Equipment	2	8	132
	Rollers	2	8	80
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).

² 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.

For area-source emissions, it was determined that woodstoves would not be installed, and natural gas fireplaces would be installed.³ 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 1113.⁴ All other operational emissions sources were calculated using CalEEMod default factors.

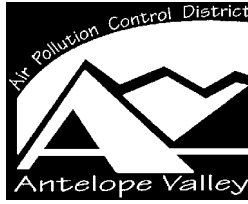
Findings

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.

³ Civil Design confirmed via data request form that woodstoves would not be installed. Based on Civil Design's phone call on 12/6/2021, it was assumed that each home would have a natural gas fireplace.

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.

**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

Table of Contents

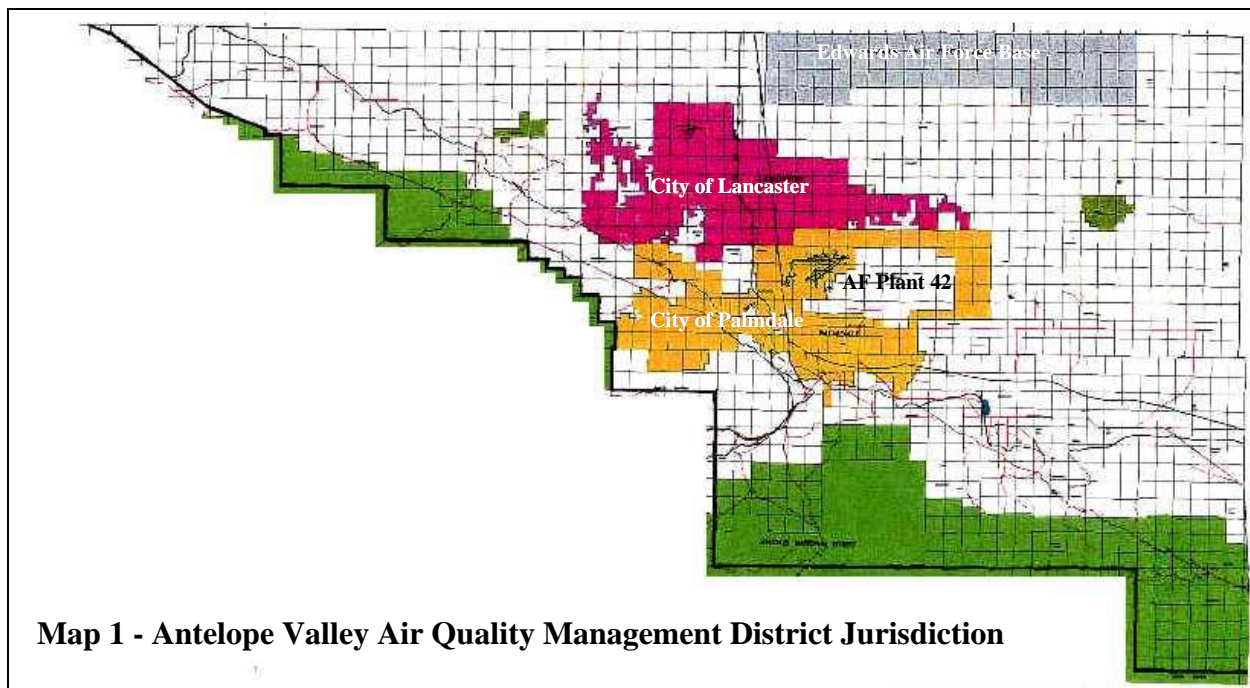
Background.....	1
Recommended Environmental Setting Elements.....	3
Recommended Impacts Discussion Elements	5
Recommended Substantiation Discussion Elements	6
Significance Thresholds.....	6
District Contacts.....	7
Appendix A – Basic Definitions of Major Air Pollutants	8

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 83553 Housing Development, 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 83553 Housing Development, 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
Single Family Housing	28.00	Dwelling Unit	7.90	70,000.00	80
Other Asphalt Surfaces	1.10	Acre	1.10	47,916.00	0
Other Non-Asphalt Surfaces	1.04	Acre	1.04	45,302.40	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	9			Operational Year	2026
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 provided on 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.

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

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 - -

Air Quality Study - TTM 83553 Housing Development, 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

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	300.00	521.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	PhaseEndDate	6/13/2025	12/1/2025
tblConstructionPhase	PhaseEndDate	4/18/2025	10/15/2025
tblConstructionPhase	PhaseEndDate	2/23/2024	2/15/2024
tblConstructionPhase	PhaseEndDate	5/16/2025	11/7/2025
tblConstructionPhase	PhaseEndDate	1/12/2024	1/11/2024
tblConstructionPhase	PhaseStartDate	5/17/2025	11/8/2025
tblConstructionPhase	PhaseStartDate	2/24/2024	2/16/2024
tblConstructionPhase	PhaseStartDate	1/13/2024	1/12/2024
tblConstructionPhase	PhaseStartDate	4/19/2025	10/16/2025
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberGas	15.40	28.00
tblFireplaces	NumberNoFireplace	2.80	0.00

Air Quality Study - TTM 83553 Housing Development, 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

tblFireplaces	NumberWood	9.80	0.00
tblLandUse	LandUseSquareFeet	50,400.00	70,000.00
tblLandUse	LotAcreage	9.09	7.90
tblWoodstoves	NumberCatalytic	1.40	0.00
tblWoodstoves	NumberNoncatalytic	1.40	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

Air Quality Study - TTM 83553 Housing Development, 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					
2024	0.2865	2.5777	2.9611	5.7700e-003	0.3100	0.1110	0.4210	0.1253	0.1039	0.2292	0.0000	505.9069	505.9069	0.1088	7.7900e-003	510.9473
2025	0.4544	1.7382	2.3489	4.4200e-003	0.0656	0.0706	0.1361	0.0178	0.0663	0.0841	0.0000	387.1009	387.1009	0.0754	6.7800e-003	391.0075
Maximum	0.4544	2.5777	2.9611	5.7700e-003	0.3100	0.1110	0.4210	0.1253	0.1039	0.2292	0.0000	505.9069	505.9069	0.1088	7.7900e-003	510.9473

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					
2024	0.2865	2.5777	2.9611	5.7700e-003	0.1658	0.1110	0.2768	0.0610	0.1039	0.1649	0.0000	505.9064	505.9064	0.1088	7.7900e-003	510.9468
2025	0.4544	1.7382	2.3489	4.4200e-003	0.0656	0.0706	0.1361	0.0178	0.0663	0.0841	0.0000	387.1006	387.1006	0.0754	6.7800e-003	391.0071
Maximum	0.4544	2.5777	2.9611	5.7700e-003	0.1658	0.1110	0.2768	0.0610	0.1039	0.1649	0.0000	505.9064	505.9064	0.1088	7.7900e-003	510.9468

Air Quality Study - TTM 83553 Housing Development, 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
Percent Reduction	0.00	0.00	0.00	0.00	38.39	0.00	25.88	44.92	0.00	20.51	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2024	3-31-2024	0.9835	0.9835
2	4-1-2024	6-30-2024	0.6195	0.6195
3	7-1-2024	9-30-2024	0.6263	0.6263
4	10-1-2024	12-31-2024	0.6274	0.6274
5	1-1-2025	3-31-2025	0.5712	0.5712
6	4-1-2025	6-30-2025	0.5764	0.5764
7	7-1-2025	9-30-2025	0.5828	0.5828
		Highest	0.9835	0.9835

Air Quality Study - TTM 83553 Housing Development, 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

2.2 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	0.3133	0.0214	0.2158	1.3000e-004		2.6900e-003	2.6900e-003		2.6900e-003	2.6900e-003	0.0000	22.3938	22.3938	7.5000e-004	4.0000e-004	22.5330
Energy	3.8500e-003	0.0329	0.0140	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003	0.0000	77.1099	77.1099	4.0200e-003	1.1000e-003	77.5376
Mobile	0.1315	0.1750	1.2626	2.5600e-003	0.2801	2.0700e-003	0.2821	0.0749	1.9300e-003	0.0769	0.0000	236.0491	236.0491	0.0162	0.0117	239.9497
Waste						0.0000	0.0000		0.0000	0.0000	6.6581	0.0000	6.6581	0.3935	0.0000	16.4952
Water						0.0000	0.0000		0.0000	0.0000	0.5788	6.4788	7.0576	0.0600	1.4700e-003	8.9954
Total	0.4486	0.2294	1.4925	2.9000e-003	0.2801	7.4200e-003	0.2875	0.0749	7.2800e-003	0.0822	7.2369	342.0316	349.2685	0.4745	0.0147	365.5109

Air Quality Study - TTM 83553 Housing Development, 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

2.2 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	0.3133	0.0214	0.2158	1.3000e-004		2.6900e-003	2.6900e-003		2.6900e-003	2.6900e-003	0.0000	22.3938	22.3938	7.5000e-004	4.0000e-004	22.5330
Energy	3.8500e-003	0.0329	0.0140	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003	0.0000	77.1099	77.1099	4.0200e-003	1.1000e-003	77.5376
Mobile	0.1315	0.1750	1.2626	2.5600e-003	0.2801	2.0700e-003	0.2821	0.0749	1.9300e-003	0.0769	0.0000	236.0491	236.0491	0.0162	0.0117	239.9497
Waste						0.0000	0.0000		0.0000	0.0000	6.6581	0.0000	6.6581	0.3935	0.0000	16.4952
Water						0.0000	0.0000		0.0000	0.0000	0.5788	6.4788	7.0576	0.0600	1.4700e-003	8.9954
Total	0.4486	0.2294	1.4925	2.9000e-003	0.2801	7.4200e-003	0.2875	0.0749	7.2800e-003	0.0822	7.2369	342.0316	349.2685	0.4745	0.0147	365.5109

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2024	1/11/2024	6	10	
2	Grading	Grading	1/12/2024	2/15/2024	6	30	
3	Building Construction	Building Construction	2/16/2024	10/15/2025	6	521	

Air Quality Study - TTM 83553 Housing Development, 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

4	Paving	Paving	10/16/2025	11/7/2025	6	20
5	Architectural Coating	Architectural Coating	11/8/2025	12/1/2025	6	20

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 90

Acres of Paving: 2.14

Residential Indoor: 141,750; Residential Outdoor: 47,250; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 5,593 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	7.00	231	0.29
Grading	Excavators	2	8.00	158	0.38
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Air Quality Study - TTM 83553 Housing Development, 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

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	49.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	10.00	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 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1359	0.0917	1.9000e-004		6.1500e-003	6.1500e-003		5.6600e-003	5.6600e-003	0.0000	16.7285	16.7285	5.4100e-003	0.0000	16.8638
Total	0.0133	0.1359	0.0917	1.9000e-004	0.0983	6.1500e-003	0.1044	0.0505	5.6600e-003	0.0562	0.0000	16.7285	16.7285	5.4100e-003	0.0000	16.8638

Air Quality Study - TTM 83553 Housing Development, 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

3.2 Site Preparation - 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	2.6000e-004	2.1000e-004	2.5500e-003	1.0000e-005	7.2000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.5789	0.5789	2.0000e-005	2.0000e-005	0.5848
Total	2.6000e-004	2.1000e-004	2.5500e-003	1.0000e-005	7.2000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.5789	0.5789	2.0000e-005	2.0000e-005	0.5848

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					0.0383	0.0000	0.0383	0.0197	0.0000	0.0197	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1359	0.0917	1.9000e-004		6.1500e-003	6.1500e-003		5.6500e-003	5.6500e-003	0.0000	16.7285	16.7285	5.4100e-003	0.0000	16.8638
Total	0.0133	0.1359	0.0917	1.9000e-004	0.0383	6.1500e-003	0.0445	0.0197	5.6500e-003	0.0254	0.0000	16.7285	16.7285	5.4100e-003	0.0000	16.8638

Air Quality Study - TTM 83553 Housing Development, 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

3.2 Site Preparation - 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	2.6000e-004	2.1000e-004	2.5500e-003	1.0000e-005	7.2000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.5789	0.5789	2.0000e-005	2.0000e-005	0.5848
Total	2.6000e-004	2.1000e-004	2.5500e-003	1.0000e-005	7.2000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.5789	0.5789	2.0000e-005	2.0000e-005	0.5848

3.3 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1381	0.0000	0.1381	0.0548	0.0000	0.0548	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0483	0.4857	0.4158	9.3000e-004		0.0200	0.0200		0.0184	0.0184	0.0000	81.7793	81.7793	0.0265	0.0000	82.4405
Total	0.0483	0.4857	0.4158	9.3000e-004	0.1381	0.0200	0.1581	0.0548	0.0184	0.0732	0.0000	81.7793	81.7793	0.0265	0.0000	82.4405

Air Quality Study - TTM 83553 Housing Development, 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

3.3 Grading - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.7000e-004	6.8000e-004	8.4900e-003	2.0000e-005	2.4200e-003	1.0000e-005	2.4300e-003	6.4000e-004	1.0000e-005	6.5000e-004	0.0000	1.9296	1.9296	7.0000e-005	6.0000e-005	1.9492
Total	8.7000e-004	6.8000e-004	8.4900e-003	2.0000e-005	2.4200e-003	1.0000e-005	2.4300e-003	6.4000e-004	1.0000e-005	6.5000e-004	0.0000	1.9296	1.9296	7.0000e-005	6.0000e-005	1.9492

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					0.0538	0.0000	0.0538	0.0214	0.0000	0.0214	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0483	0.4857	0.4158	9.3000e-004		0.0200	0.0200		0.0184	0.0184	0.0000	81.7792	81.7792	0.0265	0.0000	82.4404
Total	0.0483	0.4857	0.4158	9.3000e-004	0.0538	0.0200	0.0739	0.0214	0.0184	0.0398	0.0000	81.7792	81.7792	0.0265	0.0000	82.4404

Air Quality Study - TTM 83553 Housing Development, 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

3.3 Grading - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.7000e-004	6.8000e-004	8.4900e-003	2.0000e-005	2.4200e-003	1.0000e-005	2.4300e-003	6.4000e-004	1.0000e-005	6.5000e-004	0.0000	1.9296	1.9296	7.0000e-005	6.0000e-005	1.9492
Total	8.7000e-004	6.8000e-004	8.4900e-003	2.0000e-005	2.4200e-003	1.0000e-005	2.4300e-003	6.4000e-004	1.0000e-005	6.5000e-004	0.0000	1.9296	1.9296	7.0000e-005	6.0000e-005	1.9492

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2016	1.8418	2.2149	3.6900e-003		0.0840	0.0840		0.0790	0.0790	0.0000	317.6333	317.6333	0.0751	0.0000	319.5111
Total	0.2016	1.8418	2.2149	3.6900e-003		0.0840	0.0840		0.0790	0.0790	0.0000	317.6333	317.6333	0.0751	0.0000	319.5111

Air Quality Study - TTM 83553 Housing Development, 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

3.4 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7700e-003	0.0982	0.0376	4.6000e-004	0.0164	4.8000e-004	0.0169	4.7400e-003	4.6000e-004	5.2100e-003	0.0000	44.0804	44.0804	2.5000e-004	6.3500e-003	45.9804
Worker	0.0194	0.0153	0.1900	4.7000e-004	0.0541	3.2000e-004	0.0544	0.0144	3.0000e-004	0.0147	0.0000	43.1770	43.1770	1.4800e-003	1.3500e-003	43.6176
Total	0.0221	0.1135	0.2276	9.3000e-004	0.0705	8.0000e-004	0.0713	0.0191	7.6000e-004	0.0199	0.0000	87.2574	87.2574	1.7300e-003	7.7000e-003	89.5980

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	0.2016	1.8418	2.2149	3.6900e-003		0.0840	0.0840		0.0790	0.0790	0.0000	317.6329	317.6329	0.0751	0.0000	319.5107
Total	0.2016	1.8418	2.2149	3.6900e-003		0.0840	0.0840		0.0790	0.0790	0.0000	317.6329	317.6329	0.0751	0.0000	319.5107

Air Quality Study - TTM 83553 Housing Development, 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

3.4 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7700e-003	0.0982	0.0376	4.6000e-004	0.0164	4.8000e-004	0.0169	4.7400e-003	4.6000e-004	5.2100e-003	0.0000	44.0804	44.0804	2.5000e-004	6.3500e-003	45.9804
Worker	0.0194	0.0153	0.1900	4.7000e-004	0.0541	3.2000e-004	0.0544	0.0144	3.0000e-004	0.0147	0.0000	43.1770	43.1770	1.4800e-003	1.3500e-003	43.6176
Total	0.0221	0.1135	0.2276	9.3000e-004	0.0705	8.0000e-004	0.0713	0.0191	7.6000e-004	0.0199	0.0000	87.2574	87.2574	1.7300e-003	7.7000e-003	89.5980

3.4 Building Construction - 2025

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	0.1689	1.5400	1.9865	3.3300e-003		0.0652	0.0652		0.0613	0.0613	0.0000	286.4205	286.4205	0.0673	0.0000	288.1037
Total	0.1689	1.5400	1.9865	3.3300e-003		0.0652	0.0652		0.0613	0.0613	0.0000	286.4205	286.4205	0.0673	0.0000	288.1037

Air Quality Study - TTM 83553 Housing Development, 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

3.4 Building Construction - 2025

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	2.4600e-003	0.0880	0.0334	4.1000e-004	0.0148	4.3000e-004	0.0153	4.2800e-003	4.2000e-004	4.6900e-003	0.0000	38.9295	38.9295	2.2000e-004	5.6000e-003	40.6035
Worker	0.0162	0.0124	0.1586	4.1000e-004	0.0487	2.8000e-004	0.0490	0.0130	2.5000e-004	0.0132	0.0000	37.6241	37.6241	1.2100e-003	1.1400e-003	37.9928
Total	0.0187	0.1004	0.1920	8.2000e-004	0.0636	7.1000e-004	0.0643	0.0172	6.7000e-004	0.0179	0.0000	76.5536	76.5536	1.4300e-003	6.7400e-003	78.5964

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	0.1689	1.5400	1.9865	3.3300e-003		0.0652	0.0652		0.0613	0.0613	0.0000	286.4202	286.4202	0.0673	0.0000	288.1034
Total	0.1689	1.5400	1.9865	3.3300e-003		0.0652	0.0652		0.0613	0.0613	0.0000	286.4202	286.4202	0.0673	0.0000	288.1034

Air Quality Study - TTM 83553 Housing Development, 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

3.4 Building Construction - 2025

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	2.4600e-003	0.0880	0.0334	4.1000e-004	0.0148	4.3000e-004	0.0153	4.2800e-003	4.2000e-004	4.6900e-003	0.0000	38.9295	38.9295	2.2000e-004	5.6000e-003	40.6035
Worker	0.0162	0.0124	0.1586	4.1000e-004	0.0487	2.8000e-004	0.0490	0.0130	2.5000e-004	0.0132	0.0000	37.6241	37.6241	1.2100e-003	1.1400e-003	37.9928
Total	0.0187	0.1004	0.1920	8.2000e-004	0.0636	7.1000e-004	0.0643	0.0172	6.7000e-004	0.0179	0.0000	76.5536	76.5536	1.4300e-003	6.7400e-003	78.5964

3.5 Paving - 2025

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	9.1500e-003	0.0858	0.1458	2.3000e-004		4.1900e-003	4.1900e-003		3.8500e-003	3.8500e-003	0.0000	20.0193	20.0193	6.4700e-003	0.0000	20.1811
Paving	1.4400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0106	0.0858	0.1458	2.3000e-004		4.1900e-003	4.1900e-003		3.8500e-003	3.8500e-003	0.0000	20.0193	20.0193	6.4700e-003	0.0000	20.1811

Air Quality Study - TTM 83553 Housing Development, 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

3.5 Paving - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	3.1000e-004	3.9300e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9326	0.9326	3.0000e-005	3.0000e-005	0.9417
Total	4.0000e-004	3.1000e-004	3.9300e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9326	0.9326	3.0000e-005	3.0000e-005	0.9417

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	9.1500e-003	0.0858	0.1458	2.3000e-004		4.1900e-003	4.1900e-003		3.8500e-003	3.8500e-003	0.0000	20.0192	20.0192	6.4700e-003	0.0000	20.1811
Paving	1.4400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0106	0.0858	0.1458	2.3000e-004		4.1900e-003	4.1900e-003		3.8500e-003	3.8500e-003	0.0000	20.0192	20.0192	6.4700e-003	0.0000	20.1811

Air Quality Study - TTM 83553 Housing Development, 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

3.5 Paving - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	3.1000e-004	3.9300e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9326	0.9326	3.0000e-005	3.0000e-005	0.9417
Total	4.0000e-004	3.1000e-004	3.9300e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9326	0.9326	3.0000e-005	3.0000e-005	0.9417

3.6 Architectural Coating - 2025

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	0.2539					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0115	0.0181	3.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5567
Total	0.2556	0.0115	0.0181	3.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5567

Air Quality Study - TTM 83553 Housing Development, 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

3.6 Architectural Coating - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	2.0000e-004	2.6200e-003	1.0000e-005	8.1000e-004	0.0000	8.1000e-004	2.1000e-004	0.0000	2.2000e-004	0.0000	0.6217	0.6217	2.0000e-005	2.0000e-005	0.6278
Total	2.7000e-004	2.0000e-004	2.6200e-003	1.0000e-005	8.1000e-004	0.0000	8.1000e-004	2.1000e-004	0.0000	2.2000e-004	0.0000	0.6217	0.6217	2.0000e-005	2.0000e-005	0.6278

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	0.2539					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0115	0.0181	3.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5567
Total	0.2556	0.0115	0.0181	3.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5567

Air Quality Study - TTM 83553 Housing Development, 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

3.6 Architectural Coating - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	2.0000e-004	2.6200e-003	1.0000e-005	8.1000e-004	0.0000	8.1000e-004	2.1000e-004	0.0000	2.2000e-004	0.0000	0.6217	0.6217	2.0000e-005	2.0000e-005	0.6278
Total	2.7000e-004	2.0000e-004	2.6200e-003	1.0000e-005	8.1000e-004	0.0000	8.1000e-004	2.1000e-004	0.0000	2.2000e-004	0.0000	0.6217	0.6217	2.0000e-005	2.0000e-005	0.6278

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Air Quality Study - TTM 83553 Housing Development, 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	0.1315	0.1750	1.2626	2.5600e-003	0.2801	2.0700e-003	0.2821	0.0749	1.9300e-003	0.0769	0.0000	236.0491	236.0491	0.0162	0.0117	239.9497
Unmitigated	0.1315	0.1750	1.2626	2.5600e-003	0.2801	2.0700e-003	0.2821	0.0749	1.9300e-003	0.0769	0.0000	236.0491	236.0491	0.0162	0.0117	239.9497

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	264.32	267.12	239.40	741,726	741,726
Total	264.32	267.12	239.40	741,726	741,726

4.3 Trip Type Information

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

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.603377	0.051886	0.141906	0.112313	0.025216	0.007131	0.012268	0.009274	0.000704	0.000491	0.027212	0.002387	0.005833
Other Non-Asphalt Surfaces	0.603377	0.051886	0.141906	0.112313	0.025216	0.007131	0.012268	0.009274	0.000704	0.000491	0.027212	0.002387	0.005833

Air Quality Study - TTM 83553 Housing Development, 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

Single Family Housing	0.603377	0.051886	0.141906	0.112313	0.025216	0.007131	0.012268	0.009274	0.000704	0.000491	0.027212	0.002387	0.005833
-----------------------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------

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	39.0200	39.0200	3.2900e-003	4.0000e-004	39.2213
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	39.0200	39.0200	3.2900e-003	4.0000e-004	39.2213
Natural Gas Mitigated	3.8500e-003	0.0329	0.0140	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003	0.0000	38.0899	38.0899	7.3000e-004	7.0000e-004	38.3163
Natural Gas Unmitigated	3.8500e-003	0.0329	0.0140	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003	0.0000	38.0899	38.0899	7.3000e-004	7.0000e-004	38.3163

Air Quality Study - TTM 83553 Housing Development, 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					
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	713778	3.8500e-003	0.0329	0.0140	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003	0.0000	38.0899	38.0899	7.3000e-004	7.0000e-004	38.3163
Total		3.8500e-003	0.0329	0.0140	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003	0.0000	38.0899	38.0899	7.3000e-004	7.0000e-004	38.3163

Air Quality Study - TTM 83553 Housing Development, 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					
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	713778	3.8500e-003	0.0329	0.0140	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003	0.0000	38.0899	38.0899	7.3000e-004	7.0000e-004	38.3163
Total		3.8500e-003	0.0329	0.0140	2.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003	0.0000	38.0899	38.0899	7.3000e-004	7.0000e-004	38.3163

Air Quality Study - TTM 83553 Housing Development, 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			
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	220022	39.0200	3.2900e-003	4.0000e-004	39.2213
Total		39.0200	3.2900e-003	4.0000e-004	39.2213

Air Quality Study - TTM 83553 Housing Development, 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			
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	220022	39.0200	3.2900e-003	4.0000e-004	39.2213
Total		39.0200	3.2900e-003	4.0000e-004	39.2213

6.0 Area Detail

6.1 Mitigation Measures Area

Air Quality Study - TTM 83553 Housing Development, 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	0.3133	0.0214	0.2158	1.3000e-004		2.6900e-003	2.6900e-003		2.6900e-003	2.6900e-003	0.0000	22.3938	22.3938	7.5000e-004	4.0000e-004	22.5330
Unmitigated	0.3133	0.0214	0.2158	1.3000e-004		2.6900e-003	2.6900e-003		2.6900e-003	2.6900e-003	0.0000	22.3938	22.3938	7.5000e-004	4.0000e-004	22.5330

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	0.0254					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2794					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.2300e-003	0.0190	8.1000e-003	1.2000e-004		1.5400e-003	1.5400e-003		1.5400e-003	1.5400e-003	0.0000	22.0542	22.0542	4.2000e-004	4.0000e-004	22.1853
Landscaping	6.2400e-003	2.3900e-003	0.2077	1.0000e-005		1.1500e-003	1.1500e-003		1.1500e-003	1.1500e-003	0.0000	0.3396	0.3396	3.3000e-004	0.0000	0.3478
Total	0.3133	0.0214	0.2158	1.3000e-004		2.6900e-003	2.6900e-003		2.6900e-003	2.6900e-003	0.0000	22.3938	22.3938	7.5000e-004	4.0000e-004	22.5330

Air Quality Study - TTM 83553 Housing Development, 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	0.0254					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2794					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.2300e-003	0.0190	8.1000e-003	1.2000e-004		1.5400e-003	1.5400e-003		1.5400e-003	1.5400e-003	0.0000	22.0542	22.0542	4.2000e-004	4.0000e-004	22.1853
Landscaping	6.2400e-003	2.3900e-003	0.2077	1.0000e-005		1.1500e-003	1.1500e-003		1.1500e-003	1.1500e-003	0.0000	0.3396	0.3396	3.3000e-004	0.0000	0.3478
Total	0.3133	0.0214	0.2158	1.3000e-004		2.6900e-003	2.6900e-003		2.6900e-003	2.6900e-003	0.0000	22.3938	22.3938	7.5000e-004	4.0000e-004	22.5330

7.0 Water Detail

7.1 Mitigation Measures Water

Air Quality Study - TTM 83553 Housing Development, 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	7.0576	0.0600	1.4700e-003	8.9954
Unmitigated	7.0576	0.0600	1.4700e-003	8.9954

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.82431 / 1.15011	7.0576	0.0600	1.4700e-003	8.9954
Total		7.0576	0.0600	1.4700e-003	8.9954

Air Quality Study - TTM 83553 Housing Development, 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			
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	1.82431 / 1.15011	7.0576	0.0600	1.4700e-003	8.9954
Total		7.0576	0.0600	1.4700e-003	8.9954

8.0 Waste Detail

8.1 Mitigation Measures Waste

Air Quality Study - TTM 83553 Housing Development, 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	6.6581	0.3935	0.0000	16.4952
Unmitigated	6.6581	0.3935	0.0000	16.4952

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	32.8	6.6581	0.3935	0.0000	16.4952
Total		6.6581	0.3935	0.0000	16.4952

Air Quality Study - TTM 83553 Housing Development, 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			
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	32.8	6.6581	0.3935	0.0000	16.4952
Total		6.6581	0.3935	0.0000	16.4952

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

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

Air Quality Study - TTM 83553 Housing Development, 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

11.0 Vegetation

Air Quality Study - TTM 83553 Housing Development, 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 83553 Housing Development, 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
Single Family Housing	28.00	Dwelling Unit	7.90	70,000.00	80
Other Asphalt Surfaces	1.10	Acre	1.10	47,916.00	0
Other Non-Asphalt Surfaces	1.04	Acre	1.04	45,302.40	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	9			Operational Year	2026
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 provided on 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.

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

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 - -

Air Quality Study - TTM 83553 Housing Development, 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

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	300.00	521.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	PhaseEndDate	6/13/2025	12/1/2025
tblConstructionPhase	PhaseEndDate	4/18/2025	10/15/2025
tblConstructionPhase	PhaseEndDate	2/23/2024	2/15/2024
tblConstructionPhase	PhaseEndDate	5/16/2025	11/7/2025
tblConstructionPhase	PhaseEndDate	1/12/2024	1/11/2024
tblConstructionPhase	PhaseStartDate	5/17/2025	11/8/2025
tblConstructionPhase	PhaseStartDate	2/24/2024	2/16/2024
tblConstructionPhase	PhaseStartDate	1/13/2024	1/12/2024
tblConstructionPhase	PhaseStartDate	4/19/2025	10/16/2025
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberGas	15.40	28.00
tblFireplaces	NumberNoFireplace	2.80	0.00

Air Quality Study - TTM 83553 Housing Development, 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

tblFireplaces	NumberWood	9.80	0.00
tblLandUse	LandUseSquareFeet	50,400.00	70,000.00
tblLandUse	LotAcreage	9.09	7.90
tblWoodstoves	NumberCatalytic	1.40	0.00
tblWoodstoves	NumberNoncatalytic	1.40	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

Air Quality Study - TTM 83553 Housing Development, 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					
2024	3.2867	32.4179	28.3787	0.0636	19.8049	1.3364	21.0351	10.1417	1.2295	11.2735	0.0000	6,164.379 4	6,164.379 4	1.9484	0.0612	6,214.322 4
2025	25.5893	13.2358	17.8365	0.0339	0.5245	0.5333	1.0578	0.1419	0.5017	0.6435	0.0000	3,269.675 6	3,269.675 6	0.7169	0.0593	3,302.683 7
Maximum	25.5893	32.4179	28.3787	0.0636	19.8049	1.3364	21.0351	10.1417	1.2295	11.2735	0.0000	6,164.379 4	6,164.379 4	1.9484	0.0612	6,214.322 4

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					
2024	3.2867	32.4179	28.3787	0.0636	7.8141	1.3364	9.0443	3.9792	1.2295	5.1110	0.0000	6,164.379 4	6,164.379 4	1.9484	0.0612	6,214.322 4
2025	25.5893	13.2358	17.8365	0.0339	0.5245	0.5333	1.0578	0.1419	0.5017	0.6435	0.0000	3,269.675 6	3,269.675 6	0.7169	0.0593	3,302.683 7
Maximum	25.5893	32.4179	28.3787	0.0636	7.8141	1.3364	9.0443	3.9792	1.2295	5.1110	0.0000	6,164.379 4	6,164.379 4	1.9484	0.0612	6,214.322 4

Air Quality Study - TTM 83553 Housing Development, 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	58.98	0.00	54.27	59.93	0.00	51.71	0.00	0.00	0.00	0.00	0.00	0.00

Air Quality Study - TTM 83553 Housing Development, 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	1.7938	0.4911	2.5057	3.0900e-003		0.0504	0.0504		0.0504	0.0504	0.0000	597.1011	597.1011	0.0154	0.0109	600.7243
Energy	0.0211	0.1802	0.0767	1.1500e-003		0.0146	0.0146		0.0146	0.0146		230.0655	230.0655	4.4100e-003	4.2200e-003	231.4327
Mobile	0.8850	0.9010	7.5615	0.0154	1.6050	0.0116	1.6167	0.4288	0.0109	0.4396		1,567.8969	1,567.8969	0.0960	0.0693	1,590.9374
Total	2.6999	1.5723	10.1439	0.0197	1.6050	0.0766	1.6816	0.4288	0.0758	0.5045	0.0000	2,395.0635	2,395.0635	0.1157	0.0844	2,423.0943

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	1.7938	0.4911	2.5057	3.0900e-003		0.0504	0.0504		0.0504	0.0504	0.0000	597.1011	597.1011	0.0154	0.0109	600.7243
Energy	0.0211	0.1802	0.0767	1.1500e-003		0.0146	0.0146		0.0146	0.0146		230.0655	230.0655	4.4100e-003	4.2200e-003	231.4327
Mobile	0.8850	0.9010	7.5615	0.0154	1.6050	0.0116	1.6167	0.4288	0.0109	0.4396		1,567.8969	1,567.8969	0.0960	0.0693	1,590.9374
Total	2.6999	1.5723	10.1439	0.0197	1.6050	0.0766	1.6816	0.4288	0.0758	0.5045	0.0000	2,395.0635	2,395.0635	0.1157	0.0844	2,423.0943

Air Quality Study - TTM 83553 Housing Development, 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	1/1/2024	1/11/2024	6	10	
2	Grading	Grading	1/12/2024	2/15/2024	6	30	
3	Building Construction	Building Construction	2/16/2024	10/15/2025	6	521	
4	Paving	Paving	10/16/2025	11/7/2025	6	20	
5	Architectural Coating	Architectural Coating	11/8/2025	12/1/2025	6	20	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 90

Acres of Paving: 2.14

Residential Indoor: 141,750; Residential Outdoor: 47,250; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 5,593 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	7.00	231	0.29
Grading	Excavators	2	8.00	158	0.38
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41

Air Quality Study - TTM 83553 Housing Development, 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	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	49.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	10.00	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 83553 Housing Development, 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 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6609	27.1760	18.3356	0.0381		1.2294	1.2294		1.1310	1.1310		3,688.010 0	3,688.010 0	1.1928		3,717.829 4
Total	2.6609	27.1760	18.3356	0.0381	19.6570	1.2294	20.8864	10.1025	1.1310	11.2335		3,688.010 0	3,688.010 0	1.1928		3,717.829 4

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	0.0617	0.0368	0.5903	1.3800e-003	0.1479	8.6000e-004	0.1487	0.0392	7.9000e-004	0.0400		139.1677	139.1677	4.2200e-003	3.7300e-003	140.3837
Total	0.0617	0.0368	0.5903	1.3800e-003	0.1479	8.6000e-004	0.1487	0.0392	7.9000e-004	0.0400		139.1677	139.1677	4.2200e-003	3.7300e-003	140.3837

Air Quality Study - TTM 83553 Housing Development, 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 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.6662	0.0000	7.6662	3.9400	0.0000	3.9400			0.0000			0.0000
Off-Road	2.6609	27.1760	18.3356	0.0381		1.2294	1.2294		1.1310	1.1310	0.0000	3,688.010 0	3,688.010 0	1.1928		3,717.829 4
Total	2.6609	27.1760	18.3356	0.0381	7.6662	1.2294	8.8956	3.9400	1.1310	5.0710	0.0000	3,688.010 0	3,688.010 0	1.1928		3,717.829 4

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	0.0617	0.0368	0.5903	1.3800e-003	0.1479	8.6000e-004	0.1487	0.0392	7.9000e-004	0.0400		139.1677	139.1677	4.2200e-003	3.7300e-003	140.3837
Total	0.0617	0.0368	0.5903	1.3800e-003	0.1479	8.6000e-004	0.1487	0.0392	7.9000e-004	0.0400		139.1677	139.1677	4.2200e-003	3.7300e-003	140.3837

Air Quality Study - TTM 83553 Housing Development, 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 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286		6,009.7487	6,009.7487	1.9437		6,058.3405
Total	3.2181	32.3770	27.7228	0.0621	9.2036	1.3354	10.5390	3.6538	1.2286	4.8823		6,009.7487	6,009.7487	1.9437		6,058.3405

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	0.0686	0.0409	0.6559	1.5300e-003	0.1643	9.5000e-004	0.1653	0.0436	8.8000e-004	0.0445		154.6307	154.6307	4.6900e-003	4.1400e-003	155.9818
Total	0.0686	0.0409	0.6559	1.5300e-003	0.1643	9.5000e-004	0.1653	0.0436	8.8000e-004	0.0445		154.6307	154.6307	4.6900e-003	4.1400e-003	155.9818

Air Quality Study - TTM 83553 Housing Development, 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 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.5894	0.0000	3.5894	1.4250	0.0000	1.4250			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286	0.0000	6,009.7487	6,009.7487	1.9437		6,058.3405
Total	3.2181	32.3770	27.7228	0.0621	3.5894	1.3354	4.9248	1.4250	1.2286	2.6535	0.0000	6,009.7487	6,009.7487	1.9437		6,058.3405

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	0.0686	0.0409	0.6559	1.5300e-003	0.1643	9.5000e-004	0.1653	0.0436	8.8000e-004	0.0445		154.6307	154.6307	4.6900e-003	4.1400e-003	155.9818
Total	0.0686	0.0409	0.6559	1.5300e-003	0.1643	9.5000e-004	0.1653	0.0436	8.8000e-004	0.0445		154.6307	154.6307	4.6900e-003	4.1400e-003	155.9818

Air Quality Study - TTM 83553 Housing Development, 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 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	0.0211	0.6799	0.2711	3.3600e-003	0.1219	3.5200e-003	0.1255	0.0351	3.3600e-003	0.0385		354.2693	354.2693	2.0500e-003	0.0510	369.5250
Worker	0.1681	0.1003	1.6070	3.7500e-003	0.4025	2.3400e-003	0.4049	0.1068	2.1500e-003	0.1089		378.8453	378.8453	0.0115	0.0101	382.1555
Total	0.1891	0.7802	1.8780	7.1100e-003	0.5245	5.8600e-003	0.5303	0.1419	5.5100e-003	0.1474		733.1146	733.1146	0.0135	0.0612	751.6806

Air Quality Study - TTM 83553 Housing Development, 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 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	0.0211	0.6799	0.2711	3.3600e-003	0.1219	3.5200e-003	0.1255	0.0351	3.3600e-003	0.0385		354.2693	354.2693	2.0500e-003	0.0510	369.5250
Worker	0.1681	0.1003	1.6070	3.7500e-003	0.4025	2.3400e-003	0.4049	0.1068	2.1500e-003	0.1089		378.8453	378.8453	0.0115	0.0101	382.1555
Total	0.1891	0.7802	1.8780	7.1100e-003	0.5245	5.8600e-003	0.5303	0.1419	5.5100e-003	0.1474		733.1146	733.1146	0.0135	0.0612	751.6806

Air Quality Study - TTM 83553 Housing Development, 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 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1

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	0.0208	0.6763	0.2667	3.2900e-003	0.1219	3.5100e-003	0.1255	0.0351	3.3500e-003	0.0385		347.0696	347.0696	2.0100e-003	0.0499	361.9806
Worker	0.1563	0.0899	1.4852	3.6200e-003	0.4025	2.2300e-003	0.4048	0.1068	2.0500e-003	0.1088		366.1316	366.1316	0.0104	9.4400e-003	369.2050
Total	0.1770	0.7662	1.7519	6.9100e-003	0.5245	5.7400e-003	0.5302	0.1419	5.4000e-003	0.1473		713.2012	713.2012	0.0124	0.0593	731.1856

Air Quality Study - TTM 83553 Housing Development, 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 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1

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	0.0208	0.6763	0.2667	3.2900e-003	0.1219	3.5100e-003	0.1255	0.0351	3.3500e-003	0.0385		347.0696	347.0696	2.0100e-003	0.0499	361.9806
Worker	0.1563	0.0899	1.4852	3.6200e-003	0.4025	2.2300e-003	0.4048	0.1068	2.0500e-003	0.1088		366.1316	366.1316	0.0104	9.4400e-003	369.2050
Total	0.1770	0.7662	1.7519	6.9100e-003	0.5245	5.7400e-003	0.5302	0.1419	5.4000e-003	0.1473		713.2012	713.2012	0.0124	0.0593	731.1856

Air Quality Study - TTM 83553 Housing Development, 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 Paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.1441					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0593	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878

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	0.0478	0.0275	0.4547	1.1100e-003	0.1232	6.8000e-004	0.1239	0.0327	6.3000e-004	0.0333		112.0811	112.0811	3.1800e-003	2.8900e-003	113.0219
Total	0.0478	0.0275	0.4547	1.1100e-003	0.1232	6.8000e-004	0.1239	0.0327	6.3000e-004	0.0333		112.0811	112.0811	3.1800e-003	2.8900e-003	113.0219

Air Quality Study - TTM 83553 Housing Development, 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 Paving - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.745 2	2,206.745 2	0.7137		2,224.587 8
Paving	0.1441					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0593	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.745 2	2,206.745 2	0.7137		2,224.587 8

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	0.0478	0.0275	0.4547	1.1100e-003	0.1232	6.8000e-004	0.1239	0.0327	6.3000e-004	0.0333		112.0811	112.0811	3.1800e-003	2.8900e-003	113.0219
Total	0.0478	0.0275	0.4547	1.1100e-003	0.1232	6.8000e-004	0.1239	0.0327	6.3000e-004	0.0333		112.0811	112.0811	3.1800e-003	2.8900e-003	113.0219

Air Quality Study - TTM 83553 Housing Development, 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 - 2025

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	25.3866					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	25.5575	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319

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	0.0319	0.0183	0.3031	7.4000e-004	0.0822	4.5000e-004	0.0826	0.0218	4.2000e-004	0.0222		74.7207	74.7207	2.1200e-003	1.9300e-003	75.3480
Total	0.0319	0.0183	0.3031	7.4000e-004	0.0822	4.5000e-004	0.0826	0.0218	4.2000e-004	0.0222		74.7207	74.7207	2.1200e-003	1.9300e-003	75.3480

Air Quality Study - TTM 83553 Housing Development, 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 - 2025

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	25.3866					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	25.5575	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319

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	0.0319	0.0183	0.3031	7.4000e-004	0.0822	4.5000e-004	0.0826	0.0218	4.2000e-004	0.0222		74.7207	74.7207	2.1200e-003	1.9300e-003	75.3480
Total	0.0319	0.0183	0.3031	7.4000e-004	0.0822	4.5000e-004	0.0826	0.0218	4.2000e-004	0.0222		74.7207	74.7207	2.1200e-003	1.9300e-003	75.3480

Air Quality Study - TTM 83553 Housing Development, 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	0.8850	0.9010	7.5615	0.0154	1.6050	0.0116	1.6167	0.4288	0.0109	0.4396		1,567.8969	1,567.8969	0.0960	0.0693	1,590.9374
Unmitigated	0.8850	0.9010	7.5615	0.0154	1.6050	0.0116	1.6167	0.4288	0.0109	0.4396		1,567.8969	1,567.8969	0.0960	0.0693	1,590.9374

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	264.32	267.12	239.40	741,726	741,726
Total	264.32	267.12	239.40	741,726	741,726

4.3 Trip Type Information

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

Air Quality Study - TTM 83553 Housing Development, 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

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.603377	0.051886	0.141906	0.112313	0.025216	0.007131	0.012268	0.009274	0.000704	0.000491	0.027212	0.002387	0.005833
Other Non-Asphalt Surfaces	0.603377	0.051886	0.141906	0.112313	0.025216	0.007131	0.012268	0.009274	0.000704	0.000491	0.027212	0.002387	0.005833
Single Family Housing	0.603377	0.051886	0.141906	0.112313	0.025216	0.007131	0.012268	0.009274	0.000704	0.000491	0.027212	0.002387	0.005833

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0211	0.1802	0.0767	1.1500e-003		0.0146	0.0146		0.0146	0.0146		230.0655	230.0655	4.4100e-003	4.2200e-003	231.4327
NaturalGas Unmitigated	0.0211	0.1802	0.0767	1.1500e-003		0.0146	0.0146		0.0146	0.0146		230.0655	230.0655	4.4100e-003	4.2200e-003	231.4327

Air Quality Study - TTM 83553 Housing Development, 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					
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	1955.56	0.0211	0.1802	0.0767	1.1500e-003		0.0146	0.0146		0.0146	0.0146		230.0655	230.0655	4.4100e-003	4.2200e-003	231.4327
Total		0.0211	0.1802	0.0767	1.1500e-003		0.0146	0.0146		0.0146	0.0146		230.0655	230.0655	4.4100e-003	4.2200e-003	231.4327

Air Quality Study - TTM 83553 Housing Development, 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					
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	1.95556	0.0211	0.1802	0.0767	1.1500e-003		0.0146	0.0146		0.0146	0.0146		230.0655	230.0655	4.4100e-003	4.2200e-003	231.4327
Total		0.0211	0.1802	0.0767	1.1500e-003		0.0146	0.0146		0.0146	0.0146		230.0655	230.0655	4.4100e-003	4.2200e-003	231.4327

6.0 Area Detail

6.1 Mitigation Measures Area

Air Quality Study - TTM 83553 Housing Development, 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	1.7938	0.4911	2.5057	3.0900e-003		0.0504	0.0504		0.0504	0.0504	0.0000	597.1011	597.1011	0.0154	0.0109	600.7243
Unmitigated	1.7938	0.4911	2.5057	3.0900e-003		0.0504	0.0504		0.0504	0.0504	0.0000	597.1011	597.1011	0.0154	0.0109	600.7243

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	0.1391					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.5310					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0544	0.4645	0.1977	2.9600e-003		0.0376	0.0376		0.0376	0.0376	0.0000	592.9412	592.9412	0.0114	0.0109	596.4647
Landscaping	0.0693	0.0266	2.3081	1.2000e-004		0.0128	0.0128		0.0128	0.0128		4.1599	4.1599	3.9800e-003		4.2595
Total	1.7938	0.4911	2.5057	3.0800e-003		0.0504	0.0504		0.0504	0.0504	0.0000	597.1011	597.1011	0.0153	0.0109	600.7243

Air Quality Study - TTM 83553 Housing Development, 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	0.1391					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.5310					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0544	0.4645	0.1977	2.9600e-003		0.0376	0.0376		0.0376	0.0376	0.0000	592.9412	592.9412	0.0114	0.0109	596.4647
Landscaping	0.0693	0.0266	2.3081	1.2000e-004		0.0128	0.0128		0.0128	0.0128		4.1599	4.1599	3.9800e-003		4.2595
Total	1.7938	0.4911	2.5057	3.0800e-003		0.0504	0.0504		0.0504	0.0504	0.0000	597.1011	597.1011	0.0153	0.0109	600.7243

7.0 Water Detail

7.1 Mitigation Measures Water

Air Quality Study - TTM 83553 Housing Development, 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
----------------	--------	-----------	-----------	-------------	-------------	-----------

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

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

11.0 Vegetation
