



Victorville Residential AIR QUALITY IMPACT ANALYSIS CITY OF VICTORVILLE

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NOVEMBER 16, 2021

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LIST OF ABBREVIATED TERMS

| | |
|--------------------------|---|
| (1) | Reference |
| $\mu\text{g}/\text{m}^3$ | Microgram per Cubic Meter |
| AADT | Annual Average Daily Traffic |
| AQIA | Air Quality Impact Analysis |
| AQMD | Air Quality Management District |
| AQMP | Air Quality Management Plan |
| ARB | California Air Resources Board |
| BACM | Best Available Control Measures |
| BMPs | Best Management Practices |
| CAA | Federal Clean Air Act |
| CAAQS | California Ambient Air Quality Standards |
| CalEEMod | California Emissions Estimator Model |
| Caltrans | California Department of Transportation |
| CAPCOA | California Air Pollution Control Officers Association |
| CARB | California Air Resources Board |
| CCR | California Code of Regulations |
| CEQA | California Environmental Quality Act |
| CFR | Code of Federal Regulations |
| CO | Carbon Monoxide |
| DPM | Diesel Particulate Matter |
| EPA | Environmental Protection Agency |
| LST | Localized Significance Threshold |
| MDAQMD | Mojave Desert Air Quality Management District |
| NAAQS | National Ambient Air Quality Standards |
| NO_2 | Nitrogen Dioxide |
| NO_x | Oxides of Nitrogen |
| Pb | Lead |
| PM_{10} | Particulate Matter 10 microns in diameter or less |
| $\text{PM}_{2.5}$ | Particulate Matter 2.5 microns in diameter or less |
| PPM | Parts Per Million |
| Project | Victorville Residential |
| ROG | Reactive Organic Gases |
| SCAB | South Coast Air Basin |
| SCAQMD | South Coast Air Quality Management District |
| SIPs | State Implementation Plans |
| SRA | Source Receptor Area |

| | |
|-----|-------------------------|
| TAC | Toxic Air Contaminant |
| TIA | Traffic Impact Analysis |
| TOG | Total Organic Gases |
| VMT | Vehicle Miles Traveled |

EXECUTIVE SUMMARY

ES.1 SUMMARY OF FINDINGS

The results of this *Victorville Residential Air Quality Impact Analysis* are summarized below based on the significance criteria in Section 3 of this report consistent with Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1). Table ES-1 shows the findings of significance for each potential air quality impact under CEQA.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

| Analysis | Report Section | Significance Findings | |
|---------------------------------|----------------|------------------------------|------------|
| | | Unmitigated | Mitigated |
| Regional Construction Emissions | 3.4 | <i>Less Than Significant</i> | <i>n/a</i> |
| Regional Operational Emissions | 3.5 | <i>Less Than Significant</i> | <i>n/a</i> |
| CO "Hot Spot" Analysis | 3.6 | <i>Less Than Significant</i> | <i>n/a</i> |
| Air Quality Management Plan | 3.7 | <i>Less Than Significant</i> | <i>n/a</i> |
| Sensitive Receptors | 3.8 | <i>Less Than Significant</i> | <i>n/a</i> |
| Odors | 3.9 | <i>Less Than Significant</i> | <i>n/a</i> |
| Cumulative Impacts | 3.10 | <i>Less Than Significant</i> | <i>n/a</i> |

ES.2 STANDARD REGULATORY REQUIREMENTS/BEST AVAILABLE CONTROL MEASURES (BACMS)

MDAQMD Rules that are currently applicable during construction activity for this Project include but are not limited to: Rule 1113 (Architectural Coatings) (2); Rule 403 (Fugitive Dust) (3).

RULE 403

The following measures shall be incorporated into Project plans and specifications as implementation of Rule 403.

- Use periodic watering for short-term stabilization of Disturbed Surface Area to minimize visible fugitive dust emissions. For purposes of this Rule, use of a water truck to maintain moist disturbed surfaces and actively spread water during visible dusting episodes shall be considered sufficient to maintain compliance
- Take actions sufficient to prevent project-related Trackout onto paved surfaces
- Stabilize graded surfaces upon completion of grading when subsequent development is delayed or expected to be delayed more than thirty days, except when such a delay is due to precipitation that dampens the disturbed surface sufficiently to eliminate Visible Fugitive Dust emissions.

RULE 1113

Only "Low-Volatile Organic Compounds" paints consistent with Mojave Desert Air Quality Management District Rule 1113 shall be used.

ES.3 CONSTRUCTION-SOURCE AND OPERATIONAL-SOURCE MITIGATION MEASURES

The Project would not result in any potentially significant air quality impacts.

1 INTRODUCTION

This report presents the results of the air quality impact analysis (AQIA) prepared by Urban Crossroads, Inc., for the proposed Victorville Residential (“Project”).

The purpose of this AQIA is to evaluate the potential impacts to air quality associated with construction and operation of the proposed Project and recommend measures to mitigate impacts considered potentially significant in comparison to thresholds established by the Mojave Desert Air Quality Management District (MDAQMD).

1.1 SITE LOCATION

The proposed Victorville Residential site is located on the southwest corner of Seneca Road and Mesa Linda Avenue in the City of Victorville, as show in Exhibit 1-A

1.2 PROJECT DESCRIPTION

The proposed Project consists of 210 single family detached residential dwelling units on 56 acres, as shown in Exhibit 1-B. The Project is anticipated to have an Opening Year of 2023. The Project is anticipated to generate 1,982 trip ends (4).

EXHIBIT 1-A: LOCATION MAP



EXHIBIT 1-B: SITE PLAN



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2 AIR QUALITY SETTING

This section provides an overview of the existing air quality conditions in the Project area and region.

2.1 MOJAVE DESERT AIR BASIN

The Project site is located in the portion of the County of San Bernardino, California, that is part of the Mojave Desert Air Basin (MDAB) and is under the jurisdiction of the MDAQMD. The air quality assessment for the proposed Project includes estimating emissions associated with short-term construction and long-term operation of the proposed Project. A number of air quality modeling tools are available to assess the air quality impacts of projects. In addition, certain air districts, such as the MDAQMD, have created guidelines and requirements to conduct air quality analyses. The MDAQMD's current guidelines, included in its *California Environmental Quality Act and Federal Conformity Guidelines* (August 2011), were adhered to in the assessment of air quality impacts for the proposed Project.

2.2 REGIONAL CLIMATE

Air quality in the Project area is not only affected by various emissions sources (mobile, industry, etc.) but is also affected by atmospheric conditions such as wind speed, wind direction, temperature, and rainfall.

The MDAB is an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes. Many of the lower mountains that dot the vast terrain rise from 1,000 to 4,000 ft 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 is approximately 10,000 ft), whose passes form the main channels for these air masses. The Mojave Desert is bordered on the southwest by the San Bernardino Mountains, separated from the San Gabriels by the Cajon Pass (4,200 ft). A lesser pass lies between the San Bernardino Mountains and the Little San Bernardino Mountains in the Morongo Valley. The Palo Verde Valley portion of the Mojave Desert lies in the low desert, at the eastern end of a series of valleys (notably the Coachella Valley), whose primary channel is the San Gorgonio Pass (2,300 ft) between the San Bernardino and San Jacinto Mountains.

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. The MDAB averages between three and seven inches of precipitation per year (from 16 to 30 days with at least 0.01 inch of precipitation). The MDAB is classified as a dry-hot desert climate, with portions classified

as dry-very hot desert, to indicate that at least three months have maximum average temperatures over 100.4° F.

Snow is common above 5,000 ft in elevation, resulting in moderate snowpack and limited spring runoff. Below 5,000 ft, any precipitation normally occurs as rainfall. Pacific storm fronts normally move into the area from the west, driven by prevailing winds from the west and southwest. During late summer, moist high-pressure systems from the Pacific collide with rising heated air from desert areas, resulting in brief, high-intensity thunderstorms that can cause high winds and localized flash flooding.

2.3 EXISTING AIR QUALITY

Existing air quality is measured at established MDAQMD air quality monitoring stations. Monitored air quality is evaluated and in the context of ambient air quality standards. These standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) currently in effect are shown in Table 2-1 (5).

The determination of whether a region's air quality is healthful or unhealthful is determined by comparing contaminant levels in ambient air samples to the state and federal standards presented in Table 2-1. The air quality in a region is considered to be in attainment by the state if the measured ambient air pollutant levels for O₃, CO (except 8-hour Lake Tahoe), SO₂, NO₂, PM₁₀, PM_{2.5}, and visible reducing particles are not to be exceeded at any time in any consecutive three-year period; all other values are not to be equaled or exceeded. The air quality in a region is considered to be in attainment by federal standards if the measured ambient air pollutant levels for O₃, PM₁₀, PM_{2.5}, and those based on annual averages or arithmetic mean are not exceeded more than once per year. The O₃ standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

TABLE 2-1: AMBIENT AIR QUALITY STANDARDS (1 OF 2)

| Ambient Air Quality Standards | | | | | | |
|--|-------------------------|------------------------------------|--|---|-----------------------------------|---|
| Pollutant | Averaging Time | California Standards ¹ | | National Standards ² | | |
| | | Concentration ³ | Method ⁴ | Primary ^{3,5} | Secondary ^{3,6} | Method ⁷ |
| Ozone (O ₃) ⁸ | 1 Hour | 0.09 ppm (180 µg/m ³) | Ultraviolet Photometry | — | Same as Primary Standard | Ultraviolet Photometry |
| | 8 Hour | 0.070 ppm (137 µg/m ³) | | 0.070 ppm (137 µg/m ³) | | |
| Respirable Particulate Matter (PM ₁₀) ⁹ | 24 Hour | 50 µg/m ³ | Gravimetric or Beta Attenuation | 150 µg/m ³ | Same as Primary Standard | Inertial Separation and Gravimetric Analysis |
| | Annual Arithmetic Mean | 20 µg/m ³ | | — | | |
| Fine Particulate Matter (PM _{2.5}) ⁹ | 24 Hour | — | — | 35 µg/m ³ | Same as Primary Standard | Inertial Separation and Gravimetric Analysis |
| | Annual Arithmetic Mean | 12 µg/m ³ | Gravimetric or Beta Attenuation | 12.0 µg/m ³ | | |
| Carbon Monoxide (CO) | 1 Hour | 20 ppm (23 mg/m ³) | Non-Dispersive Infrared Photometry (NDIR) | 35 ppm (40 mg/m ³) | — | Non-Dispersive Infrared Photometry (NDIR) |
| | 8 Hour | 9.0 ppm (10 mg/m ³) | | 9 ppm (10 mg/m ³) | — | |
| | 8 Hour (Lake Tahoe) | 6 ppm (7 mg/m ³) | | — | — | |
| Nitrogen Dioxide (NO ₂) ¹⁰ | 1 Hour | 0.18 ppm (339 µg/m ³) | Gas Phase Chemiluminescence | 100 ppb (188 µg/m ³) | — | Gas Phase Chemiluminescence |
| | Annual Arithmetic Mean | 0.030 ppm (57 µg/m ³) | | 0.053 ppm (100 µg/m ³) | Same as Primary Standard | |
| Sulfur Dioxide (SO ₂) ¹¹ | 1 Hour | 0.25 ppm (655 µg/m ³) | Ultraviolet Fluorescence | 75 ppb (196 µg/m ³) | — | Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method) |
| | 3 Hour | — | | — | 0.5 ppm (1300 µg/m ³) | |
| | 24 Hour | 0.04 ppm (105 µg/m ³) | | 0.14 ppm (for certain areas) ¹¹ | — | |
| | Annual Arithmetic Mean | — | | 0.030 ppm (for certain areas) ¹¹ | — | |
| Lead ^{12,13} | 30 Day Average | 1.5 µg/m ³ | Atomic Absorption | — | — | High Volume Sampler and Atomic Absorption |
| | Calendar Quarter | — | | 1.5 µg/m ³ (for certain areas) ¹² | Same as Primary Standard | |
| | Rolling 3-Month Average | — | | 0.15 µg/m ³ | | |
| Visibility Reducing Particles ¹⁴ | 8 Hour | See footnote 14 | Beta Attenuation and Transmittance through Filter Tape | No National Standards | | |
| Sulfates | 24 Hour | 25 µg/m ³ | Ion Chromatography | | | |
| Hydrogen Sulfide | 1 Hour | 0.03 ppm (42 µg/m ³) | Ultraviolet Fluorescence | | | |
| Vinyl Chloride ¹² | 24 Hour | 0.01 ppm (26 µg/m ³) | Gas Chromatography | | | |

See footnotes on next page ...

For more information please call ARB-PIO at (916) 322-2990

California Air Resources Board (5/4/16)

TABLE 2-1: AMBIENT AIR QUALITY STANDARDS (2 OF 2)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above $150 \mu\text{g}/\text{m}^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.
8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from $15 \mu\text{g}/\text{m}^3$ to $12.0 \mu\text{g}/\text{m}^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at $35 \mu\text{g}/\text{m}^3$, as was the annual secondary standard of $15 \mu\text{g}/\text{m}^3$. The existing 24-hour PM10 standards (primary and secondary) of $150 \mu\text{g}/\text{m}^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard ($1.5 \mu\text{g}/\text{m}^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

For more information please call ARB-PIO at (916) 322-2990

California Air Resources Board (5/4/16)

2.4 REGIONAL AIR QUALITY

Air pollution contributes to a wide variety of adverse health effects. The EPA has established NAAQS for six of the most common air pollutants: O₃, PM₁₀, PM_{2.5}, CO, NO₂, SO₂ and Pb which are known as criteria pollutants. The MDAQMD monitors levels of various criteria pollutants at 6 permanent monitoring stations throughout the air district (6). On February 20, 2019, CARB posted the 2018 amendments to the state and national area designations. See Table 2-3 for attainment designations for the MDAB and the Southeast Desert Air Basin (SDAB) (7). Appendix 2.1 provides geographic representation of the state and federal attainment status for applicable criteria pollutants within the MDAB and SDAB.

TABLE 2-3: ATTAINMENT STATUS OF CRITERIA POLLUTANTS IN THE MDAB

| Criteria Pollutant | State Designation | Federal Designation |
|----------------------------------|---------------------------|---------------------------|
| O ₃ – 1-hour standard | Nonattainment | -- |
| O ₃ – 8-hour standard | Nonattainment | Nonattainment |
| PM ₁₀ | Nonattainment | Nonattainment |
| PM _{2.5} | Attainment | Unclassifiable/Attainment |
| CO | Attainment | Unclassifiable/Attainment |
| NO ₂ | Attainment | Unclassifiable/Attainment |
| SO ₂ | Unclassifiable/Attainment | Unclassifiable/Attainment |
| Pb | Attainment | Unclassifiable/Attainment |

Note: See Appendix 2.1 for a detailed map of State/National Area Designations within the MDAB and SDAB
 "--" = The national 1-hour O₃ standard was revoked effective June 15, 2005.

2.5 LOCAL AIR QUALITY

Relative to the Project site, the nearest long-term air quality monitoring site for O₃, CO, NO₂, PM₁₀, and PM_{2.5} was obtained from the MDAQMD Victorville-Park Avenue monitoring station, located approximately 3.83 miles east of the project site in Victorville.

The most recent three (3) years of data available is shown on Table 2-3 and identifies the number of days ambient air quality standards were exceeded for the study area, which is considered to be representative of the local air quality at the Project site. Data for O₃, CO, NO₂, PM₁₀, and PM_{2.5} was obtained using the CARB iADAM: Air Quality and Data Statistics and the Air Quality and Meteorological Information System (AQMIS) (8) (9). Data for SO₂ has been omitted as attainment is regularly met and few monitoring stations measure SO₂ concentrations. It should be noted that the table below is provided for informational purposes.

TABLE 2-3: PROJECT AREA AIR QUALITY MONITORING SUMMARY 2018-2020

| Pollutant | Standard | Year | | |
|--|-------------------------|-------|-------|-------|
| | | 2018 | 2019 | 2020 |
| O₃ | | | | |
| Maximum Federal 1-Hour Concentration (ppm) | | 0.107 | 0.104 | 0.112 |
| Maximum Federal 8-Hour Concentration (ppm) | | 0.096 | 0.081 | 0.094 |
| Number of Days Exceeding Federal 1-Hour Standard | > 0.09 ppm | 0 | 0 | 0 |
| Number of Days Exceeding State 1-Hour Standard | | 5 | 3 | 4 |
| Number of Days Exceeding Federal 8-Hour Standard | > 0.070 ppm | 55 | 29 | 35 |
| Number of Days Exceeding State 8-Hour Standard | > 0.075 ppm | 27 | 13 | 17 |
| CO | | | | |
| Maximum Federal 1-Hour Concentration | > 35 ppm | 1.420 | 1.493 | 1.638 |
| NO₂ | | | | |
| Maximum Federal 1-Hour Concentration | > 0.100 ppm | 0.051 | 0.056 | 0.059 |
| Maximum State 1-Hour Concentration | > 0.180 ppm | 0.051 | 0.056 | 0.059 |
| Annual Federal Standard Design Value | | 12 | 11 | 13 |
| Annual State Standard Design Value | | 12 | 12 | 12 |
| Number of Days Exceeding Federal 1-Hour Standard | > 0.100 ppm | 0 | 0 | 0 |
| Number of Days Exceeding State 1-Hour Standard | > 0.18 ppm | 0 | 0 | 0 |
| PM₁₀ | | | | |
| Maximum Federal 24-Hour Concentration (µg/m ³) | > 150 µg/m ³ | 165.2 | 170.0 | 261.4 |
| Annual Federal Arithmetic Mean (µg/m ³) | | 29.8 | 27.2 | 34.0 |
| Number of Days Exceeding Federal 24-Hour Standard | > 150 µg/m ³ | 1 | 2 | 2 |
| PM_{2.5} | | | | |
| Maximum Federal 24-Hour Concentration (µg/m ³) | > 35 µg/m ³ | 32.7 | 17.8 | 48.4 |
| Maximum State 24-Hour Concentration (µg/m ³) | | 33.2 | 20.0 | 48.7 |
| Annual Federal Arithmetic Mean (µg/m ³) | >12 µg/m ³ | 7.9 | 7.0 | 9.7 |
| Annual State Arithmetic Mean (µg/m ³) | >12 µg/m ³ | 8.7 | 7.0 | 10.4 |
| Number of Samples Exceeding Federal 24-Hour Standard | > 35 µg/m ³ | 0 | 0 | 4 |

Source: California Air Resource Board iADAM: Air Quality Data Statistics and AQMIS

ppm = Parts Per Million

µg/m³ – microgram per cubic meter

-- = data not available

Criteria pollutants are pollutants that are regulated through the development of human health based and/or environmentally based criteria for setting permissible levels. Criteria pollutants, their typical sources, and health effects are identified below (10):

- Carbon Monoxide (CO): Is a colorless, odorless gas produced by the incomplete combustion of carbon-containing fuels, such as gasoline or wood. CO concentrations tend to be the highest during the winter morning, when little to no wind and surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, unlike ozone, motor vehicles operating at slow speeds are the primary source of CO in the Basin. The highest

ambient CO concentrations are generally found near congested transportation corridors and intersections.

- Sulfur Dioxide (SO₂): Is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of burning high sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries. When SO₂ oxidizes in the atmosphere, it forms sulfates (SO₄). Collectively, these pollutants are referred to as sulfur oxides (SO_x).
- Nitrogen Oxides (Oxides of Nitrogen, or NO_x): Nitrogen oxides (NO_x) consist of nitric oxide (NO), nitrogen dioxide (NO₂) and nitrous oxide (N₂O) and are formed when nitrogen (N₂) combines with oxygen (O₂). Their lifespan in the atmosphere ranges from one to seven days for nitric oxide and nitrogen dioxide, to 170 years for nitrous oxide. Nitrogen oxides are typically created during combustion processes, and are major contributors to smog formation and acid deposition. NO₂ is a criteria air pollutant, and may result in numerous adverse health effects; it absorbs blue light, resulting in a brownish-red cast to the atmosphere and reduced visibility. Of the seven types of nitrogen oxide compounds, NO₂ is the most abundant in the atmosphere. As ambient concentrations of NO₂ are related to traffic density, commuters in heavy traffic may be exposed to higher concentrations of NO₂ than those indicated by regional monitors.
- Ozone (O₃): Is a highly reactive and unstable gas that is formed when volatile organic compounds (VOCs) and nitrogen oxides (NO_x), both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant.
- PM₁₀ (Particulate Matter less than 10 microns): A major air pollutant consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols. The size of the particles (10 microns or smaller, about 0.0004 inches or less) allows them to easily enter the lungs where they may be deposited, resulting in adverse health effects. PM₁₀ also causes visibility reduction and is a criteria air pollutant.
- PM_{2.5} (Particulate Matter less than 2.5 microns): A similar air pollutant consisting of tiny solid or liquid particles which are 2.5 microns or smaller (which is often referred to as fine particles). These particles are formed in the atmosphere from primary gaseous emissions that include sulfates formed from SO₂ release from power plants and industrial facilities and nitrates that are formed from NO_x release from power plants, automobiles and other types of combustion sources. The chemical composition of fine particles highly depends on location, time of year, and weather conditions. PM_{2.5} is a criteria air pollutant.
- Volatile Organic Compounds (VOC): Volatile organic compounds are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. VOCs contribute to the formation of smog through atmospheric photochemical reactions and/or may be toxic. Compounds of carbon (also known as organic compounds) have different levels of reactivity; that is, they do not react at the same speed or do not form ozone to the same extent when exposed to photochemical processes. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints. Exceptions to the VOC designation include: carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. VOCs are a criteria pollutant since they are a precursor to O₃, which is a criteria pollutant. The MDAQMD uses the terms VOC and ROG (see below) interchangeably.

- **Reactive Organic Gases (ROG):** Similar to VOC, Reactive Organic Gases (ROG) are also precursors in forming ozone and consist of compounds containing methane, ethane, propane, butane, and longer chain hydrocarbons, which are typically the result of some type of combustion/decomposition process. Smog is formed when ROG and nitrogen oxides react in the presence of sunlight. ROG are a criteria pollutant since they are a precursor to O₃, which is a criteria pollutant. The MDAQMD uses the terms ROG and VOC (see previous) interchangeably.
- **Lead (Pb):** Lead is a heavy metal that is highly persistent in the environment. In the past, the primary source of lead in the air was emissions from vehicles burning leaded gasoline. As a result of the removal of lead from gasoline, there have been no violations at any of the MDAQMD's regular air monitoring stations since 1982. Currently, emissions of lead are largely limited to stationary sources such as lead smelters. It should be noted that the Project is not anticipated to generate a quantifiable amount of lead emissions. Lead is a criteria air pollutant.

2.6 REGULATORY BACKGROUND

2.6.1 FEDERAL REGULATIONS

The U.S. EPA is responsible for setting and enforcing the NAAQS for O₃, CO, NO_x, SO₂, PM₁₀, and lead (11). The U.S. EPA has jurisdiction over emissions sources that are under the authority of the federal government including aircraft, locomotives, and emissions sources outside state waters (Outer Continental Shelf). The U.S. EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of the CARB.

The Federal Clean Air Act (CAA) was first enacted in 1955 and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes the federal air quality standards, the NAAQS, and specifies future dates for achieving compliance (12). The CAA also mandates that states submit and implement State Implementation Plans (SIPs) for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met.

The 1990 amendments to the CAA that identify specific emission reduction goals for areas not meeting the NAAQS require a demonstration of reasonable further progress toward attainment and incorporate additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA most directly applicable to the development of the Project site include Title I (Non-Attainment Provisions) and Title II (Mobile Source Provisions). Title I provisions were established with the goal of attaining the NAAQS for the following criteria pollutants O₃, NO₂, SO₂, PM₁₀, CO, PM_{2.5}, and lead. The NAAQS were amended in July 1997 to include an additional standard for O₃ and to adopt a NAAQS for PM_{2.5}. Table 3-1 (previously presented) provides the NAAQS within the basin.

Mobile source emissions are regulated in accordance with Title II provisions. These provisions require the use of cleaner burning gasoline and other cleaner burning fuels such as methanol and natural gas. Automobile manufacturers are also required to reduce tailpipe emissions of hydrocarbons and nitrogen oxides (NO_x). NO_x is a collective term that includes all forms of nitrogen oxides (NO, NO₂, NO₃) which are emitted as byproducts of the combustion process.

2.6.2 CALIFORNIA REGULATIONS

The CARB, which became part of the California EPA in 1991, is responsible for ensuring implementation of the California Clean Air Act (AB 2595), responding to the federal CAA, and for regulating emissions from consumer products and motor vehicles. The California CAA mandates achievement of the maximum degree of emissions reductions possible from vehicular and other mobile sources in order to attain the state ambient air quality standards by the earliest practical date. The CARB established the CAAQS for all pollutants for which the federal government has NAAQS and, in addition, establishes standards for sulfates, visibility, hydrogen sulfide, and vinyl chloride. However, at this time, hydrogen sulfide and vinyl chloride are not measured at any monitoring stations in the MDAB because they are not considered to be a regional air quality problem. Generally, the CAAQS are more stringent than the NAAQS (13) (11).

Local air quality management districts, such as the MDAQMD, regulate air emissions from stationary sources such as commercial and industrial facilities. All air pollution control districts have been formally designated as attainment or non-attainment for each CAAQS.

Serious non-attainment areas are required to prepare air quality management plans that include specified emission reduction strategies in an effort to meet clean air goals. These plans are required to include:

- Application of Best Available Retrofit Control Technology to existing sources;
- Developing control programs for area sources (e.g., architectural coatings and solvents) and indirect sources (e.g. motor vehicle use generated by residential and commercial development);
- A District permitting system designed to allow no net increase in emissions from any new or modified permitted sources of emissions;
- Implementing reasonably available transportation control measures and assuring a substantial reduction in growth rate of vehicle trips and miles traveled;
- Significant use of low emissions vehicles by fleet operators;
- Sufficient control strategies to achieve a five percent or more annual reduction in emissions or 15 percent or more in a period of three years for ROG_s, NO_x, CO and PM₁₀. However, air basins may use alternative emission reduction strategy that achieves a reduction of less than five percent per year under certain circumstances.

TITLE 24 ENERGY EFFICIENCY STANDARDS AND CALIFORNIA GREEN BUILDING STANDARDS

CCR Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. CCR, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on January 1, 2011, and is administered by the California Building Standards Commission. CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2019 California Green Building Code Standards that will be effective January 1, 2020. Local jurisdictions are permitted to adopt more stringent requirements, as state law provides methods for local enhancements. CALGreen

recognizes that many jurisdictions have developed existing construction and demolition ordinances and defers to them as the ruling guidance provided, they establish a minimum 65% diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. The State Building Code provides the minimum standard that buildings must meet in order to be certified for occupancy, which is generally enforced by the local building official.

Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas (GHG) emissions. The 2019 version of Title 24 was adopted by the California Energy Commission (CEC) and became effective on January 1, 2020.

The 2019 Title 24 standards will result in less energy use, thereby reducing air pollutant emissions associated with energy consumption in the MDAB and across the State of California. For example, the 2019 Title 24 standards will require solar photovoltaic systems for new homes, establish requirements for newly constructed healthcare facilities, encourage demand responsive technologies for residential buildings, and update indoor and outdoor lighting requirements for nonresidential buildings. The CEC anticipates that single-family homes built with the 2019 standards will use approximately 7% less energy compared to the residential homes built under the 2016 standards. Additionally, after implementation of solar photovoltaic systems, homes built under the 2019 standards will use about 53% less energy than homes built under the 2016 standards. Nonresidential buildings will use approximately 30% less energy due to lighting upgrade requirements (14).

The 2019 CALGreen standards are applicable to the Project and require, among other items (15):

- During site development one or more of the following measures shall be implemented to prevent flooding of adjacent property, prevent erosion and retain soil runoff on the site (4.106.2).
 - Retention basins of sufficient size shall be utilized to retain storm water on the site.
 - Where storm water is conveyed to a public drainage system, collection point, gutter or similar disposal method, water shall be filtered by use of a barrier system, wattle or other method approved by the enforcing agency.
 - Compliance with a lawfully enacted storm water management ordinance.
- Construction plans shall indicate how the site grading or drainage system will manage all surface water flows to keep water from entering buildings (4.106.3).
- New residential construction shall facilitate future installation and use of EV chargers. Electric vehicle supply equipment (EVSE) (4.106.4).
 - For one- and two-family dwelling units and townhomes with attached garages, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit for each dwelling unit (4.106.4.1).

- Where 17 or more multifamily dwelling units are constructed on a building site, 3 percent of the total number of parking spaces provided for all types of parking facilities, but in no case less than one, shall be electric vehicle charging spaces (EV spaces) capable of supporting future EVSE. Calculations for the required number of EV spaces shall be rounded up to the nearest whole number (4.106.4.2).
 - Construction documents shall indicate the location of proposed EV spaces. At least one EV space shall be located in common use areas and available for use by all residents. (4.106.4.2.1)
- All newly constructed hotels and motels shall provide EV spaces capable of supporting future installation of EVSE. The construction documents shall identify the location of the EV spaces.
 - The number of required EV spaces shall be based on the total number of parking spaces provided for all types of parking facilities in accordance with Table 4.106.4.3.1. Calculations for the required number of EV spaces shall be rounded up to the nearest whole number (4.106.4.3.1).
- Comply with Title 24, Part 6 energy efficiency standards (4.201.1).
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
 - Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush (4.303.1.1)
 - Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush. The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush (4.303.1.2).
 - Showerheads. Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi (4.303.1.3.1). When a shower is served by more than one showerhead, the combine flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi (4.303.1.3.2).
 - Faucets and fountains. Residential lavatory faucets shall have a maximum flow rate of not more than 1.2 gallons per minute at 60 psi (4.303.1.4.1). Lavatory faucets in common or public use areas shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi (4.303.1.4.2). Metering faucets shall not deliver more than 0.25 gallons per cycle (4.303.1.4.3). Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute at 60 psi (4.303.1.4.4).
- Outdoor portable water use in landscaped areas. Residential developments with an aggregate area equal to or greater than 500 square feet shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent (4.304.1).
- Newly constructed residential developments, where disinfected tertiary recycled water is available from a municipal source to a construction site, may be required to have recycled water supply

systems installed, allowing the use of recycled water for residential landscape irrigation systems (4.305.1).

- Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with Section 4.401.1, 4.408.2; or meet a local construction and demolition waste management ordinance, whichever is more stringent (5.408.1).
- At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which includes all of the following shall be placed in the building (4.410.1):
 - Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure.
 - Operation and maintenance instructions for the following:
 - Equipment and appliances, including water-saving devices and systems, HVAC systems, photovoltaic systems, electric vehicle chargers, water-heating systems and other major appliances and equipment.
 - Roof and yard drainage, including gutters and downspouts.
 - Space conditioning systems, including condensers and air filters.
 - Landscape irrigation systems.
 - Water reuse systems.
 - Information from local utility, water and waste recovery providers on methods to further reduce resource consumption, including recycle programs and locations.
 - Public transportation and/or carpool options available in the area.
 - Educational material on the positive impacts of an interior relative humidity between 30—60 percent and what methods an occupant may use to maintain the relative humidity level in that range.
 - Information about water-conserving landscape and irrigation design and controllers which conserve water.
 - Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation.
 - Information on required routine maintenance measures, including, but not limited to, caulking, painting, grading around the building, etc.
 - Information about state solar energy and incentive programs available.
 - A copy of all special inspection verifications required by the enforcing agency or this code.
- Recycling by Occupants. Where 5 or more multi-family dwelling units, provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive (4.410.2).

2.6.3 AIR QUALITY MANAGEMENT PLANNING

Currently, the NAAQS and CAAQS are exceeded in most parts of the MDAB. In regards to the NAAQS, the Project region within the MDAB is in nonattainment for ozone (8-hour) and PM₁₀.

For the CAAQS, the Project region within the MDAB is in nonattainment for ozone (1-hour and 8-hour), PM₁₀, and PM_{2.5}. In response, the MDAQMD has adopted a series of Air Quality Management Plans (AQMPs) to meet the state and federal ambient air quality standards (16). AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy. A detailed discussion on the AQMP and Project consistency with the AQMP is provided in Section 3.7.

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3 PROJECT AIR QUALITY IMPACT

3.1 INTRODUCTION

The Project has been evaluated to determine if it will violate an air quality standard or contribute to an existing or projected air quality violation. Additionally, the Project has been evaluated to determine if it will result in a cumulatively considerable net increase of a criteria pollutant for which the MDAB is non-attainment under an applicable federal or state ambient air quality standard. The significance of these potential impacts is described in the following section.

3.2 STANDARDS OF SIGNIFICANCE

The criteria used to determine the significance of potential Project-related air quality impacts are taken from the Initial Study Checklist in Appendix G of the State CEQA Guidelines (14 California Code of Regulations §§15000, et seq.). Based on these thresholds, a project would result in a significant impact related to air quality if it would (17):

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.

The MDAQMD has developed regional significance thresholds for regulated pollutants, shown below in Table 3-1. The MDAQMD's *CEQA and Federal Conformity Guidelines* indicate that any projects in the MDAB with daily regional emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact (18).

TABLE 3-1: MAXIMUM REGIONAL DAILY EMISSIONS THRESHOLDS

| Pollutant | Daily Threshold (pounds) |
|-------------------|--------------------------|
| CO | 548 lbs/day |
| NO _x | 137 lbs/day |
| VOC | 137 lbs/day |
| SO _x | 137 lbs/day |
| PM ₁₀ | 82 lbs/day |
| PM _{2.5} | 65 lbs/day |

Note: lbs/day – pounds per day

3.3 CALIFORNIA EMISSIONS ESTIMATOR MODEL™ EMPLOYED TO ESTIMATE AQ EMISSIONS

Land uses such as the Project affect air quality through construction-source and operational-source emissions.

On June 2021, the California Air Pollution Control Officers Association (CAPCOA) conjunction with the SCAQMD and other California air districts, released the latest version of the California Emissions Estimator Model, version 2020.4.0 (CalEEMod). The purpose of this model is to calculate construction-source and operational-source criteria pollutant (VOCs, NO_x, SO_x, CO, PM₁₀, and PM_{2.5}) and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation (19). Accordingly, the latest version of CalEEMod has been used for this Project to determine construction and operational air quality emissions. Output from the model runs for both construction and operational activity are provided in Appendices 3.1.

3.4 CONSTRUCTION EMISSIONS

Construction activities associated with the Project will result in emissions of CO, VOCs, NO_x, SO_x, PM₁₀, and PM_{2.5}. Construction related emissions are expected from the following construction activities:

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

Construction is expected to commence in September 2022 and will last through December 2023. Construction duration by phase is shown on Table 3-2. The construction schedule utilized in the analysis represents a “worst-case” analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent.¹ The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per CEQA guidelines. Site specific construction fleet may vary due to specific project needs at the time of construction. The duration of construction activity was based on CalEEMod model defaults adjusted to account for a 2023 opening year. The associated construction equipment was generally based on CalEEMod defaults with modifications to assign 8-hour working days and account for ground disturbance during site preparation and grading. Please refer to specific detailed modeling inputs/outputs contained in Appendix 3.1 of this analysis. A detailed summary of construction equipment assumptions by phase is provided at Table 3-3.

¹ As shown in the California Emissions Estimator Model (CalEEMod) User’s Guide Version, Section 4.3 “OFFROAD Equipment” as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

TABLE 3-2: CONSTRUCTION DURATION

| Phase Name | Start Date | End Date | Days |
|-----------------------|------------|------------|------|
| Site Preparation | 9/5/2022 | 9/30/2022 | 20 |
| Grading | 10/1/2022 | 12/23/2022 | 60 |
| Building Construction | 12/24/2022 | 12/29/2023 | 265 |
| Paving | 9/18/2023 | 12/29/2023 | 75 |
| Architectural Coating | 9/18/2023 | 12/29/2023 | 75 |

Source: CalEEMod, Appendix 3.1.

TABLE 3-3: CONSTRUCTION EQUIPMENT ASSUMPTIONS

| Phase Name | Equipment | Amount | Hours Per Day |
|-----------------------|---------------------------|--------|---------------|
| Site Preparation | Crawler Tractors (B/T/L) | 4 | 8 |
| | Rubber Tired Dozers | 3 | 8 |
| Grading | Crawler Tractors (B/T/L) | 2 | 8 |
| | Crawler Tractors (E) | 2 | 8 |
| | Excavators | 2 | 8 |
| | Graders | 1 | 8 |
| | Rubber Tired Dozers | 1 | 8 |
| Building Construction | Cranes | 2 | 8 |
| | Forklifts | 6 | 8 |
| | Generator Sets | 2 | 8 |
| | Tractors/Loaders/Backhoes | 6 | 8 |
| | Welders | 2 | 8 |
| Paving | Pavers | 2 | 8 |
| | Paving Equipment | 2 | 8 |
| | Rollers | 2 | 8 |
| Architectural Coating | Air Compressors | 1 | 8 |

B/T/L = Backhoes, Tractors, Loaders ; E = Excavators

Source: CalEEMod, Appendix 3.1

Dust is typically a major concern during rough grading activities. Because such emissions are not amenable to collection and discharge through a controlled source, they are called “fugitive emissions”. Fugitive dust emissions rates vary as a function of many parameters (soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance or excavation, etc.). The CalEEMod model was utilized to calculate fugitive dust emissions resulting from this phase of activity.

Construction emissions for construction worker vehicles traveling to and from the Project site, as well as vendor trips (construction materials delivered to the Project site) were estimated based on information CalEEMod model defaults.

3.4.1 CONSTRUCTION EMISSIONS SUMMARY

The estimated maximum daily construction emissions without mitigation are summarized on Table 3-4. Detailed construction model outputs are presented in Appendix 3.1. Under the assumed scenarios, emissions resulting from the Project construction would not exceed thresholds established by the MDAQMD for emissions of any criteria pollutant. As such, the Project will have a less than significant impact during on-going construction activity and no mitigation is required.

TABLE 3-4: EMISSIONS SUMMARY OF CONSTRUCTION (WITHOUT MITIGATION)

| Year | Emissions (lbs/day) | | | | | |
|---------------------------------------|---------------------|-----------------|--------------|-----------------|------------------|-------------------|
| | VOC | NO _x | CO | SO _x | PM ₁₀ | PM _{2.5} |
| Summer | | | | | | |
| 2022 | 4.10 | 41.16 | 37.64 | 0.07 | 24.21 | 12.47 |
| 2023 | 99.67 | 43.76 | 55.01 | 0.10 | 3.13 | 2.25 |
| Maximum Daily Summer Emissions | 99.67 | 43.76 | 55.01 | 0.10 | 24.21 | 12.47 |
| MDAQMD Regional Threshold | 137 | 137 | 548 | 137 | 82 | 65 |
| Threshold Exceeded? | No | No | No | No | No | No |
| Winter | | | | | | |
| 2022 | 4.10 | 41.16 | 37.18 | 0.07 | 24.21 | 12.47 |
| 2023 | 99.63 | 43.81 | 54.42 | 0.10 | 3.13 | 2.25 |
| Maximum Daily Winter Emissions | 99.63 | 43.81 | 54.42 | 0.10 | 24.21 | 12.47 |
| MDAQMD Regional Threshold | 137 | 137 | 548 | 137 | 82 | 65 |
| Threshold Exceeded? | No | No | No | No | No | No |

Source: CalEEMod, Appendix 3.1.

3.5 OPERATIONAL EMISSIONS

Operational activities associated with the proposed Project will result in emissions of VOC, NO_x, CO, SO_x, PM₁₀, and PM_{2.5}. Operational emissions would be expected from the following primary sources:

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions

3.5.1 AREA SOURCE EMISSIONS

ARCHITECTURAL COATINGS

Over a period of time the buildings that are part of this Project would require maintenance and would therefore produce emissions resulting from the evaporation of solvents contained in paints, varnishes, primers, and other surface coatings. The emissions associated with architectural coatings were calculated using CalEEMod.

CONSUMER PRODUCTS

Consumer products include, but are not limited to detergents, cleaning compounds, polishes, personal care products, and lawn and garden products. Many of these products contain organic compounds which when released in the atmosphere can react to form ozone and other photochemically reactive pollutants. The emissions associated with use of consumer products were calculated based on defaults provided within CalEEMod.

LANDSCAPE MAINTENANCE EQUIPMENT

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. The emissions associated with landscape maintenance equipment were calculated based on assumptions provided in CalEEMod.

3.5.2 ENERGY SOURCE EMISSIONS

COMBUSTION EMISSIONS ASSOCIATED WITH NATURAL GAS AND ELECTRICITY

Electricity and natural gas are used by almost every project. Criteria pollutant emissions are emitted through the generation of electricity and consumption of natural gas. However, because electrical generating facilities for the Project area are located either outside the region (state) or offset through the use of pollution credits (RECLAIM) for generation within the MDAB, criteria pollutant emissions from offsite generation of electricity is generally excluded from the evaluation of significance and only natural gas use is considered. The emissions associated with natural gas use were calculated using the CalEEMod model.

3.5.3 MOBILE SOURCE EMISSIONS

Project-related operational air quality impacts derive primarily from the 1,982 vehicle trips generated by the Project. Trip characteristics available from the report, *Victorville Residential Vehicle Miles Travelled* (Urban Crossroads, Inc.) 2021 were utilized in this analysis (4).

Fugitive Dust Related to Vehicular Travel

Vehicles traveling on paved roads would be a source of fugitive emissions due to the generation of road dust inclusive of tire wear particulates. The emissions estimates for travel on paved roads were calculated using the CalEEMod model.

3.5.4 OPERATIONAL EMISSIONS SUMMARY

Operational-source emissions are summarized on Table 3-5. Detailed operational model outputs are presented in Appendix 3.2. Project operational-source emissions would not exceed the applicable MDAQMD thresholds for any criteria pollutant. Thus, a less than significant impact would occur for Project operational-source emissions and no mitigation is required.

TABLE 3-5: SUMMARY OF PEAK OPERATIONAL EMISSIONS

| Source | Emissions (lbs/day) | | | | | |
|---------------------------------------|---------------------|-----------------|--------------|-----------------|------------------|-------------------|
| | VOC | NO _x | CO | SO _x | PM ₁₀ | PM _{2.5} |
| Summer | | | | | | |
| Area Source | 12.22 | 3.33 | 18.66 | 0.02 | 0.35 | 0.35 |
| Energy Source | 0.18 | 1.50 | 0.64 | 0.01 | 0.12 | 0.12 |
| Mobile Source Passenger Cars | 7.27 | 8.84 | 61.65 | 0.13 | 12.12 | 0.11 |
| Maximum Daily Summer Emissions | 19.67 | 13.67 | 80.95 | 0.16 | 12.59 | 0.58 |
| MDAQMD Regional Threshold | 137 | 137 | 548 | 137 | 82 | 65 |
| Threshold Exceeded? | No | No | No | No | No | No |
| Winter | | | | | | |
| Area Source | 12.22 | 3.33 | 18.66 | 0.02 | 0.35 | 0.35 |
| Energy Source | 0.18 | 1.50 | 0.64 | 0.01 | 0.12 | 0.12 |
| Mobile Source Passenger Cars | 5.99 | 9.36 | 53.92 | 0.12 | 12.12 | 0.11 |
| Maximum Daily Winter Emissions | 18.38 | 14.20 | 73.22 | 0.15 | 12.59 | 0.58 |
| MDAQMD Regional Threshold | 137 | 137 | 548 | 137 | 82 | 65 |
| Threshold Exceeded? | No | No | No | No | No | No |

Source: CalEEMod, Appendix 3.1

3.6 CO "HOT SPOT" ANALYSIS

As discussed below, the Project would not result in potentially adverse CO concentrations or "hot spots." Further, detailed modeling of Project-specific carbon monoxide (CO) "hot spots" is not needed to reach this conclusion.

An adverse CO concentration, known as a "hot spot", would occur if an exceedance of the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm were to occur. At the time of the 1993 Handbook, the air basin was designated nonattainment under the California AAQS and National AAQS for CO (20).

It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last twenty years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the air basin is now designated as attainment, as previously noted in Table 2-2. Also, CO concentrations in the Project vicinity have steadily declined, as indicated by historical emissions data presented previously at Table 2-3.

To establish a more accurate record of baseline CO concentrations affecting the basin, a CO "hot spot" analysis was conducted in 2003 for four busy intersections in Los Angeles at the peak morning and afternoon time periods. This "hot spot" analysis did not predict any violation of CO standards, as shown on Table 3-6.

TABLE 3-6: CO MODEL RESULTS

| Intersection Location | Carbon Monoxide Concentrations (parts per million) | | |
|-----------------------|--|------------------|--------|
| | Morning 1-hour | Afternoon 1-hour | 8-hour |
| Wilshire-Veteran | 4.6 | 3.5 | 3.7 |
| Sunset-Highland | 4 | 4.5 | 3.5 |
| La Cienega-Century | 3.7 | 3.1 | 5.2 |
| Long Beach-Imperial | 3 | 3.1 | 8.4 |

Source: 2003 AQMP, Appendix V: Modeling and Attainment Demonstrations

Notes: Federal 1-hour standard is 35 ppm and the deferral 8-hour standard is 9.0 ppm.

It should be noted that MDAQMD has not established its own guidelines for CO hotspots analysis. Since the MDAQMD guidelines are based on SCAQMD methodology, it is appropriate to apply the SCAQMD criteria when analyzing CO hotspots within the MDAQMD. As identified within SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the basin were a result of unusual meteorological and topographical conditions and not a result of traffic volumes and congestion at a particular intersection. As evidence of this, for example, 8.4 ppm CO concentration measured at the Long Beach Blvd. and Imperial Hwy. intersection (highest CO generating intersection within the "hot spot" analysis), only 0.7 ppm was attributable to the traffic volumes and congestion at this intersection; the remaining 7.7 ppm were due to the ambient air measurements at the time the 2003 AQMP was prepared (20). Therefore, even if the traffic volumes for the proposed Project were double or even triple of the traffic volumes generated at the Long Beach Blvd. and Imperial Hwy. intersection, coupled with the on-going improvements in ambient air quality, the Project would not be capable of resulting in a CO "hot spot" at any study area intersections.

Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD) concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (21).

Traffic volumes generating the CO concentrations for the "hot spot" analysis, shown on Table 3-7. The busiest intersection evaluated was that at Wilshire Blvd. and Veteran Ave., which has a daily traffic volume of approximately 100,000 vehicles per day and AM/PM traffic volumes of 8,062 vehicles per hour and 7,719 vehicles per hour respectively (20). The 2003 AQMP estimated that the 1-hour concentration for this intersection was 4.6 ppm; this indicates that, should the daily traffic volume increase four times to 400,000 vehicles per day, CO concentrations (4.6 ppm x 4= 18.4 ppm) would still not likely exceed the most stringent 1-hour CO standard (20.0 ppm).²

The proposed Project considered herein would generate 1,982 trips and would not produce the volume of traffic required to generate a CO "hot spot" either in the context of the 2003 Los Angeles hot spot study or based on representative BAAQMD CO threshold considerations.

² Based on the ratio of the CO standard (20.0 ppm) and the modeled value (4.6 ppm).

Therefore, CO “hot spots” are not an environmental impact of concern for the proposed Project. Localized air quality impacts related to mobile-source emissions would therefore be less than significant.

TABLE 3-7: TRAFFIC VOLUMES

| Intersection Location | Peak Traffic Volumes (vehicles per hour) | | | | |
|-----------------------|--|----------------------|-----------------------|-----------------------|------------------|
| | Eastbound (AM/PM) | Westbound (AM/PM) | Southbound (AM/PM) | Northbound (AM/PM) | Total (AM/PM) |
| Wilshire-Veteran | 4,954/2,069 | 1,830/3,317 | 721/1,400 | 560/933 | 8,062/7,719 |
| Sunset-Highland | 1,417/1,764 | 1,342/1,540 | 2,304/1,832 | 1,551/2,238 | 6,614/5,374 |
| La Cienega-Century | 2,540/2,243 | 1,890/2,728 | 1,384/2,029 | 821/1,674 | 6,634/8,674 |
| Long Beach-Imperial | 1,217/2,020 | 1,760/1,400 | 479/944 | 756/1,150 | 4,212/5,514 |

Source: 2003 AQMP

3.7 AIR QUALITY MANAGEMENT PLANNING

The Federal Particulate Matter Attainment Plan and Ozone Attainment Plan for the Mojave Desert set forth a comprehensive set of programs that will lead the MDAB into compliance with federal and state air quality standards. The control measures and related emission reduction estimates within the Federal Particulate Matter Attainment Plan and Ozone Attainment Plan are based upon emissions projections for a future development scenario derived from land use, population, and employment characteristics defined in consultation with local governments. Accordingly, conformance with these attainment plans for development projects is determined by demonstrating compliance with: 1) local land use plans and/or population projections, 2) all MDAQMD Rules and Regulations; and 3) demonstrating that the project will not increase the frequency or severity of a violation in the federal or state ambient air quality standards.

The Project site has a land use designation of “Low Density Residential”, which allows for 5 dwelling units (DU) per acre. The Project would develop 210 DU on 56 acres, a density of 3.75 DU per acre, which is consistent with the City of Victorville General Plan land use designation (22). Additionally, it should be noted that the proposed development would not exceed regional thresholds for operational emissions and would therefore be considered to have a less than significant impact. As such, development proposed by the Project is consistent with the growth projections in the General Plan and is therefore considered to be consistent with the AQMP.

AQMP Consistency Conclusion

The Project would not result in or cause NAAQS or CAAQS violations. The Project’s proposed land use designation for the subject site is consistent with the land use designation discussed in the General Plan. Furthermore, the Project would not exceed the applicable regional thresholds and would therefore be considered to have a less than significant impact. The Project is therefore considered to be consistent with the AQMP.

3.8 POTENTIAL IMPACTS TO SENSITIVE RECEPTORS

The potential impact of Project-generated air pollutant emissions at sensitive receptors has also been considered. Sensitive receptors can include uses such as long-term health care facilities, rehabilitation centers, and retirement homes. Residences, schools, playgrounds, child care centers, and athletic facilities can also be considered as sensitive receptors. The nearest sensitive receptor is a residential community located approximately 2,000 feet west of the Project site.

As per the MDAQMD Guidelines, the following project types located within a specified distance to an existing or planned sensitive receptor land use must be evaluated to determine exposure of substantial pollutant concentrations to sensitive receptors (18) :

- Any industrial project within 1,000 feet;
- A distribution center (40 or more trucks per day) within 1,000 feet;
- A major transportation project (50,000 or more vehicles per day) within 1,000 feet;
- A dry cleaner using perchloroethylene within 500 feet;
- A gasoline dispensing facility within 300 feet.

The proposed Project consists of up to 210 single-family residential units use and does not include the above uses. As such, no analysis for sensitive receptors is required. Additionally, results of the regional analysis indicate that the Project will not exceed the MDAQMD significance thresholds during construction or operations. Therefore, sensitive receptors would not be subject to a significant air quality impact during Project construction and operational activities.

The proposed Project would not result in a CO “hotspot” as a result of Project related traffic during ongoing operations, nor would the Project result in a significant adverse health impact as discussed in Section 3.6. Thus, a less than significant impact to sensitive receptors during operational activity is expected.

3.9 ODORS

The potential for the Project to generate objectionable odors has also been considered. Land uses generally associated with odor complaints include:

- Agricultural uses (livestock and farming)
- Wastewater treatment plants
- Food processing plants
- Chemical plants
- Composting operations
- Refineries
- Landfills
- Dairies
- Fiberglass molding facilities

The Project does not contain land uses typically associated with emitting objectionable odors. Potential odor sources associated with the proposed Project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities and the temporary storage of typical solid waste (refuse) associated with the proposed Project's (long-term operational) uses. Standard construction requirements would minimize odor impacts from construction. The construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction and is thus considered less than significant. It is expected that Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the City's solid waste regulations. The proposed Project would also be required to comply with MDAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors, and emissions that may lead to odors, associated with the proposed Project construction and operations would be less than significant and no mitigation is required.

3.10 CUMULATIVE IMPACTS

Related projects could contribute to an existing or projected air quality exceedance because the Basin is currently nonattainment for ozone, PM₁₀, and PM_{2.5}.

The MDAQMD relies on the SCAQMD guidance for determining cumulative impacts. The SCAQMD has recognized that there is typically insufficient information to quantitatively evaluate the cumulative contributions of multiple projects because each project applicant has no control over nearby projects.

The SCAQMD published a report on how to address cumulative impacts from air pollution: *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution* (23). In this report the AQMD clearly states (Page D-3):

"...the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for toxic air contaminant (TAC) emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.

Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant."

Individual projects that do not generate operational or construction emissions that exceed the MDAQMD's recommended daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which the Basin is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality

impact. Conversely, individual project-related construction and operational emissions that exceed MDAQMD thresholds for project-specific impacts would be considered cumulatively considerable. As previously noted, the Project will not exceed the applicable MDAQMD regional threshold for construction and operational-source emissions. As such, the Project will not result in a cumulatively significant impact for construction or operational activity.

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4 CONCLUSION

CONSTRUCTION-SOURCE EMISSIONS

REGIONAL IMPACTS

For regional emissions, the Project will not exceed the numerical thresholds of significance established by the Mojave Desert Air Quality Management District (MDAQMD). Thus, a less than significant impact would occur for Project-related construction-source emissions and no mitigation measures are required.

Odors

Established requirements addressing construction equipment operations, and construction material use, storage, and disposal requirements act to minimize odor impacts that may result from construction activities. Moreover, construction-source odor emissions would be temporary, short-term, and intermittent in nature and would not result in persistent impacts that would affect substantial numbers of people. Potential construction-source odor impacts are therefore considered less-than-significant.

OPERATIONAL-SOURCE EMISSIONS

REGIONAL IMPACTS

For regional emissions, the Project would not exceed the numerical thresholds of significance established by the MDAQMD. Thus, a less than significant impact would occur for Project-related operational-source emissions and no mitigation measures are required.

The proposed Project would not result in a significant CO “hotspot” as a result of Project related traffic during ongoing operations, nor would the Project result in a significant adverse health impact as discussed in Section 3.6, thus a less than significant impact to sensitive receptors during operational activity is expected.

ODORS

Substantial odor-generating sources include land uses such as agricultural activities, feedlots, wastewater treatment facilities, landfills or various heavy industrial uses. The Project does not propose any such uses or activities that would result in potentially significant operational-source odor impacts. Potential sources of operational odors generated by the Project would include disposal of miscellaneous refuse. Moreover, MDAQMD Rule 402 acts to prevent occurrences of odor nuisances (24). Consistent with City of Victorville requirements, all Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with solid waste regulations. Potential operational-source odor impacts are therefore considered less-than-significant.

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6 CERTIFICATION

The contents of this air study report represent an accurate depiction of the environmental impacts associated with the proposed Victorville Residential Project. The information contained in this air quality impact assessment report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (619) 788-1971.

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EDUCATION

Bachelor of Science in Urban and Regional Planning
California Polytechnic State University, Pomona • June 2000

PROFESSIONAL AFFILIATIONS

ASA – Acoustical Society of America
APA – American Planning Association
AWMA – Air and Waste Management Association

PROFESSIONAL CERTIFICATIONS``

HARP Model Training – Bluescape Environmental • 2004
Air Dispersion Modeling – Lakes Environmental • 2008
2007
AB2588 Regulatory Standards – Trinity Consultants • November 2006
Air Dispersion Modeling – Lakes Environmental • June 2006

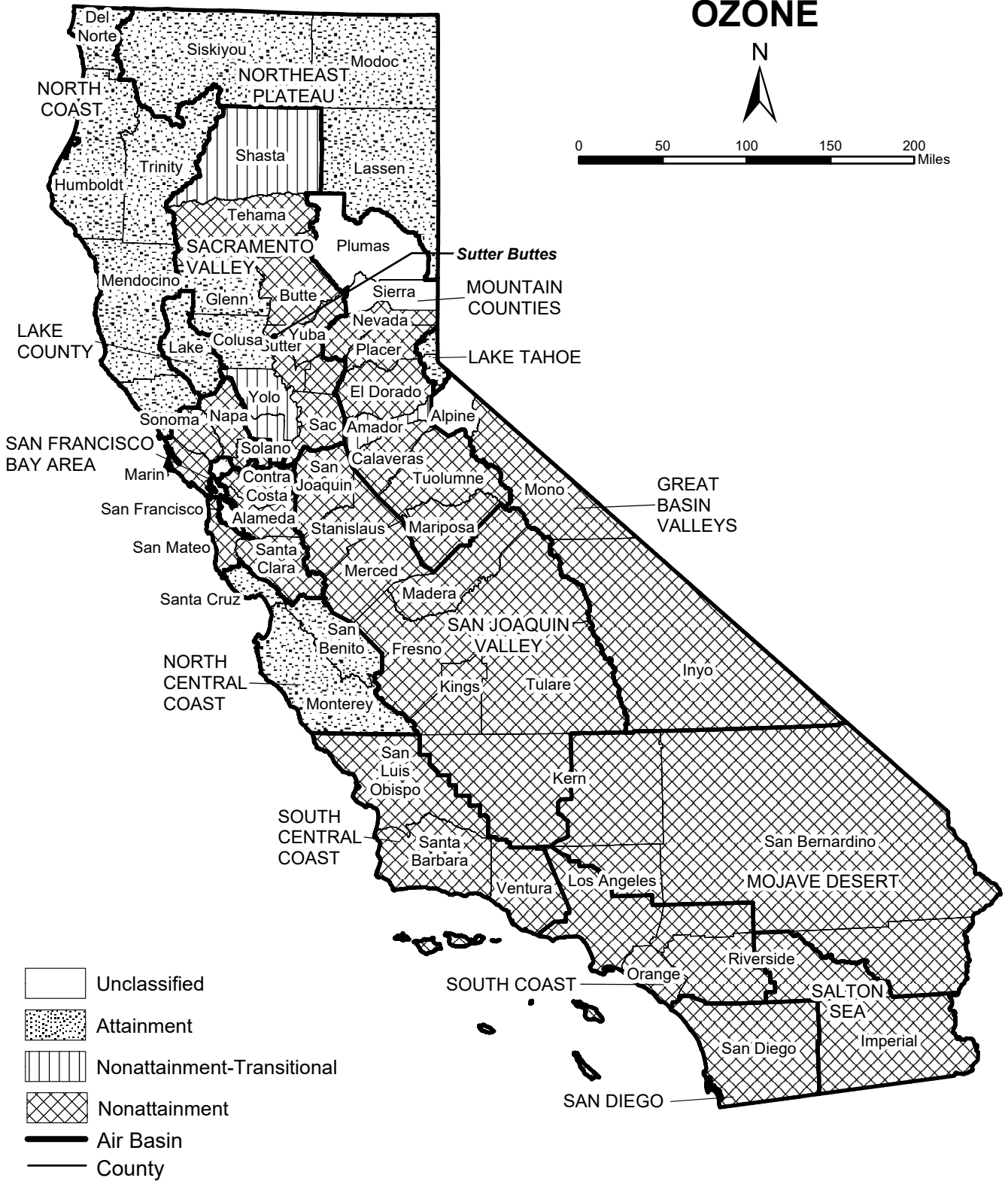
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APPENDIX 2.1:
STATE/FEDERAL ATTAINMENT STATUS OF CRITERIA POLLUTANTS

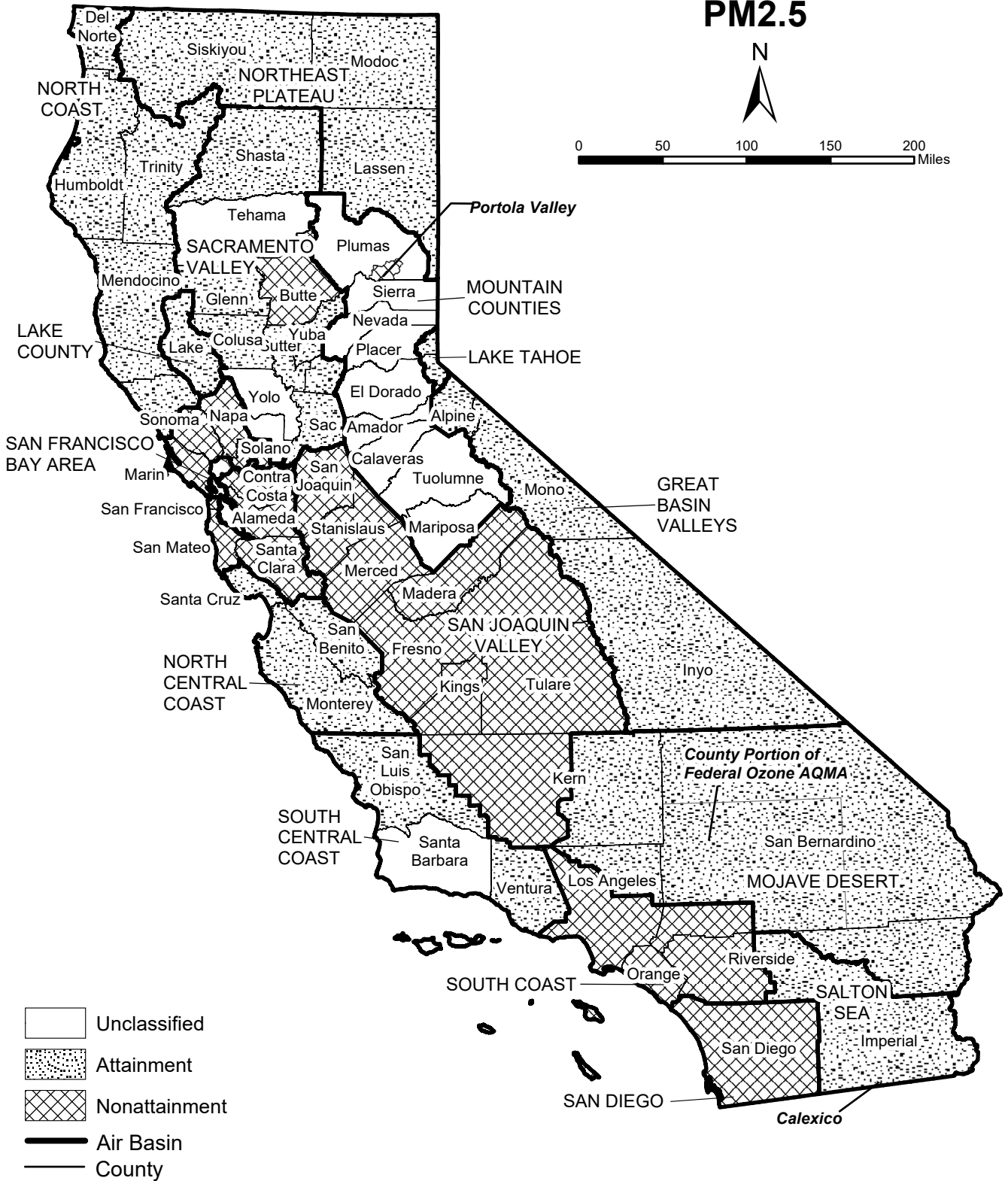
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Area Designations for State Ambient Air Quality Standards

OZONE



Area Designations for State Ambient Air Quality Standards PM2.5



Last Updated: October 2020
Air Quality Planning and Science Division, CARB

2020 Area Designations for State Ambient Air Quality Standards PM₁₀



Last Updated: October 2020
Air Quality Planning and Science Division, CARB

Area Designations for State Ambient Air Quality Standards CARBON MONOXIDE



Area Designations for State Ambient Air Quality Standards HYDROGEN SULFIDE



Area Designations for State Ambient Air Quality Standards NITROGEN DIOXIDE



Area Designations for State Ambient Air Quality Standards SULFUR DIOXIDE



Area Designations for State Ambient Air Quality Standards

LEAD



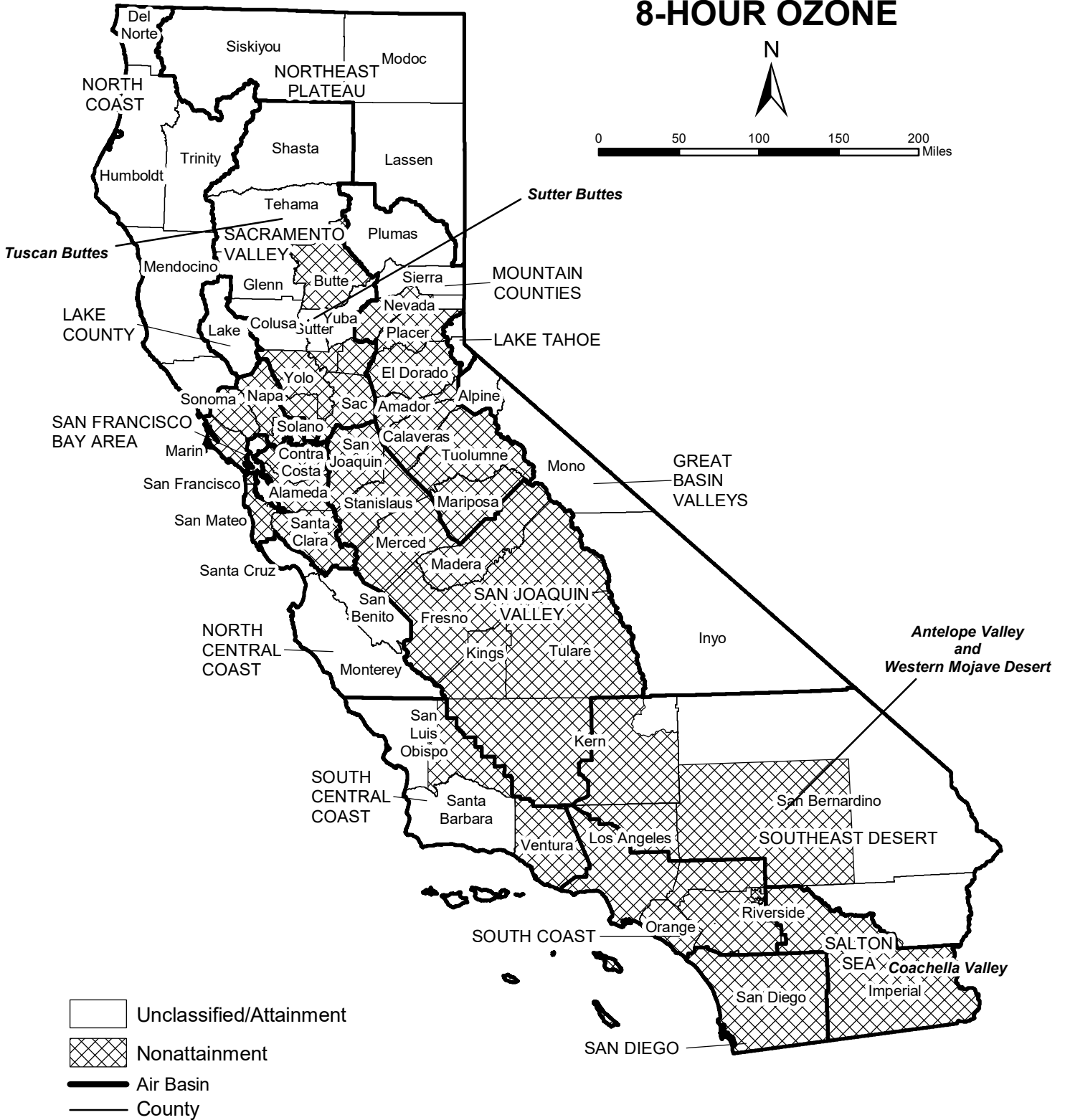
Area Designations for State Ambient Air Quality Standards **SULFATES**



Area Designations for State Ambient Air Quality Standards VISIBILITY REDUCING PARTICLES

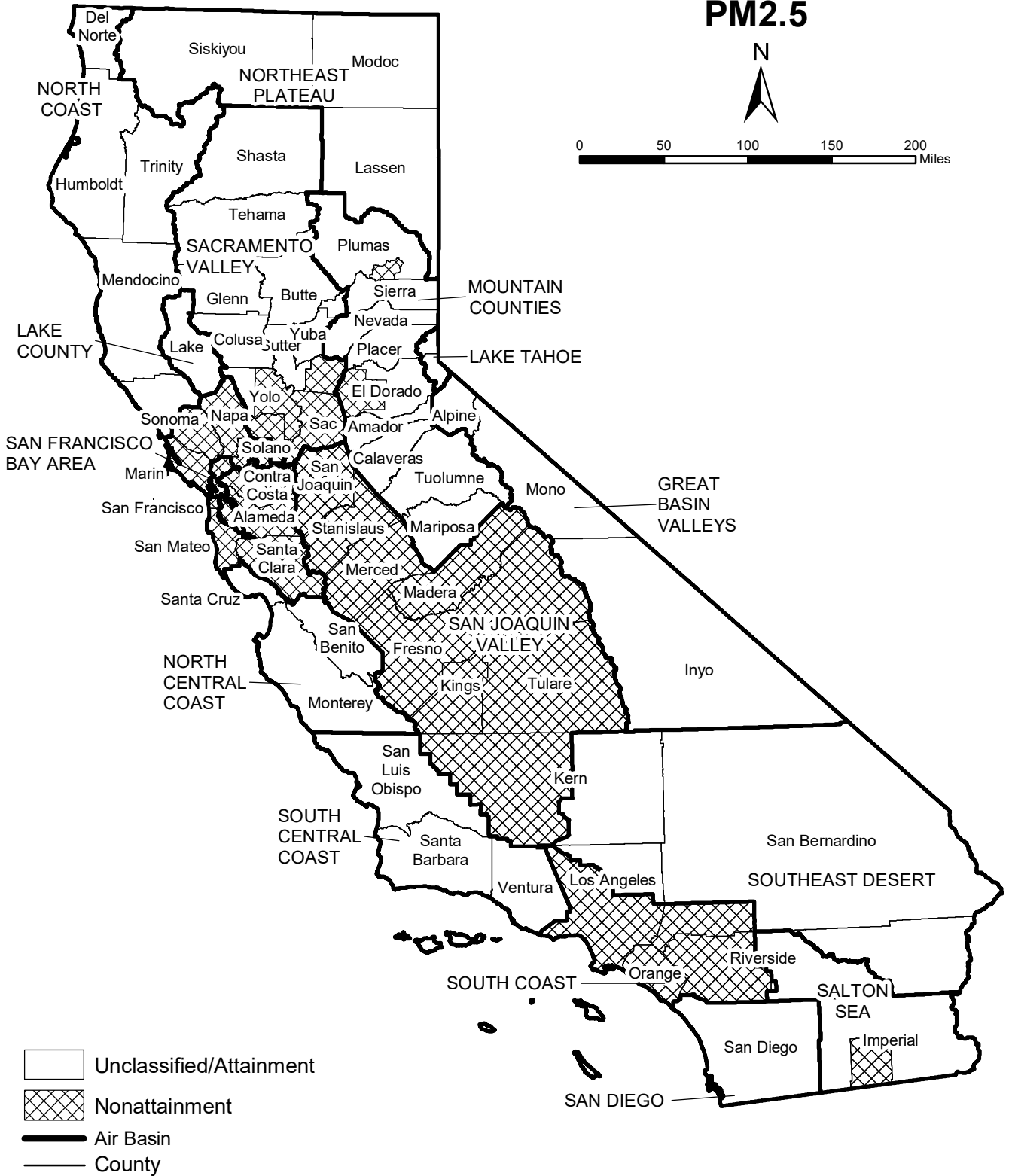


Area Designations for National Ambient Air Quality Standards 8-HOUR OZONE



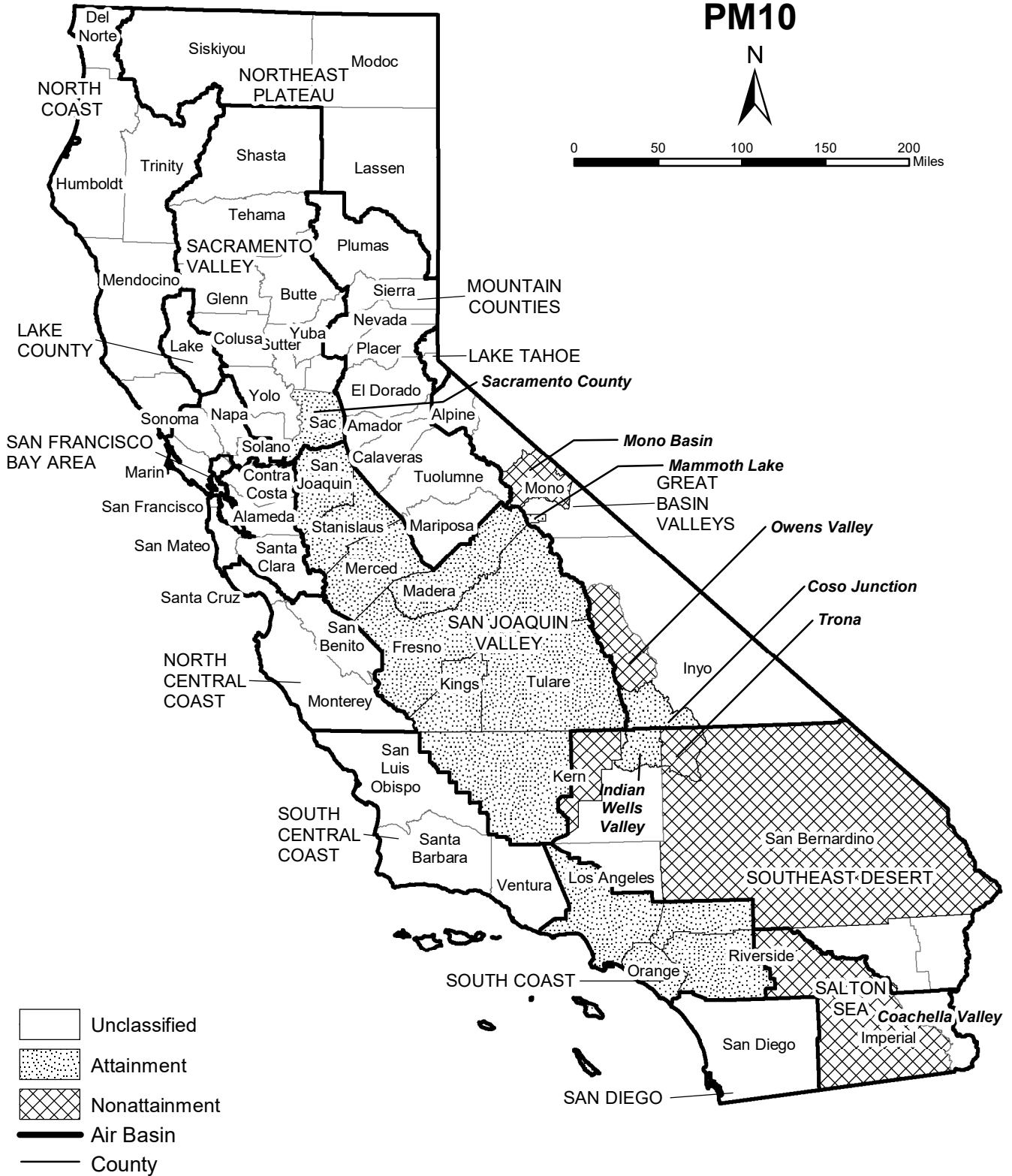
Area Designations for National Ambient Air Quality Standards

PM2.5



Area Designations for National Ambient Air Quality Standards

PM10



Area Designations for National Ambient Air Quality Standards CARBON MONOXIDE



Area Designations for National Ambient Air Quality Standards NITROGEN DIOXIDE



Area Designations for National Ambient Air Quality Standards SULFUR DIOXIDE



Area Designations for National Ambient Air Quality Standards

LEAD



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APPENDIX 3.1:
CALEEMOD EMISSIONS MODEL OUTPUTS

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14222-Victorville Residential - Mojave Desert AQMD Air District, Summer

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

**14222-Victorville Residential
Mojave Desert AQMD Air District, Summer**

1.0 Project Characteristics

1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|-----------------------|--------|---------------|-------------|--------------------|------------|
| Single Family Housing | 210.00 | Dwelling Unit | 56.00 | 378,000.00 | 601 |

1.2 Other Project Characteristics

| | | | | | |
|---------------------------------|----------------------------|---------------------------------|-------|----------------------------------|-------|
| Urbanization | Urban | Wind Speed (m/s) | 2.6 | Precipitation Freq (Days) | 30 |
| Climate Zone | 10 | | | Operational Year | 2023 |
| 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 - Acreage taken from Tentative Tract Layout
- Construction Phase - Applicant provided schedule
- Off-road Equipment - Standard 8-hour work day
- Off-road Equipment - Shorter Construction period, double equipment, standard 8-hour work day
- Off-road Equipment - T/L/B and Scrapers replaced with Crawler Tractor to more accurately show soil disturbance
- Off-road Equipment -
- Off-road Equipment - T/L/B replaced with Crawler Tractor to more accurately show soil disturbance
- Trips and VMT -
- Grading -
- Architectural Coating - Changed from default to show no impact
- Vehicle Trips - Ex

14222-Victorville Residential - Mojave Desert AQMD Air District, Summer

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

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - Rule 445 no wood burning devices

Area Coating -

Water And Wastewater - per CalGreen 20% Indoor water reduction over CalEEMod 2000 survey data

Solid Waste -

Construction Off-road Equipment Mitigation -

| Table Name | Column Name | Default Value | New Value |
|-------------------------|----------------------------|---------------|-----------|
| tblArchitecturalCoating | EF_Nonresidential_Exterior | 250.00 | 150.00 |
| tblArchitecturalCoating | EF_Nonresidential_Interior | 250.00 | 150.00 |
| tblArchitecturalCoating | EF_Residential_Exterior | 250.00 | 150.00 |
| tblArchitecturalCoating | EF_Residential_Interior | 250.00 | 150.00 |
| tblConstructionPhase | NumDays | 1,110.00 | 265.00 |
| tblConstructionPhase | NumDays | 110.00 | 60.00 |
| tblConstructionPhase | NumDays | 40.00 | 20.00 |
| tblFireplaces | NumberGas | 115.50 | 189.00 |
| tblFireplaces | NumberWood | 73.50 | 0.00 |
| tblLandUse | LotAcreage | 68.18 | 56.00 |
| tblOffRoadEquipment | HorsePower | 212.00 | 97.00 |
| tblOffRoadEquipment | HorsePower | 212.00 | 367.00 |
| tblOffRoadEquipment | HorsePower | 212.00 | 97.00 |
| tblOffRoadEquipment | LoadFactor | 0.43 | 0.37 |
| tblOffRoadEquipment | LoadFactor | 0.43 | 0.48 |
| tblOffRoadEquipment | LoadFactor | 0.43 | 0.37 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 6.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Summer

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

| | | | |
|---------------------|----------------------------|---------------|---------------|
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 6.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | UsageHours | 6.00 | 8.00 |
| tblOffRoadEquipment | UsageHours | 7.00 | 8.00 |
| tblOffRoadEquipment | UsageHours | 7.00 | 8.00 |
| tblVehicleTrips | ST_TR | 9.54 | 9.55 |
| tblVehicleTrips | SU_TR | 8.55 | 8.56 |
| tblVehicleTrips | WD_TR | 9.44 | 9.45 |
| tblWater | IndoorWaterUseRate | 13,682,345.38 | 10,945,876.30 |
| tblWoodstoves | NumberCatalytic | 10.50 | 0.00 |
| tblWoodstoves | NumberNoncatalytic | 10.50 | 0.00 |
| tblWoodstoves | WoodstoveWoodMass | 3,019.20 | 0.00 |

2.0 Emissions Summary

14222-Victorville Residential - Mojave Desert AQMD Air District, Summer

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

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------------|----------------|----------------|----------------|---------------|----------------|---------------|----------------|----------------|---------------|----------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2022 | 4.1022 | 41.1603 | 37.6432 | 0.0679 | 21.9259 | 2.2856 | 24.2115 | 10.3707 | 2.1028 | 12.4735 | 0.0000 | 6,536.8535 | 6,536.8535 | 1.9513 | 0.0806 | 6,594.9139 |
| 2023 | 99.6659 | 43.7600 | 55.0074 | 0.0966 | 1.0200 | 2.1125 | 3.1325 | 0.2739 | 1.9807 | 2.2546 | 0.0000 | 9,319.3006 | 9,319.3006 | 2.0945 | 0.0830 | 9,396.3936 |
| Maximum | 99.6659 | 43.7600 | 55.0074 | 0.0966 | 21.9259 | 2.2856 | 24.2115 | 10.3707 | 2.1028 | 12.4735 | 0.0000 | 9,319.3006 | 9,319.3006 | 2.0945 | 0.0830 | 9,396.3936 |

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 | | | | | |
| 2022 | 4.1022 | 41.1603 | 37.6432 | 0.0679 | 8.6413 | 2.2856 | 10.9269 | 4.0685 | 2.1028 | 6.1713 | 0.0000 | 6,536.8535 | 6,536.8535 | 1.9513 | 0.0806 | 6,594.9139 |
| 2023 | 99.6659 | 43.7600 | 55.0074 | 0.0966 | 1.0200 | 2.1125 | 3.1325 | 0.2739 | 1.9807 | 2.2546 | 0.0000 | 9,319.3006 | 9,319.3006 | 2.0945 | 0.0830 | 9,396.3936 |
| Maximum | 99.6659 | 43.7600 | 55.0074 | 0.0966 | 8.6413 | 2.2856 | 10.9269 | 4.0685 | 2.1028 | 6.1713 | 0.0000 | 9,319.3006 | 9,319.3006 | 2.0945 | 0.0830 | 9,396.3936 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Summer

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

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 57.90 | 0.00 | 48.58 | 59.21 | 0.00 | 42.79 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Summer

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

2.2 Overall Operational

Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|----------------|----------------|----------------|---------------|----------------|---------------|----------------|----------------|---------------|---------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 12.2182 | 3.3349 | 18.6633 | 0.0209 | | 0.3494 | 0.3494 | | 0.3494 | 0.3494 | 0.0000 | 4,033.5489 | 4,033.5489 | 0.1067 | 0.0734 | 4,058.0829 |
| Energy | 0.1755 | 1.4998 | 0.6382 | 9.5700e-003 | | 0.1213 | 0.1213 | | 0.1213 | 0.1213 | | 1,914.6680 | 1,914.6680 | 0.0367 | 0.0351 | 1,926.0459 |
| Mobile | 7.2805 | 8.8468 | 61.7167 | 0.1258 | 12.0225 | 0.1056 | 12.1281 | 3.2051 | 0.0992 | 3.3043 | | 12,925.4795 | 12,925.4795 | 0.6835 | 0.6315 | 13,130.7569 |
| Total | 19.6742 | 13.6815 | 81.0182 | 0.1563 | 12.0225 | 0.5763 | 12.5988 | 3.2051 | 0.5699 | 3.7749 | 0.0000 | 18,873.6964 | 18,873.6964 | 0.8269 | 0.7400 | 19,114.8856 |

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 | 12.2182 | 3.3349 | 18.6633 | 0.0209 | | 0.3494 | 0.3494 | | 0.3494 | 0.3494 | 0.0000 | 4,033.5489 | 4,033.5489 | 0.1067 | 0.0734 | 4,058.0829 |
| Energy | 0.1755 | 1.4998 | 0.6382 | 9.5700e-003 | | 0.1213 | 0.1213 | | 0.1213 | 0.1213 | | 1,914.6680 | 1,914.6680 | 0.0367 | 0.0351 | 1,926.0459 |
| Mobile | 7.2805 | 8.8468 | 61.7167 | 0.1258 | 12.0225 | 0.1056 | 12.1281 | 3.2051 | 0.0992 | 3.3043 | | 12,925.4795 | 12,925.4795 | 0.6835 | 0.6315 | 13,130.7569 |
| Total | 19.6742 | 13.6815 | 81.0182 | 0.1563 | 12.0225 | 0.5763 | 12.5988 | 3.2051 | 0.5699 | 3.7749 | 0.0000 | 18,873.6964 | 18,873.6964 | 0.8269 | 0.7400 | 19,114.8856 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Summer

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

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

3.0 Construction Detail

Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|--------------|-----------------------|-----------------------|------------|------------|---------------|----------|-------------------|
| 1 | Site Preparation | Site Preparation | 9/5/2022 | 9/30/2022 | 5 | 20 | |
| 2 | Grading | Grading | 10/1/2022 | 12/23/2022 | 5 | 60 | |
| 3 | Building Construction | Building Construction | 12/24/2022 | 12/29/2023 | 5 | 265 | |
| 4 | Paving | Paving | 9/18/2023 | 12/29/2023 | 5 | 75 | |
| 5 | Architectural Coating | Architectural Coating | 9/18/2023 | 12/29/2023 | 5 | 75 | |

Acres of Grading (Site Preparation Phase): 70

Acres of Grading (Grading Phase): 120

Acres of Paving: 0

Residential Indoor: 765,450; Residential Outdoor: 255,150; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|------------------|------------------------|--------|-------------|-------------|-------------|
| Site Preparation | Crawler Tractors | 4 | 8.00 | 97 | 0.37 |
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Grading | Crawler Tractors | 2 | 8.00 | 367 | 0.48 |
| Grading | Crawler Tractors | 2 | 8.00 | 97 | 0.37 |
| Grading | Excavators | 2 | 8.00 | 158 | 0.38 |
| Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| | | | 65 | | |

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| | | | | | |
|-----------------------|---------------------------|---|------|-----|------|
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Building Construction | Cranes | 2 | 8.00 | 231 | 0.29 |
| Building Construction | Forklifts | 6 | 8.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 2 | 8.00 | 84 | 0.74 |
| Building Construction | Tractors/Loaders/Backhoes | 6 | 8.00 | 97 | 0.37 |
| Building Construction | Welders | 2 | 8.00 | 46 | 0.45 |
| Paving | Pavers | 2 | 8.00 | 130 | 0.42 |
| Paving | Paving Equipment | 2 | 8.00 | 132 | 0.36 |
| Paving | Rollers | 2 | 8.00 | 80 | 0.38 |
| Architectural Coating | Air Compressors | 1 | 8.00 | 78 | 0.48 |

Trips and VMT

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|-----------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Site Preparation | 7 | 18.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 8 | 20.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 18 | 76.00 | 22.00 | 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 | 15.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |

3.1 Mitigation Measures Construction

Water Exposed Area

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

3.2 Site Preparation - 2022

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 | | | | | 21.7780 | 0.0000 | 21.7780 | 10.3315 | 0.0000 | 10.3315 | | | 0.0000 | | | 0.0000 |
| Off-Road | 4.0309 | 39.2966 | 20.6839 | 0.0380 | | 2.2849 | 2.2849 | | 2.1021 | 2.1021 | | 3,686.3768 | 3,686.3768 | 1.1923 | | 3,716.1830 |
| Total | 4.0309 | 39.2966 | 20.6839 | 0.0380 | 21.7780 | 2.2849 | 24.0629 | 10.3315 | 2.1021 | 12.4336 | | 3,686.3768 | 3,686.3768 | 1.1923 | | 3,716.1830 |

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 | 0.0713 | 0.0399 | 0.5581 | 1.3800e-003 | 0.1479 | 7.5000e-004 | 0.1486 | 0.0392 | 6.9000e-004 | 0.0399 | | 140.1783 | 140.1783 | 4.1600e-003 | 3.8400e-003 | 141.4271 |
| Total | 0.0713 | 0.0399 | 0.5581 | 1.3800e-003 | 0.1479 | 7.5000e-004 | 0.1486 | 0.0392 | 6.9000e-004 | 0.0399 | | 140.1783 | 140.1783 | 4.1600e-003 | 3.8400e-003 | 141.4271 |

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

3.2 Site Preparation - 2022

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|---------------|----------------|----------------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 8.4934 | 0.0000 | 8.4934 | 4.0293 | 0.0000 | 4.0293 | | | 0.0000 | | | 0.0000 |
| Off-Road | 4.0309 | 39.2966 | 20.6839 | 0.0380 | | 2.2849 | 2.2849 | | 2.1021 | 2.1021 | 0.0000 | 3,686.3768 | 3,686.3768 | 1.1923 | | 3,716.1830 |
| Total | 4.0309 | 39.2966 | 20.6839 | 0.0380 | 8.4934 | 2.2849 | 10.7783 | 4.0293 | 2.1021 | 6.1314 | 0.0000 | 3,686.3768 | 3,686.3768 | 1.1923 | | 3,716.1830 |

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 | 0.0713 | 0.0399 | 0.5581 | 1.3800e-003 | 0.1479 | 7.5000e-004 | 0.1486 | 0.0392 | 6.9000e-004 | 0.0399 | | 140.1783 | 140.1783 | 4.1600e-003 | 3.8400e-003 | 141.4271 |
| Total | 0.0713 | 0.0399 | 0.5581 | 1.3800e-003 | 0.1479 | 7.5000e-004 | 0.1486 | 0.0392 | 6.9000e-004 | 0.0399 | | 140.1783 | 140.1783 | 4.1600e-003 | 3.8400e-003 | 141.4271 |

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

3.3 Grading - 2022

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 | | | | | 8.1431 | 0.0000 | 8.1431 | 3.5393 | 0.0000 | 3.5393 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.9966 | 41.1160 | 28.6905 | 0.0622 | | 1.9630 | 1.9630 | | 1.8060 | 1.8060 | | 6,018.9074 | 6,018.9074 | 1.9466 | | 6,067.5734 |
| Total | 3.9966 | 41.1160 | 28.6905 | 0.0622 | 8.1431 | 1.9630 | 10.1061 | 3.5393 | 1.8060 | 5.3452 | | 6,018.9074 | 6,018.9074 | 1.9466 | | 6,067.5734 |

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 | 0.0792 | 0.0443 | 0.6201 | 1.5300e-003 | 0.1643 | 8.3000e-004 | 0.1651 | 0.0436 | 7.6000e-004 | 0.0443 | | 155.7537 | 155.7537 | 4.6200e-003 | 4.2700e-003 | 157.1412 |
| Total | 0.0792 | 0.0443 | 0.6201 | 1.5300e-003 | 0.1643 | 8.3000e-004 | 0.1651 | 0.0436 | 7.6000e-004 | 0.0443 | | 155.7537 | 155.7537 | 4.6200e-003 | 4.2700e-003 | 157.1412 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Summer

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

3.3 Grading - 2022

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 | | | | | 3.1758 | 0.0000 | 3.1758 | 1.3803 | 0.0000 | 1.3803 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.9966 | 41.1160 | 28.6905 | 0.0622 | | 1.9630 | 1.9630 | | 1.8060 | 1.8060 | 0.0000 | 6,018.907 4 | 6,018.907 4 | 1.9466 | | 6,067.573 3 |
| Total | 3.9966 | 41.1160 | 28.6905 | 0.0622 | 3.1758 | 1.9630 | 5.1388 | 1.3803 | 1.8060 | 3.1863 | 0.0000 | 6,018.907 4 | 6,018.907 4 | 1.9466 | | 6,067.573 3 |

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 | 0.0792 | 0.0443 | 0.6201 | 1.5300e-003 | 0.1643 | 8.3000e-004 | 0.1651 | 0.0436 | 7.6000e-004 | 0.0443 | | 155.7537 | 155.7537 | 4.6200e-003 | 4.2700e-003 | 157.1412 |
| Total | 0.0792 | 0.0443 | 0.6201 | 1.5300e-003 | 0.1643 | 8.3000e-004 | 0.1651 | 0.0436 | 7.6000e-004 | 0.0443 | | 155.7537 | 155.7537 | 4.6200e-003 | 4.2700e-003 | 157.1412 |

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

3.4 Building Construction - 2022

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 | 3.6293 | 33.5341 | 34.8784 | 0.0576 | | 1.7291 | 1.7291 | | 1.6245 | 1.6245 | | 5,474.3040 | 5,474.3040 | 1.3421 | | 5,507.8576 |
| Total | 3.6293 | 33.5341 | 34.8784 | 0.0576 | | 1.7291 | 1.7291 | | 1.6245 | 1.6245 | | 5,474.3040 | 5,474.3040 | 1.3421 | | 5,507.8576 |

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 | 0.0415 | 0.8988 | 0.4086 | 4.4800e-003 | 0.1492 | 0.0126 | 0.1618 | 0.0430 | 0.0120 | 0.0550 | | 470.6857 | 470.6857 | 2.4100e-003 | 0.0643 | 489.9198 |
| Worker | 0.3011 | 0.1683 | 2.3563 | 5.8200e-003 | 0.6243 | 3.1500e-003 | 0.6275 | 0.1656 | 2.9000e-003 | 0.1685 | | 591.8639 | 591.8639 | 0.0176 | 0.0162 | 597.1365 |
| Total | 0.3426 | 1.0671 | 2.7649 | 0.0103 | 0.7735 | 0.0157 | 0.7893 | 0.2086 | 0.0149 | 0.2235 | | 1,062.5496 | 1,062.5496 | 0.0200 | 0.0806 | 1,087.0563 |

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

3.4 Building Construction - 2022

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 | 3.6293 | 33.5341 | 34.8784 | 0.0576 | | 1.7291 | 1.7291 | | 1.6245 | 1.6245 | 0.0000 | 5,474.3040 | 5,474.3040 | 1.3421 | | 5,507.8576 |
| Total | 3.6293 | 33.5341 | 34.8784 | 0.0576 | | 1.7291 | 1.7291 | | 1.6245 | 1.6245 | 0.0000 | 5,474.3040 | 5,474.3040 | 1.3421 | | 5,507.8576 |

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 | 0.0415 | 0.8988 | 0.4086 | 4.4800e-003 | 0.1492 | 0.0126 | 0.1618 | 0.0430 | 0.0120 | 0.0550 | | 470.6857 | 470.6857 | 2.4100e-003 | 0.0643 | 489.9198 |
| Worker | 0.3011 | 0.1683 | 2.3563 | 5.8200e-003 | 0.6243 | 3.1500e-003 | 0.6275 | 0.1656 | 2.9000e-003 | 0.1685 | | 591.8639 | 591.8639 | 0.0176 | 0.0162 | 597.1365 |
| Total | 0.3426 | 1.0671 | 2.7649 | 0.0103 | 0.7735 | 0.0157 | 0.7893 | 0.2086 | 0.0149 | 0.2235 | | 1,062.5496 | 1,062.5496 | 0.0200 | 0.0806 | 1,087.0563 |

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

3.4 Building Construction - 2023

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.3469 | 30.8754 | 34.6201 | 0.0577 | | 1.4962 | 1.4962 | | 1.4058 | 1.4058 | | 5,476.3070 | 5,476.3070 | 1.3340 | | 5,509.6577 |
| Total | 3.3469 | 30.8754 | 34.6201 | 0.0577 | | 1.4962 | 1.4962 | | 1.4058 | 1.4058 | | 5,476.3070 | 5,476.3070 | 1.3340 | | 5,509.6577 |

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 | 0.0339 | 0.7488 | 0.3831 | 4.3400e-003 | 0.1492 | 7.6100e-003 | 0.1568 | 0.0430 | 7.2800e-003 | 0.0503 | | 456.6658 | 456.6658 | 2.0200e-003 | 0.0622 | 475.2364 |
| Worker | 0.2776 | 0.1483 | 2.1547 | 5.6300e-003 | 0.6243 | 2.9600e-003 | 0.6273 | 0.1656 | 2.7200e-003 | 0.1683 | | 576.0797 | 576.0797 | 0.0158 | 0.0150 | 580.9273 |
| Total | 0.3115 | 0.8971 | 2.5377 | 9.9700e-003 | 0.7735 | 0.0106 | 0.7841 | 0.2086 | 0.0100 | 0.2186 | | 1,032.7455 | 1,032.7455 | 0.0178 | 0.0771 | 1,056.1636 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Summer

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

3.4 Building Construction - 2023

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.3469 | 30.8754 | 34.6201 | 0.0577 | | 1.4962 | 1.4962 | | 1.4058 | 1.4058 | 0.0000 | 5,476.3070 | 5,476.3070 | 1.3340 | | 5,509.6577 |
| Total | 3.3469 | 30.8754 | 34.6201 | 0.0577 | | 1.4962 | 1.4962 | | 1.4058 | 1.4058 | 0.0000 | 5,476.3070 | 5,476.3070 | 1.3340 | | 5,509.6577 |

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 | 0.0339 | 0.7488 | 0.3831 | 4.3400e-003 | 0.1492 | 7.6100e-003 | 0.1568 | 0.0430 | 7.2800e-003 | 0.0503 | | 456.6658 | 456.6658 | 2.0200e-003 | 0.0622 | 475.2364 |
| Worker | 0.2776 | 0.1483 | 2.1547 | 5.6300e-003 | 0.6243 | 2.9600e-003 | 0.6273 | 0.1656 | 2.7200e-003 | 0.1683 | | 576.0797 | 576.0797 | 0.0158 | 0.0150 | 580.9273 |
| Total | 0.3115 | 0.8971 | 2.5377 | 9.9700e-003 | 0.7735 | 0.0106 | 0.7841 | 0.2086 | 0.0100 | 0.2186 | | 1,032.7455 | 1,032.7455 | 0.0178 | 0.0771 | 1,056.1636 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Summer

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

3.5 Paving - 2023

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.0327 | 10.1917 | 14.5842 | 0.0228 | | 0.5102 | 0.5102 | | 0.4694 | 0.4694 | | 2,207.5841 | 2,207.5841 | 0.7140 | | 2,225.4336 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Total | 1.0327 | 10.1917 | 14.5842 | 0.0228 | | 0.5102 | 0.5102 | | 0.4694 | 0.4694 | | 2,207.5841 | 2,207.5841 | 0.7140 | | 2,225.4336 |

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 | 0.0548 | 0.0293 | 0.4253 | 1.1100e-003 | 0.1232 | 5.8000e-004 | 0.1238 | 0.0327 | 5.4000e-004 | 0.0332 | | 113.6999 | 113.6999 | 3.1100e-003 | 2.9500e-003 | 114.6567 |
| Total | 0.0548 | 0.0293 | 0.4253 | 1.1100e-003 | 0.1232 | 5.8000e-004 | 0.1238 | 0.0327 | 5.4000e-004 | 0.0332 | | 113.6999 | 113.6999 | 3.1100e-003 | 2.9500e-003 | 114.6567 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Summer

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

3.5 Paving - 2023

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|------------------------|------------------------|---------------|-----|------------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.0327 | 10.1917 | 14.5842 | 0.0228 | | 0.5102 | 0.5102 | | 0.4694 | 0.4694 | 0.0000 | 2,207.584 1 | 2,207.584 1 | 0.7140 | | 2,225.433 6 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Total | 1.0327 | 10.1917 | 14.5842 | 0.0228 | | 0.5102 | 0.5102 | | 0.4694 | 0.4694 | 0.0000 | 2,207.584 1 | 2,207.584 1 | 0.7140 | | 2,225.433 6 |

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 | 0.0548 | 0.0293 | 0.4253 | 1.1100e-003 | 0.1232 | 5.8000e-004 | 0.1238 | 0.0327 | 5.4000e-004 | 0.0332 | | 113.6999 | 113.6999 | 3.1100e-003 | 2.9500e-003 | 114.6567 |
| Total | 0.0548 | 0.0293 | 0.4253 | 1.1100e-003 | 0.1232 | 5.8000e-004 | 0.1238 | 0.0327 | 5.4000e-004 | 0.0332 | | 113.6999 | 113.6999 | 3.1100e-003 | 2.9500e-003 | 114.6567 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Summer

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

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------|----------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 94.6096 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2556 | 1.7373 | 2.4148 | 3.9600e-003 | | 0.0944 | 0.0944 | | 0.0944 | 0.0944 | | 375.2641 | 375.2641 | 0.0225 | | 375.8253 |
| Total | 94.8652 | 1.7373 | 2.4148 | 3.9600e-003 | | 0.0944 | 0.0944 | | 0.0944 | 0.0944 | | 375.2641 | 375.2641 | 0.0225 | | 375.8253 |

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 | 0.0548 | 0.0293 | 0.4253 | 1.1100e-003 | 0.1232 | 5.8000e-004 | 0.1238 | 0.0327 | 5.4000e-004 | 0.0332 | | 113.6999 | 113.6999 | 3.1100e-003 | 2.9500e-003 | 114.6567 |
| Total | 0.0548 | 0.0293 | 0.4253 | 1.1100e-003 | 0.1232 | 5.8000e-004 | 0.1238 | 0.0327 | 5.4000e-004 | 0.0332 | | 113.6999 | 113.6999 | 3.1100e-003 | 2.9500e-003 | 114.6567 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Summer

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

3.6 Architectural Coating - 2023

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------|----------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 94.6096 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2556 | 1.7373 | 2.4148 | 3.9600e-003 | | 0.0944 | 0.0944 | | 0.0944 | 0.0944 | 0.0000 | 375.2641 | 375.2641 | 0.0225 | | 375.8253 |
| Total | 94.8652 | 1.7373 | 2.4148 | 3.9600e-003 | | 0.0944 | 0.0944 | | 0.0944 | 0.0944 | 0.0000 | 375.2641 | 375.2641 | 0.0225 | | 375.8253 |

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 | 0.0548 | 0.0293 | 0.4253 | 1.1100e-003 | 0.1232 | 5.8000e-004 | 0.1238 | 0.0327 | 5.4000e-004 | 0.0332 | | 113.6999 | 113.6999 | 3.1100e-003 | 2.9500e-003 | 114.6567 |
| Total | 0.0548 | 0.0293 | 0.4253 | 1.1100e-003 | 0.1232 | 5.8000e-004 | 0.1238 | 0.0327 | 5.4000e-004 | 0.0332 | | 113.6999 | 113.6999 | 3.1100e-003 | 2.9500e-003 | 114.6567 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Summer

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------|--------|--------|---------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------------|-----------------|--------|--------|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 7.2805 | 8.8468 | 61.7167 | 0.1258 | 12.0225 | 0.1056 | 12.1281 | 3.2051 | 0.0992 | 3.3043 | | 12,925.47 95 | 12,925.47 95 | 0.6835 | 0.6315 | 13,130.75 69 |
| Unmitigated | 7.2805 | 8.8468 | 61.7167 | 0.1258 | 12.0225 | 0.1056 | 12.1281 | 3.2051 | 0.0992 | 3.3043 | | 12,925.47 95 | 12,925.47 95 | 0.6835 | 0.6315 | 13,130.75 69 |

4.2 Trip Summary Information

| Land Use | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|-----------------------|-------------------------|----------|----------|-------------|------------|
| | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Single Family Housing | 1,984.50 | 2,005.50 | 1,797.60 | 5,568,907 | 5,568,907 |
| Total | 1,984.50 | 2,005.50 | 1,797.60 | 5,568,907 | 5,568,907 |

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 |
| 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 |
|-----------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Single Family Housing | 0.526992 | 0.056742 | 0.174739 | 0.140288 | 0.030240 | 0.007815 | 0.006009 | 0.021774 | 0.000488 | 0.000160 | 0.028107 | 0.000925 | 0.005722 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Summer

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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|------------------------|--------|--------|--------|-------------|---------------|--------------|------------|----------------|---------------|-------------|----------|------------|------------|--------|--------|------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 0.1755 | 1.4998 | 0.6382 | 9.5700e-003 | | 0.1213 | 0.1213 | | 0.1213 | 0.1213 | | 1,914.6680 | 1,914.6680 | 0.0367 | 0.0351 | 1,926.0459 |
| NaturalGas Unmitigated | 0.1755 | 1.4998 | 0.6382 | 9.5700e-003 | | 0.1213 | 0.1213 | | 0.1213 | 0.1213 | | 1,914.6680 | 1,914.6680 | 0.0367 | 0.0351 | 1,926.0459 |

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 | | | | | |
| Single Family Housing | 16274.7 | 0.1755 | 1.4998 | 0.6382 | 9.5700e-003 | | 0.1213 | 0.1213 | | 0.1213 | 0.1213 | | 1,914.6680 | 1,914.6680 | 0.0367 | 0.0351 | 1,926.0459 |
| Total | | 0.1755 | 1.4998 | 0.6382 | 9.5700e-003 | | 0.1213 | 0.1213 | | 0.1213 | 0.1213 | | 1,914.6680 | 1,914.6680 | 0.0367 | 0.0351 | 1,926.0459 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Summer

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

5.2 Energy by Land Use - NaturalGas

Mitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------------|----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Single Family Housing | 16.2747 | 0.1755 | 1.4998 | 0.6382 | 9.5700e-003 | | 0.1213 | 0.1213 | | 0.1213 | 0.1213 | | 1,914.6680 | 1,914.6680 | 0.0367 | 0.0351 | 1,926.0459 |
| Total | | 0.1755 | 1.4998 | 0.6382 | 9.5700e-003 | | 0.1213 | 0.1213 | | 0.1213 | 0.1213 | | 1,914.6680 | 1,914.6680 | 0.0367 | 0.0351 | 1,926.0459 |

6.0 Area Detail

6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------|---------|--------|---------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|------------|------------|--------|--------|------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 12.2182 | 3.3349 | 18.6633 | 0.0209 | | 0.3494 | 0.3494 | | 0.3494 | 0.3494 | 0.0000 | 4,033.5489 | 4,033.5489 | 0.1067 | 0.0734 | 4,058.0829 |
| Unmitigated | 12.2182 | 3.3349 | 18.6633 | 0.0209 | | 0.3494 | 0.3494 | | 0.3494 | 0.3494 | 0.0000 | 4,033.5489 | 4,033.5489 | 0.1067 | 0.0734 | 4,058.0829 |

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

6.2 Area by SubCategory

Unmitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------------|----------------|---------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 3.2401 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 8.0892 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.3669 | 3.1352 | 1.3341 | 0.0200 | | 0.2535 | 0.2535 | | 0.2535 | 0.2535 | 0.0000 | 4,002.3529 | 4,002.3529 | 0.0767 | 0.0734 | 4,026.1369 |
| Landscaping | 0.5221 | 0.1998 | 17.3291 | 9.1000e-004 | | 0.0959 | 0.0959 | | 0.0959 | 0.0959 | | 31.1960 | 31.1960 | 0.0300 | | 31.9460 |
| Total | 12.2182 | 3.3349 | 18.6633 | 0.0209 | | 0.3494 | 0.3494 | | 0.3494 | 0.3494 | 0.0000 | 4,033.5489 | 4,033.5489 | 0.1067 | 0.0734 | 4,058.0829 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Summer

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

6.2 Area by SubCategory

Mitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------------|----------------|---------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 3.2401 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 8.0892 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.3669 | 3.1352 | 1.3341 | 0.0200 | | 0.2535 | 0.2535 | | 0.2535 | 0.2535 | 0.0000 | 4,002.3529 | 4,002.3529 | 0.0767 | 0.0734 | 4,026.1369 |
| Landscaping | 0.5221 | 0.1998 | 17.3291 | 9.1000e-004 | | 0.0959 | 0.0959 | | 0.0959 | 0.0959 | | 31.1960 | 31.1960 | 0.0300 | | 31.9460 |
| Total | 12.2182 | 3.3349 | 18.6633 | 0.0209 | | 0.3494 | 0.3494 | | 0.3494 | 0.3494 | 0.0000 | 4,033.5489 | 4,033.5489 | 0.1067 | 0.0734 | 4,058.0829 |

7.0 Water Detail

7.1 Mitigation Measures Water

14222-Victorville Residential - Mojave Desert AQMD Air District, Summer

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

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

11.0 Vegetation

14222-Victorville Residential - Mojave Desert AQMD Air District, Winter

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

**14222-Victorville Residential
Mojave Desert AQMD Air District, Winter**

1.0 Project Characteristics

1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|-----------------------|--------|---------------|-------------|--------------------|------------|
| Single Family Housing | 210.00 | Dwelling Unit | 56.00 | 378,000.00 | 601 |

1.2 Other Project Characteristics

| | | | | | |
|--------------------------------|----------------------------|--------------------------------|-------|----------------------------------|-------|
| Urbanization | Urban | Wind Speed (m/s) | 2.6 | Precipitation Freq (Days) | 30 |
| Climate Zone | 10 | | | Operational Year | 2023 |
| Utility Company | Southern California Edison | | | | |
| CO2 Intensity (lb/MWhr) | 390.98 | CH4 Intensity (lb/MWhr) | 0.033 | N2O Intensity (lb/MWhr) | 0.004 |

1.3 User Entered Comments & Non-Default Data

- Project Characteristics -
- Land Use - Acreage taken from Tentative Tract Layout
- Construction Phase - Applicant provided schedule
- Off-road Equipment - Standard 8-hour work day
- Off-road Equipment - Shorter Construction period, double equipment, standard 8-hour work day
- Off-road Equipment - T/L/B and Scrapers replaced with Crawler Tractor to more accurately show soil disturbance
- Off-road Equipment -
- Off-road Equipment - T/L/B replaced with Crawler Tractor to more accurately show soil disturbance
- Trips and VMT -
- Grading -
- Architectural Coating - Changed from default to show no impact
- Vehicle Trips - Ex

14222-Victorville Residential - Mojave Desert AQMD Air District, Winter

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

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - Rule 445 no wood burning devices

Area Coating -

Water And Wastewater - per CalGreen 20% Indoor water reduction over CalEEMod 2000 survey data

Solid Waste -

Construction Off-road Equipment Mitigation -

| Table Name | Column Name | Default Value | New Value |
|-------------------------|----------------------------|---------------|-----------|
| tblArchitecturalCoating | EF_Nonresidential_Exterior | 250.00 | 150.00 |
| tblArchitecturalCoating | EF_Nonresidential_Interior | 250.00 | 150.00 |
| tblArchitecturalCoating | EF_Residential_Exterior | 250.00 | 150.00 |
| tblArchitecturalCoating | EF_Residential_Interior | 250.00 | 150.00 |
| tblConstructionPhase | NumDays | 1,110.00 | 265.00 |
| tblConstructionPhase | NumDays | 110.00 | 60.00 |
| tblConstructionPhase | NumDays | 40.00 | 20.00 |
| tblFireplaces | NumberGas | 115.50 | 189.00 |
| tblFireplaces | NumberWood | 73.50 | 0.00 |
| tblLandUse | LotAcreage | 68.18 | 56.00 |
| tblOffRoadEquipment | HorsePower | 212.00 | 97.00 |
| tblOffRoadEquipment | HorsePower | 212.00 | 367.00 |
| tblOffRoadEquipment | HorsePower | 212.00 | 97.00 |
| tblOffRoadEquipment | LoadFactor | 0.43 | 0.37 |
| tblOffRoadEquipment | LoadFactor | 0.43 | 0.48 |
| tblOffRoadEquipment | LoadFactor | 0.43 | 0.37 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 6.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Winter

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

| | | | |
|---------------------|----------------------------|---------------|---------------|
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 6.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | UsageHours | 6.00 | 8.00 |
| tblOffRoadEquipment | UsageHours | 7.00 | 8.00 |
| tblOffRoadEquipment | UsageHours | 7.00 | 8.00 |
| tblVehicleTrips | ST_TR | 9.54 | 9.55 |
| tblVehicleTrips | SU_TR | 8.55 | 8.56 |
| tblVehicleTrips | WD_TR | 9.44 | 9.45 |
| tblWater | IndoorWaterUseRate | 13,682,345.38 | 10,945,876.30 |
| tblWoodstoves | NumberCatalytic | 10.50 | 0.00 |
| tblWoodstoves | NumberNoncatalytic | 10.50 | 0.00 |
| tblWoodstoves | WoodstoveWoodMass | 3,019.20 | 0.00 |

2.0 Emissions Summary

14222-Victorville Residential - Mojave Desert AQMD Air District, Winter

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

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------------|----------------|----------------|----------------|---------------|----------------|---------------|----------------|----------------|---------------|----------------|---------------|------------------------|------------------------|---------------|---------------|------------------------|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2022 | 4.0951 | 41.1616 | 37.1803 | 0.0673 | 21.9259 | 2.2856 | 24.2115 | 10.3707 | 2.1028 | 12.4735 | 0.0000 | 6,471.444 4 | 6,471.444 4 | 1.9513 | 0.0811 | 6,529.652 2 |
| 2023 | 99.6257 | 43.8140 | 54.4183 | 0.0958 | 1.0200 | 2.1125 | 3.1325 | 0.2739 | 1.9807 | 2.2547 | 0.0000 | 9,231.012 6 | 9,231.012 6 | 2.0948 | 0.0836 | 9,308.300 7 |
| Maximum | 99.6257 | 43.8140 | 54.4183 | 0.0958 | 21.9259 | 2.2856 | 24.2115 | 10.3707 | 2.1028 | 12.4735 | 0.0000 | 9,231.012 6 | 9,231.012 6 | 2.0948 | 0.0836 | 9,308.300 7 |

Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------------|----------------|----------------|----------------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|---------------|------------------------|------------------------|---------------|---------------|------------------------|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2022 | 4.0951 | 41.1616 | 37.1803 | 0.0673 | 8.6413 | 2.2856 | 10.9269 | 4.0685 | 2.1028 | 6.1713 | 0.0000 | 6,471.444 4 | 6,471.444 4 | 1.9513 | 0.0811 | 6,529.652 2 |
| 2023 | 99.6257 | 43.8140 | 54.4183 | 0.0958 | 1.0200 | 2.1125 | 3.1325 | 0.2739 | 1.9807 | 2.2547 | 0.0000 | 9,231.012 6 | 9,231.012 6 | 2.0948 | 0.0836 | 9,308.300 7 |
| Maximum | 99.6257 | 43.8140 | 54.4183 | 0.0958 | 8.6413 | 2.2856 | 10.9269 | 4.0685 | 2.1028 | 6.1713 | 0.0000 | 9,231.012 6 | 9,231.012 6 | 2.0948 | 0.0836 | 9,308.300 7 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Winter

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

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 57.90 | 0.00 | 48.58 | 59.21 | 0.00 | 42.79 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Winter

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

2.2 Overall Operational

Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|----------------|----------------|----------------|---------------|----------------|---------------|----------------|----------------|---------------|---------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 12.2182 | 3.3349 | 18.6633 | 0.0209 | | 0.3494 | 0.3494 | | 0.3494 | 0.3494 | 0.0000 | 4,033.5489 | 4,033.5489 | 0.1067 | 0.0734 | 4,058.0829 |
| Energy | 0.1755 | 1.4998 | 0.6382 | 9.5700e-003 | | 0.1213 | 0.1213 | | 0.1213 | 0.1213 | | 1,914.6680 | 1,914.6680 | 0.0367 | 0.0351 | 1,926.0459 |
| Mobile | 5.9930 | 9.3706 | 53.9794 | 0.1151 | 12.0225 | 0.1057 | 12.1282 | 3.2051 | 0.0993 | 3.3044 | | 11,833.7794 | 11,833.7794 | 0.7035 | 0.6443 | 12,043.3748 |
| Total | 18.3867 | 14.2053 | 73.2809 | 0.1456 | 12.0225 | 0.5764 | 12.5989 | 3.2051 | 0.5699 | 3.7750 | 0.0000 | 17,781.9963 | 17,781.9963 | 0.8469 | 0.7528 | 18,027.5036 |

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 | 12.2182 | 3.3349 | 18.6633 | 0.0209 | | 0.3494 | 0.3494 | | 0.3494 | 0.3494 | 0.0000 | 4,033.5489 | 4,033.5489 | 0.1067 | 0.0734 | 4,058.0829 |
| Energy | 0.1755 | 1.4998 | 0.6382 | 9.5700e-003 | | 0.1213 | 0.1213 | | 0.1213 | 0.1213 | | 1,914.6680 | 1,914.6680 | 0.0367 | 0.0351 | 1,926.0459 |
| Mobile | 5.9930 | 9.3706 | 53.9794 | 0.1151 | 12.0225 | 0.1057 | 12.1282 | 3.2051 | 0.0993 | 3.3044 | | 11,833.7794 | 11,833.7794 | 0.7035 | 0.6443 | 12,043.3748 |
| Total | 18.3867 | 14.2053 | 73.2809 | 0.1456 | 12.0225 | 0.5764 | 12.5989 | 3.2051 | 0.5699 | 3.7750 | 0.0000 | 17,781.9963 | 17,781.9963 | 0.8469 | 0.7528 | 18,027.5036 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Winter

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

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

3.0 Construction Detail

Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|--------------|-----------------------|-----------------------|------------|------------|---------------|----------|-------------------|
| 1 | Site Preparation | Site Preparation | 9/5/2022 | 9/30/2022 | 5 | 20 | |
| 2 | Grading | Grading | 10/1/2022 | 12/23/2022 | 5 | 60 | |
| 3 | Building Construction | Building Construction | 12/24/2022 | 12/29/2023 | 5 | 265 | |
| 4 | Paving | Paving | 9/18/2023 | 12/29/2023 | 5 | 75 | |
| 5 | Architectural Coating | Architectural Coating | 9/18/2023 | 12/29/2023 | 5 | 75 | |

Acres of Grading (Site Preparation Phase): 70

Acres of Grading (Grading Phase): 120

Acres of Paving: 0

Residential Indoor: 765,450; Residential Outdoor: 255,150; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|------------------|------------------------|--------|-------------|-------------|-------------|
| Site Preparation | Crawler Tractors | 4 | 8.00 | 97 | 0.37 |
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Grading | Crawler Tractors | 2 | 8.00 | 367 | 0.48 |
| Grading | Crawler Tractors | 2 | 8.00 | 97 | 0.37 |
| Grading | Excavators | 2 | 8.00 | 158 | 0.38 |
| Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| | | | 91 | | |

14222-Victorville Residential - Mojave Desert AQMD Air District, Winter

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

| | | | | | |
|-----------------------|---------------------------|---|------|-----|------|
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Building Construction | Cranes | 2 | 8.00 | 231 | 0.29 |
| Building Construction | Forklifts | 6 | 8.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 2 | 8.00 | 84 | 0.74 |
| Building Construction | Tractors/Loaders/Backhoes | 6 | 8.00 | 97 | 0.37 |
| Building Construction | Welders | 2 | 8.00 | 46 | 0.45 |
| Paving | Pavers | 2 | 8.00 | 130 | 0.42 |
| Paving | Paving Equipment | 2 | 8.00 | 132 | 0.36 |
| Paving | Rollers | 2 | 8.00 | 80 | 0.38 |
| Architectural Coating | Air Compressors | 1 | 8.00 | 78 | 0.48 |

Trips and VMT

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|-----------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Site Preparation | 7 | 18.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 8 | 20.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 18 | 76.00 | 22.00 | 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 | 15.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |

3.1 Mitigation Measures Construction

Water Exposed Area

14222-Victorville Residential - Mojave Desert AQMD Air District, Winter

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

3.2 Site Preparation - 2022

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 | | | | | 21.7780 | 0.0000 | 21.7780 | 10.3315 | 0.0000 | 10.3315 | | | 0.0000 | | | 0.0000 |
| Off-Road | 4.0309 | 39.2966 | 20.6839 | 0.0380 | | 2.2849 | 2.2849 | | 2.1021 | 2.1021 | | 3,686.3768 | 3,686.3768 | 1.1923 | | 3,716.1830 |
| Total | 4.0309 | 39.2966 | 20.6839 | 0.0380 | 21.7780 | 2.2849 | 24.0629 | 10.3315 | 2.1021 | 12.4336 | | 3,686.3768 | 3,686.3768 | 1.1923 | | 3,716.1830 |

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 | 0.0642 | 0.0410 | 0.4448 | 1.2200e-003 | 0.1479 | 7.5000e-004 | 0.1486 | 0.0392 | 6.9000e-004 | 0.0399 | | 124.5065 | 124.5065 | 4.2200e-003 | 3.9100e-003 | 125.7763 |
| Total | 0.0642 | 0.0410 | 0.4448 | 1.2200e-003 | 0.1479 | 7.5000e-004 | 0.1486 | 0.0392 | 6.9000e-004 | 0.0399 | | 124.5065 | 124.5065 | 4.2200e-003 | 3.9100e-003 | 125.7763 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Winter

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

3.2 Site Preparation - 2022

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|---------------|----------------|----------------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 8.4934 | 0.0000 | 8.4934 | 4.0293 | 0.0000 | 4.0293 | | | 0.0000 | | | 0.0000 |
| Off-Road | 4.0309 | 39.2966 | 20.6839 | 0.0380 | | 2.2849 | 2.2849 | | 2.1021 | 2.1021 | 0.0000 | 3,686.3768 | 3,686.3768 | 1.1923 | | 3,716.1830 |
| Total | 4.0309 | 39.2966 | 20.6839 | 0.0380 | 8.4934 | 2.2849 | 10.7783 | 4.0293 | 2.1021 | 6.1314 | 0.0000 | 3,686.3768 | 3,686.3768 | 1.1923 | | 3,716.1830 |

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 | 0.0642 | 0.0410 | 0.4448 | 1.2200e-003 | 0.1479 | 7.5000e-004 | 0.1486 | 0.0392 | 6.9000e-004 | 0.0399 | | 124.5065 | 124.5065 | 4.2200e-003 | 3.9100e-003 | 125.7763 |
| Total | 0.0642 | 0.0410 | 0.4448 | 1.2200e-003 | 0.1479 | 7.5000e-004 | 0.1486 | 0.0392 | 6.9000e-004 | 0.0399 | | 124.5065 | 124.5065 | 4.2200e-003 | 3.9100e-003 | 125.7763 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Winter

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

3.3 Grading - 2022

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 | | | | | 8.1431 | 0.0000 | 8.1431 | 3.5393 | 0.0000 | 3.5393 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.9966 | 41.1160 | 28.6905 | 0.0622 | | 1.9630 | 1.9630 | | 1.8060 | 1.8060 | | 6,018.907 4 | 6,018.907 4 | 1.9466 | | 6,067.573 4 |
| Total | 3.9966 | 41.1160 | 28.6905 | 0.0622 | 8.1431 | 1.9630 | 10.1061 | 3.5393 | 1.8060 | 5.3452 | | 6,018.907 4 | 6,018.907 4 | 1.9466 | | 6,067.573 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 | 0.0713 | 0.0455 | 0.4942 | 1.3600e-003 | 0.1643 | 8.3000e-004 | 0.1651 | 0.0436 | 7.6000e-004 | 0.0443 | | 138.3405 | 138.3405 | 4.6900e-003 | 4.3400e-003 | 139.7515 |
| Total | 0.0713 | 0.0455 | 0.4942 | 1.3600e-003 | 0.1643 | 8.3000e-004 | 0.1651 | 0.0436 | 7.6000e-004 | 0.0443 | | 138.3405 | 138.3405 | 4.6900e-003 | 4.3400e-003 | 139.7515 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Winter

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

3.3 Grading - 2022

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 | | | | | 3.1758 | 0.0000 | 3.1758 | 1.3803 | 0.0000 | 1.3803 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.9966 | 41.1160 | 28.6905 | 0.0622 | | 1.9630 | 1.9630 | | 1.8060 | 1.8060 | 0.0000 | 6,018.907 4 | 6,018.907 4 | 1.9466 | | 6,067.573 3 |
| Total | 3.9966 | 41.1160 | 28.6905 | 0.0622 | 3.1758 | 1.9630 | 5.1388 | 1.3803 | 1.8060 | 3.1863 | 0.0000 | 6,018.907 4 | 6,018.907 4 | 1.9466 | | 6,067.573 3 |

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 | 0.0713 | 0.0455 | 0.4942 | 1.3600e-003 | 0.1643 | 8.3000e-004 | 0.1651 | 0.0436 | 7.6000e-004 | 0.0443 | | 138.3405 | 138.3405 | 4.6900e-003 | 4.3400e-003 | 139.7515 |
| Total | 0.0713 | 0.0455 | 0.4942 | 1.3600e-003 | 0.1643 | 8.3000e-004 | 0.1651 | 0.0436 | 7.6000e-004 | 0.0443 | | 138.3405 | 138.3405 | 4.6900e-003 | 4.3400e-003 | 139.7515 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Winter

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

3.4 Building Construction - 2022

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 | 3.6293 | 33.5341 | 34.8784 | 0.0576 | | 1.7291 | 1.7291 | | 1.6245 | 1.6245 | | 5,474.3040 | 5,474.3040 | 1.3421 | | 5,507.8576 |
| Total | 3.6293 | 33.5341 | 34.8784 | 0.0576 | | 1.7291 | 1.7291 | | 1.6245 | 1.6245 | | 5,474.3040 | 5,474.3040 | 1.3421 | | 5,507.8576 |

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 | 0.0396 | 0.9505 | 0.4240 | 4.4800e-003 | 0.1492 | 0.0126 | 0.1618 | 0.0430 | 0.0120 | 0.0550 | | 471.4464 | 471.4464 | 2.3300e-003 | 0.0646 | 490.7391 |
| Worker | 0.2709 | 0.1731 | 1.8780 | 5.1700e-003 | 0.6243 | 3.1500e-003 | 0.6275 | 0.1656 | 2.9000e-003 | 0.1685 | | 525.6941 | 525.6941 | 0.0178 | 0.0165 | 531.0556 |
| Total | 0.3105 | 1.1236 | 2.3020 | 9.6500e-003 | 0.7735 | 0.0157 | 0.7893 | 0.2086 | 0.0149 | 0.2235 | | 997.1404 | 997.1404 | 0.0202 | 0.0811 | 1,021.7947 |

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

3.4 Building Construction - 2022

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 | 3.6293 | 33.5341 | 34.8784 | 0.0576 | | 1.7291 | 1.7291 | | 1.6245 | 1.6245 | 0.0000 | 5,474.3040 | 5,474.3040 | 1.3421 | | 5,507.8576 |
| Total | 3.6293 | 33.5341 | 34.8784 | 0.0576 | | 1.7291 | 1.7291 | | 1.6245 | 1.6245 | 0.0000 | 5,474.3040 | 5,474.3040 | 1.3421 | | 5,507.8576 |

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 | 0.0396 | 0.9505 | 0.4240 | 4.4800e-003 | 0.1492 | 0.0126 | 0.1618 | 0.0430 | 0.0120 | 0.0550 | | 471.4464 | 471.4464 | 2.3300e-003 | 0.0646 | 490.7391 |
| Worker | 0.2709 | 0.1731 | 1.8780 | 5.1700e-003 | 0.6243 | 3.1500e-003 | 0.6275 | 0.1656 | 2.9000e-003 | 0.1685 | | 525.6941 | 525.6941 | 0.0178 | 0.0165 | 531.0556 |
| Total | 0.3105 | 1.1236 | 2.3020 | 9.6500e-003 | 0.7735 | 0.0157 | 0.7893 | 0.2086 | 0.0149 | 0.2235 | | 997.1404 | 997.1404 | 0.0202 | 0.0811 | 1,021.7947 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Winter

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

3.4 Building Construction - 2023

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.3469 | 30.8754 | 34.6201 | 0.0577 | | 1.4962 | 1.4962 | | 1.4058 | 1.4058 | | 5,476.3070 | 5,476.3070 | 1.3340 | | 5,509.6577 |
| Total | 3.3469 | 30.8754 | 34.6201 | 0.0577 | | 1.4962 | 1.4962 | | 1.4058 | 1.4058 | | 5,476.3070 | 5,476.3070 | 1.3340 | | 5,509.6577 |

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 | 0.0317 | 0.7970 | 0.3964 | 4.3600e-003 | 0.1492 | 7.6300e-003 | 0.1569 | 0.0430 | 7.3000e-003 | 0.0503 | | 457.9483 | 457.9483 | 1.9300e-003 | 0.0624 | 476.5988 |
| Worker | 0.2504 | 0.1524 | 1.7228 | 5.0000e-003 | 0.6243 | 2.9600e-003 | 0.6273 | 0.1656 | 2.7200e-003 | 0.1683 | | 511.8594 | 511.8594 | 0.0161 | 0.0152 | 516.7895 |
| Total | 0.2821 | 0.9495 | 2.1191 | 9.3600e-003 | 0.7735 | 0.0106 | 0.7841 | 0.2086 | 0.0100 | 0.2186 | | 969.8076 | 969.8076 | 0.0180 | 0.0776 | 993.3882 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Winter

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

3.4 Building Construction - 2023

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.3469 | 30.8754 | 34.6201 | 0.0577 | | 1.4962 | 1.4962 | | 1.4058 | 1.4058 | 0.0000 | 5,476.3070 | 5,476.3070 | 1.3340 | | 5,509.6577 |
| Total | 3.3469 | 30.8754 | 34.6201 | 0.0577 | | 1.4962 | 1.4962 | | 1.4058 | 1.4058 | 0.0000 | 5,476.3070 | 5,476.3070 | 1.3340 | | 5,509.6577 |

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 | 0.0317 | 0.7970 | 0.3964 | 4.3600e-003 | 0.1492 | 7.6300e-003 | 0.1569 | 0.0430 | 7.3000e-003 | 0.0503 | | 457.9483 | 457.9483 | 1.9300e-003 | 0.0624 | 476.5988 |
| Worker | 0.2504 | 0.1524 | 1.7228 | 5.0000e-003 | 0.6243 | 2.9600e-003 | 0.6273 | 0.1656 | 2.7200e-003 | 0.1683 | | 511.8594 | 511.8594 | 0.0161 | 0.0152 | 516.7895 |
| Total | 0.2821 | 0.9495 | 2.1191 | 9.3600e-003 | 0.7735 | 0.0106 | 0.7841 | 0.2086 | 0.0100 | 0.2186 | | 969.8076 | 969.8076 | 0.0180 | 0.0776 | 993.3882 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Winter

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

3.5 Paving - 2023

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.0327 | 10.1917 | 14.5842 | 0.0228 | | 0.5102 | 0.5102 | | 0.4694 | 0.4694 | | 2,207.5841 | 2,207.5841 | 0.7140 | | 2,225.4336 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Total | 1.0327 | 10.1917 | 14.5842 | 0.0228 | | 0.5102 | 0.5102 | | 0.4694 | 0.4694 | | 2,207.5841 | 2,207.5841 | 0.7140 | | 2,225.4336 |

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 | 0.0494 | 0.0301 | 0.3400 | 9.9000e-004 | 0.1232 | 5.8000e-004 | 0.1238 | 0.0327 | 5.4000e-004 | 0.0332 | | 101.0249 | 101.0249 | 3.1700e-003 | 3.0000e-003 | 101.9979 |
| Total | 0.0494 | 0.0301 | 0.3400 | 9.9000e-004 | 0.1232 | 5.8000e-004 | 0.1238 | 0.0327 | 5.4000e-004 | 0.0332 | | 101.0249 | 101.0249 | 3.1700e-003 | 3.0000e-003 | 101.9979 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Winter

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

3.5 Paving - 2023

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|------------------------|------------------------|---------------|-----|------------------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.0327 | 10.1917 | 14.5842 | 0.0228 | | 0.5102 | 0.5102 | | 0.4694 | 0.4694 | 0.0000 | 2,207.584 1 | 2,207.584 1 | 0.7140 | | 2,225.433 6 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Total | 1.0327 | 10.1917 | 14.5842 | 0.0228 | | 0.5102 | 0.5102 | | 0.4694 | 0.4694 | 0.0000 | 2,207.584 1 | 2,207.584 1 | 0.7140 | | 2,225.433 6 |

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 | 0.0494 | 0.0301 | 0.3400 | 9.9000e-004 | 0.1232 | 5.8000e-004 | 0.1238 | 0.0327 | 5.4000e-004 | 0.0332 | | 101.0249 | 101.0249 | 3.1700e-003 | 3.0000e-003 | 101.9979 |
| Total | 0.0494 | 0.0301 | 0.3400 | 9.9000e-004 | 0.1232 | 5.8000e-004 | 0.1238 | 0.0327 | 5.4000e-004 | 0.0332 | | 101.0249 | 101.0249 | 3.1700e-003 | 3.0000e-003 | 101.9979 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Winter

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

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------|----------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 94.6096 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2556 | 1.7373 | 2.4148 | 3.9600e-003 | | 0.0944 | 0.0944 | | 0.0944 | 0.0944 | | 375.2641 | 375.2641 | 0.0225 | | 375.8253 |
| Total | 94.8652 | 1.7373 | 2.4148 | 3.9600e-003 | | 0.0944 | 0.0944 | | 0.0944 | 0.0944 | | 375.2641 | 375.2641 | 0.0225 | | 375.8253 |

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 | 0.0494 | 0.0301 | 0.3400 | 9.9000e-004 | 0.1232 | 5.8000e-004 | 0.1238 | 0.0327 | 5.4000e-004 | 0.0332 | | 101.0249 | 101.0249 | 3.1700e-003 | 3.0000e-003 | 101.9979 |
| Total | 0.0494 | 0.0301 | 0.3400 | 9.9000e-004 | 0.1232 | 5.8000e-004 | 0.1238 | 0.0327 | 5.4000e-004 | 0.0332 | | 101.0249 | 101.0249 | 3.1700e-003 | 3.0000e-003 | 101.9979 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Winter

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

3.6 Architectural Coating - 2023

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------|----------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|-----|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 94.6096 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2556 | 1.7373 | 2.4148 | 3.9600e-003 | | 0.0944 | 0.0944 | | 0.0944 | 0.0944 | 0.0000 | 375.2641 | 375.2641 | 0.0225 | | 375.8253 |
| Total | 94.8652 | 1.7373 | 2.4148 | 3.9600e-003 | | 0.0944 | 0.0944 | | 0.0944 | 0.0944 | 0.0000 | 375.2641 | 375.2641 | 0.0225 | | 375.8253 |

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 | 0.0494 | 0.0301 | 0.3400 | 9.9000e-004 | 0.1232 | 5.8000e-004 | 0.1238 | 0.0327 | 5.4000e-004 | 0.0332 | | 101.0249 | 101.0249 | 3.1700e-003 | 3.0000e-003 | 101.9979 |
| Total | 0.0494 | 0.0301 | 0.3400 | 9.9000e-004 | 0.1232 | 5.8000e-004 | 0.1238 | 0.0327 | 5.4000e-004 | 0.0332 | | 101.0249 | 101.0249 | 3.1700e-003 | 3.0000e-003 | 101.9979 |

14222-Victorville Residential - Mojave Desert AQMD Air District, Winter

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------|--------|--------|---------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------------|-----------------|--------|--------|-----------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 5.9930 | 9.3706 | 53.9794 | 0.1151 | 12.0225 | 0.1057 | 12.1282 | 3.2051 | 0.0993 | 3.3044 | | 11,833.77 94 | 11,833.77 94 | 0.7035 | 0.6443 | 12,043.37 48 |
| Unmitigated | 5.9930 | 9.3706 | 53.9794 | 0.1151 | 12.0225 | 0.1057 | 12.1282 | 3.2051 | 0.0993 | 3.3044 | | 11,833.77 94 | 11,833.77 94 | 0.7035 | 0.6443 | 12,043.37 48 |

4.2 Trip Summary Information

| Land Use | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|-----------------------|-------------------------|----------|----------|-------------|------------|
| | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Single Family Housing | 1,984.50 | 2,005.50 | 1,797.60 | 5,568,907 | 5,568,907 |
| Total | 1,984.50 | 2,005.50 | 1,797.60 | 5,568,907 | 5,568,907 |

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 |
| 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 |
|-----------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Single Family Housing | 0.526992 | 0.056742 | 0.174739 | 0.140288 | 0.030240 | 0.007815 | 0.006009 | 0.021774 | 0.000488 | 0.000160 | 0.028107 | 0.000925 | 0.005722 |

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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|------------------------|--------|--------|--------|-------------|---------------|--------------|------------|----------------|---------------|-------------|----------|------------|------------|--------|--------|------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 0.1755 | 1.4998 | 0.6382 | 9.5700e-003 | | 0.1213 | 0.1213 | | 0.1213 | 0.1213 | | 1,914.6680 | 1,914.6680 | 0.0367 | 0.0351 | 1,926.0459 |
| NaturalGas Unmitigated | 0.1755 | 1.4998 | 0.6382 | 9.5700e-003 | | 0.1213 | 0.1213 | | 0.1213 | 0.1213 | | 1,914.6680 | 1,914.6680 | 0.0367 | 0.0351 | 1,926.0459 |

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 | | | | | |
| Single Family Housing | 16274.7 | 0.1755 | 1.4998 | 0.6382 | 9.5700e-003 | | 0.1213 | 0.1213 | | 0.1213 | 0.1213 | | 1,914.6680 | 1,914.6680 | 0.0367 | 0.0351 | 1,926.0459 |
| Total | | 0.1755 | 1.4998 | 0.6382 | 9.5700e-003 | | 0.1213 | 0.1213 | | 0.1213 | 0.1213 | | 1,914.6680 | 1,914.6680 | 0.0367 | 0.0351 | 1,926.0459 |

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

5.2 Energy by Land Use - NaturalGas

Mitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------------|----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Single Family Housing | 16.2747 | 0.1755 | 1.4998 | 0.6382 | 9.5700e-003 | | 0.1213 | 0.1213 | | 0.1213 | 0.1213 | | 1,914.6680 | 1,914.6680 | 0.0367 | 0.0351 | 1,926.0459 |
| Total | | 0.1755 | 1.4998 | 0.6382 | 9.5700e-003 | | 0.1213 | 0.1213 | | 0.1213 | 0.1213 | | 1,914.6680 | 1,914.6680 | 0.0367 | 0.0351 | 1,926.0459 |

6.0 Area Detail

6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------|---------|--------|---------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|------------|------------|--------|--------|------------|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 12.2182 | 3.3349 | 18.6633 | 0.0209 | | 0.3494 | 0.3494 | | 0.3494 | 0.3494 | 0.0000 | 4,033.5489 | 4,033.5489 | 0.1067 | 0.0734 | 4,058.0829 |
| Unmitigated | 12.2182 | 3.3349 | 18.6633 | 0.0209 | | 0.3494 | 0.3494 | | 0.3494 | 0.3494 | 0.0000 | 4,033.5489 | 4,033.5489 | 0.1067 | 0.0734 | 4,058.0829 |

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6.2 Area by SubCategory

Unmitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------------|----------------|---------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 3.2401 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 8.0892 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.3669 | 3.1352 | 1.3341 | 0.0200 | | 0.2535 | 0.2535 | | 0.2535 | 0.2535 | 0.0000 | 4,002.3529 | 4,002.3529 | 0.0767 | 0.0734 | 4,026.1369 |
| Landscaping | 0.5221 | 0.1998 | 17.3291 | 9.1000e-004 | | 0.0959 | 0.0959 | | 0.0959 | 0.0959 | | 31.1960 | 31.1960 | 0.0300 | | 31.9460 |
| Total | 12.2182 | 3.3349 | 18.6633 | 0.0209 | | 0.3494 | 0.3494 | | 0.3494 | 0.3494 | 0.0000 | 4,033.5489 | 4,033.5489 | 0.1067 | 0.0734 | 4,058.0829 |

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

6.2 Area by SubCategory

Mitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------------|----------------|---------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 3.2401 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 8.0892 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.3669 | 3.1352 | 1.3341 | 0.0200 | | 0.2535 | 0.2535 | | 0.2535 | 0.2535 | 0.0000 | 4,002.3529 | 4,002.3529 | 0.0767 | 0.0734 | 4,026.1369 |
| Landscaping | 0.5221 | 0.1998 | 17.3291 | 9.1000e-004 | | 0.0959 | 0.0959 | | 0.0959 | 0.0959 | | 31.1960 | 31.1960 | 0.0300 | | 31.9460 |
| Total | 12.2182 | 3.3349 | 18.6633 | 0.0209 | | 0.3494 | 0.3494 | | 0.3494 | 0.3494 | 0.0000 | 4,033.5489 | 4,033.5489 | 0.1067 | 0.0734 | 4,058.0829 |

7.0 Water Detail

7.1 Mitigation Measures Water

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

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
